# Washington State Register

**AUGUST 20, 1997**

**OLYMPIA, WASHINGTON**

**ISSUE 97-16**

## IN THIS ISSUE



**(Subject/Agency index at back of issue)**
**This issue contains documents officially filed not later than August 6, 1997**

## CITATION

Cite all material in the Washington State Register by its issue number and sequence within that issue, preceded by the acronym WSR. Example: the 37th item in the August 5, 1981, Register would be cited as WSR 81-15-037.

## PUBLIC INSPECTION OF DOCUMENTS

A copy of each document filed with the code reviser's office, pursuant to chapter 34.05 RCW, is available for public inspection during normal office hours. The code reviser's office is located on the ground floor of the Legislative Building in Olympia. Office hours are from 8 a.m. to 5 p.m., Monday through Friday, except legal holidays. Telephone inquiries concerning material in the Register or the Washington Administrative Code (WAC) may be made by calling (360) 753-7470.

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## CERTIFICATE

Pursuant to RCW 34.08.040, the publication of rules or other information in this issue of the Washington State Register is hereby certified to be a true and correct copy of such rules or other information, except that headings of public meeting notices have been edited for uniformity of style.

DENNIS W. COOPER
Code Reviser

## STATE MAXIMUM INTEREST RATE

**(Computed and filed by the State Treasurer under RCW 19.52.025)**

The maximum allowable interest rate applicable for the month of August 1997 pursuant to RCW 19.52.020 is twelve point zero percent (12.00%).

NOTICE: FEDERAL LAW PERMITS FEDERALLY INSURED FINANCIAL INSTITUTIONS IN THE STATE TO CHARGE THE HIGHEST RATE OF INTEREST THAT MAY BE CHARGED BY ANY FINANCIAL INSTITUTION IN THE STATE. THE MAXIMUM ALLOWABLE RATE OF INTEREST SET FORTH ABOVE MAY NOT APPLY TO A PARTICULAR TRANSACTION.


# WASHINGTON STATE REGISTER

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## STYLE AND FORMAT OF THE WASHINGTON STATE REGISTER

### 1. ARRANGEMENT OF THE REGISTER

The Register is arranged in the following six sections:

(a) **PREPROPOSAL**-includes the Preproposal Statement of Inquiry that will be used to solicit public comments on a general area of proposed rule making before the agency files a formal notice.

(b) **PROPOSED**-includes the full text of formal proposals, continuances, supplemental notices, and withdrawals.

(c) **PERMANENT**-includes the full text of permanently adopted rules.

(d) **EMERGENCY**-includes the full text of emergency rules and rescissions.

(e) **MISCELLANEOUS**-includes notice of public meetings of state agencies, rules coordinator notifications, summaries of attorney general opinions, executive orders and emergency declarations of the governor, rules of the state Supreme Court, and other miscellaneous documents filed with the code reviser's office under RCW 34.08.020 and 42.30.075.

(f) **TABLE**-includes a cumulative table of the WAC sections that are affected in the current year.

(g) **INDEX**-includes a combined subject matter and agency index.

Documents are arranged within each section of the Register according to the order in which they are filed in the code reviser's office during the pertinent filing period. The three part number in the heading distinctively identifies each document, and the last part of the number indicates the filing sequence with a section's material.

### 2. PRINTING STYLE—INDICATION OF NEW OR DELETED MATERIAL

RCW 34.05.395 requires the use of certain marks to indicate amendments to existing agency rules. This style quickly and graphically portrays the current changes to existing rules as follows:

(a) In amendatory sections—

(i) underlined material is new material;

(ii) deleted material is ((~~lined out between double parentheses~~));

(b) Complete new sections are prefaced by the heading NEW SECTION;

(c) The repeal of an entire section is shown by listing its WAC section number and caption under the heading REPEALER.

### 3. MISCELLANEOUS MATERIAL NOT FILED UNDER THE ADMINISTRATIVE PROCEDURE ACT

Material contained in the Register other than rule-making actions taken under the APA (chapter 34.05 RCW) does not necessarily conform to the style and format conventions described above. The headings of these other types of material have been edited for uniformity of style; otherwise the items are shown as nearly as possible in the form submitted to the code reviser's office.

### 4. EFFECTIVE DATE OF RULES

(a) Permanently adopted agency rules normally take effect thirty-one days after the rules and the agency order adopting them are filed with the code reviser's office. This effective date may be delayed or advanced and such an effective date will be noted in the promulgation statement preceding the text of the rule.

(b) Emergency rules take effect upon filing with the code reviser's office unless a later date is provided by the agency. They remain effective for a maximum of one hundred twenty days from the date of filing.

(c) Rules of the state Supreme Court generally contain an effective date clause in the order adopting the rules.

### 5. EDITORIAL CORRECTIONS

Material inserted by the code reviser's office for purposes of clarification or correction or to show the source or history of a document is enclosed in [brackets].

# 1996 - 1997
## DATES FOR REGISTER CLOSING, DISTRIBUTION, AND FIRST AGENCY ACTION

| Issue No. | Closing Dates[1] | | | Distribution Date | First Agency Hearing Date[3] |
|---|---|---|---|---|---|
| | Non-OTS & 30 p. or more | Non-OTS & 11 to 29 p. | OTS[2] or 10 p. max. Non-OTS | | |
| *For Inclusion in--* | *File no later than 12:00 NOON--* | | | *Count 20 days from--* | *For hearing on or after* |
| 96-16 | Jul 10 | Jul 24 | Aug 7 | Aug 21 | Sep 10 |
| 96-17 | Jul 24 | Aug 7 | Aug 21 | Sep 4 | Sep 24 |
| 96-18 | Aug 7 | Aug 21 | Sep 4 | Sep 18 | Oct 8 |
| 96-19 | Aug 21 | Sep 4 | Sep 18 | Oct 2 | Oct 22 |
| 96-20 | Sep 4 | Sep 18 | Oct 2 | Oct 16 | Nov 5 |
| 96-21 | Sep 25 | Oct 9 | Oct 23 | Nov 6 | Nov 26 |
| 96-22 | Oct 9 | Oct 23 | Nov 6 | Nov 20 | Dec 10 |
| 96-23 | Oct 23 | Nov 6 | Nov 20 | Dec 4 | Dec 24 |
| 96-24 | Nov 6 | Nov 20 | Dec 4 | Dec 18, 1996 | Jan 7, 1997 |
| 97-01 | Nov 21 | Dec 5 | Dec 19, 1996 | Jan 2, 1997 | Jan 22 |
| 97-02 | Dec 5 | Dec 19, 1996 | Jan 2, 1997 | Jan 15 | Feb 4 |
| 97-03 | Dec 26, 1996 | Jan 8, 1997 | Jan 22 | Feb 5 | Feb 25 |
| 97-04 | Jan 8 | Jan 22 | Feb 5 | Feb 19 | Mar 11 |
| 97-05 | Jan 22 | Feb 5 | Feb 19 | Mar 5 | Mar 25 |
| 97-06 | Feb 5 | Feb 19 | Mar 5 | Mar 19 | Apr 8 |
| 97-07 | Feb 19 | Mar 5 | Mar 19 | Apr 2 | Apr 22 |
| 97-08 | Mar 5 | Mar 19 | Apr 2 | Apr 16 | May 6 |
| 97-09 | Mar 26 | Apr 9 | Apr 23 | May 7 | May 27 |
| 97-10 | Apr 9 | Apr 23 | May 7 | May 21 | Jun 10 |
| 97-11 | Apr 23 | May 7 | May 21 | Jun 4 | Jun 24 |
| 97-12 | May 7 | May 21 | Jun 4 | Jun 18 | Jul 8 |
| 97-13 | May 21 | Jun 4 | Jun 18 | Jul 2 | Jul 22 |
| 97-14 | Jun 4 | Jun 18 | Jul 2 | Jul 16 | Aug 5 |
| 97-15 | Jun 25 | Jul 9 | Jul 23 | Aug 6 | Aug 26 |
| 97-16 | Jul 9 | Jul 23 | Aug 6 | Aug 20 | Sep 9 |
| 97-17 | Jul 23 | Aug 6 | Aug 20 | Sep 3 | Sep 23 |
| 97-18 | Aug 6 | Aug 20 | Sep 3 | Sep 17 | Oct 7 |
| 97-19 | Aug 20 | Sep 3 | Sep 17 | Oct 1 | Oct 21 |
| 97-20 | Sep 3 | Sep 17 | Oct 1 | Oct 15 | Nov 4 |
| 97-21 | Sep 24 | Oct 8 | Oct 22 | Nov 5 | Nov 25 |
| 97-22 | Oct 8 | Oct 22 | Nov 5 | Nov 19 | Dec 9 |
| 97-23 | Oct 22 | Nov 5 | Nov 19 | Dec 3 | Dec 23 |
| 97-24 | Nov 5 | Nov 19 | Dec 3 | Dec 17, 1997 | Jan 6, 1998 |

[1]All documents are due at the code reviser's office by **12:00 noon** on or before the applicable closing date for inclusion in a particular issue of the Register; see WAC 1-21-040.

[2]A filing of any length will be accepted on the closing dates of this column if it has been prepared and completed by the order typing service (OTS) of the code reviser's office; see WAC 1-21-040. Agency-typed material is subject to a ten page limit for these dates; longer agency-typed material is subject to the earlier non-OTS dates.

[3]At least twenty days before the rule-making hearing, the agency shall cause notice of the hearing to be published in the Register; see RCW 34.05.320(1). These dates represent the twentieth day after the distribution date of the applicable Register.

## REGULATORY FAIRNESS ACT

The Regulatory Fairness Act, chapter 19.85 RCW, was enacted in 1982 to minimize the impact of state regulations on small business. Amended in 1994, the act requires a small business economic impact analysis of proposed rules that impose more than a minor cost on twenty percent of the businesses in all industries, or ten percent of the businesses in any one industry. The Regulatory Fairness Act defines industry as businesses within a four digit SIC classification, and for the purpose of this act, small business is defined by RCW 19.85.020 as "any business entity, including a sole proprietorship, corporation, partnership, or other legal entity, that is owned and operated independently from all other businesses, that has the purpose of making a profit, and that has fifty or fewer employees."

### Small Business Economic Impact Statements (SBEIS)

A small business economic impact statement (SBEIS) must be prepared by state agencies when a proposed rule meets the above criteria. Chapter 19.85 RCW requires the Washington State Business Assistance Center (BAC) to develop guidelines for agencies to use in determining whether the impact of a rule is more than minor and to provide technical assistance to agencies in developing a SBEIS. All permanent rules adopted under the Administrative Procedure Act, chapter 34.05 RCW, must be reviewed to determine if the requirements of the Regulatory Fairness Act apply; if an SBEIS is required it must be completed before permanent rules are filed with the Office of the Code Reviser.

### Mitigation

In addition to completing the economic impact analysis for proposed rules, state agencies must take reasonable, legal, and feasible steps to reduce or mitigate the impact of rules on small businesses when there is a disproportionate impact on small versus large business. State agencies are encouraged to reduce the economic impact of rules on small businesses when possible and when such steps are in keeping with the stated intent of the statute(s) being implemented by proposed rules. Since 1994, small business economic impact statements must contain a list of the mitigation steps taken, or reasonable justification for not taking steps to reduce the impact of rules on small businesses.

### When is an SBEIS Required?

When:

The proposed rule has more than a minor (as defined by the BAC) economic impact on businesses in more than twenty percent of all industries or more than ten percent of any one industry.

### When is an SBEIS Not Required?

When:

The rule is proposed only to comply or conform with a federal law or regulation, and the state has no discretion in how the rule is implemented;

There is less than minor economic impact on business;

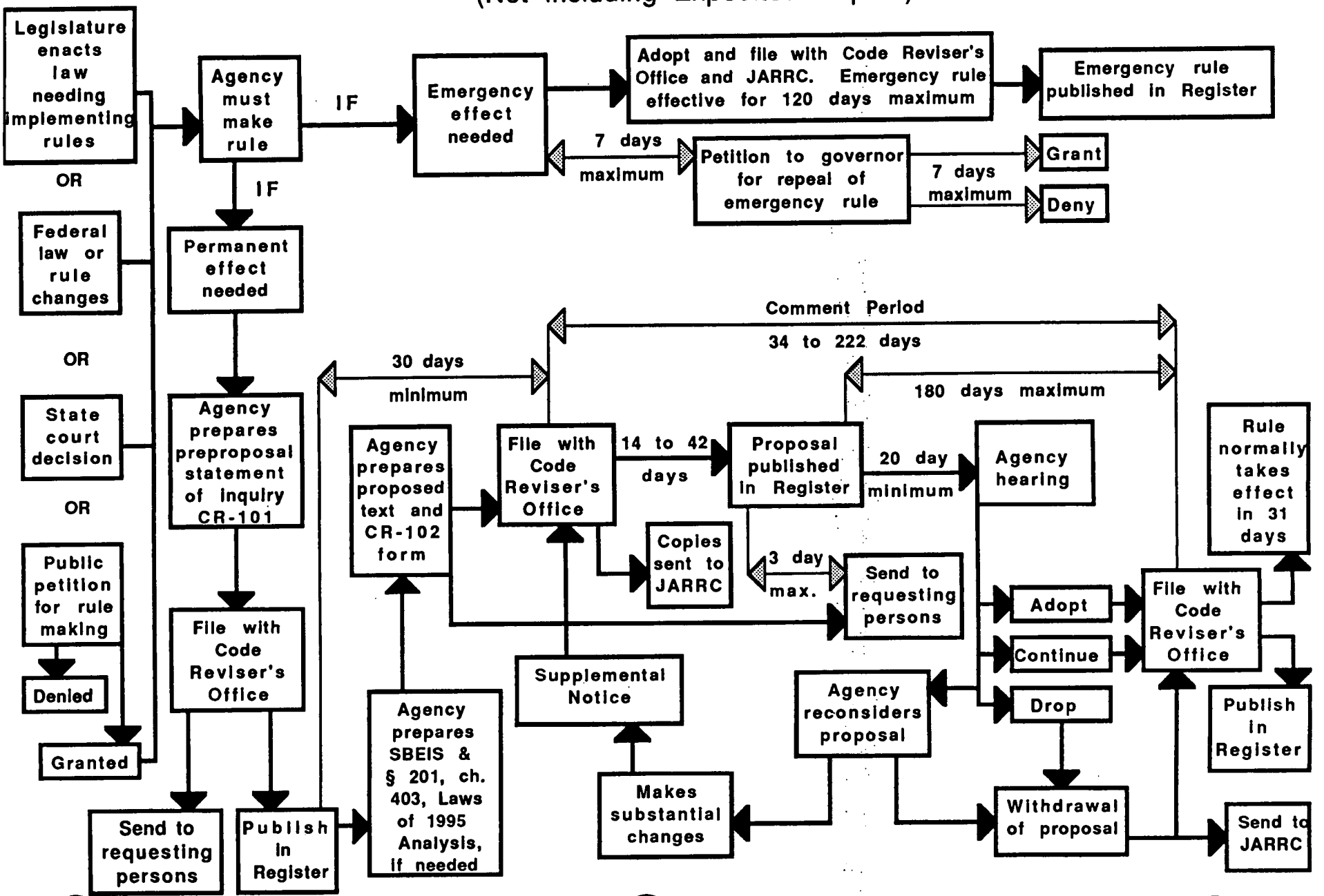
The rule REDUCES costs to business (although an SBEIS may be a useful tool for demonstrating this reduced impact);

The rule is adopted as an emergency rule, although an SBEIS may be required when an emergency rule is proposed for adoption as a permanent rule; or

The rule is pure restatement of state statute.

# RULE-MAKING PROCESS

(Not including Expedited Repeal)



## WSR 97-16-009
### PREPROPOSAL STATEMENT OF INQUIRY
### DEPARTMENT OF AGRICULTURE
[Filed July 24, 1997, 3:05 p.m.]

Subject of Possible Rule Making: Independent sanitation consultants for food storage warehouses.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 69.10.055.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: This would amend current rules covering independent sanitation consultants for food storage warehouses under chapter 16-168 WAC. The purpose of the proposed amendments to this rule is to clarify language, add provisions for updating the list of approved consultants and add uniformity in reporting conditions found during inspections by independent sanitation consultants for food storage warehouses to the current rule.

Other Federal and State Agencies that Regulate this Subject and the Process Coordinating the Rule with These Agencies: No other agencies regulate independent sanitation consultants for food storage warehouses.

Process for Developing New Rule: Review and approval of proposed amendments by approved independent sanitation consultants and interested parties.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication by contacting Verne E. Hedlund, P.O. Box 42560, Olympia, WA 98504-2560, (360) 902-1860, FAX (360) 902-2087. Copy of draft rule will be mailed to approved independent sanitation consultants for food storage warehouses and interested parties for comments and concurrence with proposed amendments.

July 23, 1997
Dr. Candace A. Jacobs
Assistant Director

## WSR 97-16-010
### PREPROPOSAL STATEMENT OF INQUIRY
### EMPLOYMENT SECURITY DEPARTMENT
[Filed July 25, 1997, 2:38 p.m.]

Subject of Possible Rule Making: Amend chapter 192-32 WAC, Timber retraining benefits and related programs, to comply with amended statute, and add new sections to chapter 192-33 WAC.

Statutes Authorizing the Agency to Adopt Rules on this Subject: All sections: RCW 50.12.010 Commissioner's duties and powers and 50.12.040 Rule-making authority.

Chapter 192-32 WAC only: RCW 50.20.010 Benefit eligibility conditions and 50.22.090 Additional benefit period for rural natural resources impact areas.

WAC 192-33-005 only: RCW 50.70.010 Definitions.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: The 1997 legislature passed 2SHB 1201, amending the statutes which provide special unemployment insurance benefits to dislocated forest products workers and finfishers, and extending the program to June 30, 2000. Chapter 192-32 WAC will be modified to reflect the amended statute, including eligibility for unemployment benefits and procedures for approval of training for dislocated forest products workers and finfishers. New sections will be added to chapter 192-33 WAC clarifying persons eligible for services under RCW 50.12.270 Rural natural resources impact area—Training and services program, and chapter 50.70 RCW, Programs for dislocated forest products workers.

Other Federal and State Agencies that Regulate this Subject and the Process Coordinating the Rule with These Agencies: The United States Department of Labor reviews the state's administration of the unemployment insurance program to ensure conformity to federal statutes and regulations. The state has broad flexibility in the implementation of unemployment insurance laws as long as conformity is maintained. The proposed regulations will be shared with the United States Department of Labor Region X staff prior to adoption.

Process for Developing New Rule: The department intends to hold meetings with stakeholders, interested parties, and significantly affected persons to seek their input in the formulation of regulations.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication. Persons interested in participating in public meetings to discuss the proposed regulatory changes may contact Juanita Myers, Employment Security Department, Unemployment Insurance Division Policy Unit, P.O. Box 9046, Olympia, WA 98507-9046, phone (360) 902-9665, or FAX (360) 902-9799.

July 23, 1997
Carver Gayton
Commissioner

## WSR 97-16-011
### PREPROPOSAL STATEMENT OF INQUIRY
### EMPLOYMENT SECURITY DEPARTMENT
[Filed July 25, 1997, 2:39 p.m.]

Subject of Possible Rule Making: Amend WAC 192-12-042 to add a provision allowing waiver of penalties for delinquent contributions for employers who are subject to a voluntary audit as provided in RCW 43.05.140.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 50.12.010 Commissioner's duties and powers and 50.12.040 Rules and regulations.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: RCW 43.05.140 directs the agency to establish a pilot voluntary audit program, whereby businesses can request an audit by the agency. Businesses doing so may receive a waiver of penalty assessments. WAC 192-12-042 specifies the circumstances under which penalties for delinquent contributions can be waived. The proposed amendment will make the regulation consistent with RCW 43.05.140.

Other Federal and State Agencies that Regulate this Subject and the Process Coordinating the Rule with These Agencies: The United States Department of Labor reviews the state's administration of the unemployment insurance program to ensure conformity to federal statutes and regulations. The state has broad flexibility in the implementation of unemployment insurance laws as long as conformity is maintained. The proposed regulations will be shared with

the United States Department of Labor Region X staff prior to adoption.

Process for Developing New Rule: The department intends to hold meetings with stakeholders, interested parties, and significantly affected persons to seek their input in the formation of regulations.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication. Persons interested in participating in public meetings to discuss the proposed regulatory changes may contact Bob Wagner, Employment Security Department, Unemployment Insurance Tax Branch, P.O. Box 9046, Olympia, WA 98507-9046, phone (360) 902-9521, or FAX (360) 902-9556.

July 23, 1997
Carver Gayton
Commissioner

## WSR 97-16-012
### PREPROPOSAL STATEMENT OF INQUIRY
### EMPLOYMENT SECURITY DEPARTMENT
[Filed July 25, 1997, 2:40 p.m.]

Subject of Possible Rule Making: Amend WAC 192-12-072 to state that the transfer of employees to an employee leasing company is not a predecessor/successor relationship for UI contribution purposes. Add a section specifying the number of days a partial successor has in which to notify the department of the percentage transferred, and the consequences to the employer for failure to do so.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 50.12.010 Commissioner's duties and powers and 50.12.040 Rules and regulations.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: Chapter 50.29 RCW regulates employer experience ratings in general and RCW 50.29.062 outlines contribution rates for predecessor and successor employers. The law does not specifically address the transfer of employees to an employee leasing company, or specify how and when employers are to notify the department regarding partial transfers of employees. The proposed regulations will clarify these situations for employers.

Other Federal and State Agencies that Regulate this Subject and the Process Coordinating the Rule with These Agencies: The United States Department of Labor reviews the state's administration of the unemployment insurance program to ensure conformity to federal statutes and regulations. The state has broad flexibility in the implementation of unemployment insurance laws as long as conformity is maintained. The proposed regulations will be shared with the United States Department of Labor Region X staff prior to adoption.

Process for Developing New Rule: The department intends to hold meetings with stakeholders, interested parties, and significantly affected persons to seek their input in the formation of regulations.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication. Persons interested in participating in public meetings to discuss the proposed regulatory changes may contact Bob Wagner, Employment Security Department, Unemployment Insurance Tax Branch, P.O. Box 9046, Olympia, WA 98507-9046, phone (360) 902-9521, or FAX (360) 902-9556.

July 23, 1997
Carver Gayton
Commissioner

## WSR 97-16-027
### PREPROPOSAL STATEMENT OF INQUIRY
### DEPARTMENT OF FINANCIAL INSTITUTIONS
[Filed July 29, 1997, 3:55 p.m.]

Subject of Possible Rule Making: Amendments to reflect statutory changes to definitions, exemptions from licensing, branch office licensing requirements, records retention requirements, bonding requirements, and trust accounting requirements applying to mortgage brokers.

Statutes Authorizing the Agency to Adopt Rules on this Subject: SHB 1678 and chapter 19.146 RCW, specifically RCW 19.146.225.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: These amendments are required to implement SHB 1678, enacted by the 1997 legislature.

Other Federal and State Agencies that Regulate this Subject and the Process Coordinating the Rule with These Agencies: None.

Process for Developing New Rule: The department will obtain industry and public input through public meeting of the Mortgage Brokerage Commission.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication. The Mortgage Brokerage Commission meets regularly, using Washington Interactive Television facilities throughout the state. A list of meeting dates and sites can be obtained from Mark Thomson, (360) 902-8787.

July 29, 1997
John L. Bley
Director

## WSR 97-16-044
### PREPROPOSAL STATEMENT OF INQUIRY
### GROWTH MANAGEMENT HEARINGS BOARDS
[Filed July 31, 1997, 10:47 a.m.]

Subject of Possible Rule Making: From time to time, the joint boards (Central Puget Sound, Western and Eastern) need to amend their rules of practice and procedure to reflect changes in the law and practice.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 36.70A.270(7).

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: The board rules have not been formally amended since adoptions to the rules in March 1997. The legislature passed ESB 6094 in January 1996 (becoming effective in July 1997). To reflect those amend-

ments in ESB 6094, the board needs to change appropriate sections of the WAC.

Other Federal and State Agencies that Regulate this Subject and the Process Coordinating the Rule with These Agencies: The boards are quasi-judicial boards, the WACs govern only the board's practice and procedure.

Process for Developing New Rule: Draft rules amendments developed jointly by the three boards based on experience and in reaction to legislation.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication by contacting Ed McGuire, Central Puget Sound Growth Management Hearings Board, 2329 One Union Square, 600 University Street, Seattle, WA 98101-1129, (206) 389-2625, FAX (260) [(206)] 389-2588.

July 31, 1997
E. McGuire
Board Member

## WSR 97-16-048
### PREPROPOSAL STATEMENT OF INQUIRY
### INSURANCE COMMISSIONER'S OFFICE
[Insurance Commissioner Matter No. R 97-3—Filed July 31, 1997, 3:28 p.m.]

Subject of Possible Rule Making: The commissioner will amend, create, consolidate, and repeal rules governing managed care plans offered by insurers, health care service contractors, and health maintenance organizations through the creation of a new chapter in Title 284 WAC that will eventually contain all rules governing managed care. The commissioner will begin by creating new subchapters relating to data reporting and consumer disclosures; reporting requirements for network adequacy; provider contracts; grievance procedures; and dispute resolution standards. The commissioner will coordinate rule making with other state agencies and will consider private accreditation standards and state agency health care purchasing standards including the contracting requirements of the Health Care Authority and the Medicaid program.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 48.02.060, 48.18.120, 48.20.450, 48.20.460, 48.30.010, 48.44.050, 48.46.030, and 48.46.200.

Statues Being Implemented: RCW 48.18.110, 48.43.055, 48.44.020, 48.44.070, 48.44.080, 48.46.040, 48.46.060, and 48.46.243.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: Current rules governing health care carriers offering managed health care plans need revision, consolidation, repeal, and development to create a consistent regulatory environment for managed health care. Some provisions of Title 284 WAC have been superseded by recent health care reform statutes. Some provisions of Title 284 WAC are inconsistent with other provisions of the title. Some rules are incomplete or no longer address the most pressing managed care issues. A new chapter of rules containing all standards for managed care plans will repeal older rules inconsistent with current insurance statutes, will better meet the needs of consumers for access to quality health care services promised under managed care plans, will foster consistent standards between the insurance commissioner and other state agencies, and will simplify regulatory oversight and carrier compliance with insurance laws.

Other Federal and State Agencies that Regulate this Subject and the Process Coordinating the Rule with These Agencies: The commissioner will consult with other state agencies involved in the development, purchase, and provision of managed health care services to minimize conflict between insurance regulations and other state agency rules on the same or similar subjects.

Process for Developing New Rule: For questions regarding substance of these rules, contact John Conniff, (360) 664-3786 or his Administrative Assistant, Anne Eddy, (360) 586-3111. The commissioner will form small groups comprised of affected parties to develop a new chapter of rules for managed care plans.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication. Rule proposals and comments will be periodically posted to the Office of the Insurance Commissioner's web site at http://www.wa.gov/ins. Send comments referencing the managed care rules to Kacy Brandeberry, P.O. Box 40255, Olympia, WA 98504-0255, Internet inscomr@aol.-com. Deadline for Comments: September 1, 1997.

July 30, 1997
Deborah Senn
Insurance Commissioner

## WSR 97-16-066
### PREPROPOSAL STATEMENT OF INQUIRY
### DEPARTMENT OF AGRICULTURE
[Filed August 1, 1997, 3:13 p.m.]

Subject of Possible Rule Making: Amendments to chapter 16-156 WAC, Organic producer and transition to organic producer certification.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 15.86.070.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: Amendments to chapter 16-156 WAC are needed to alter the fee schedule. The revised fee schedule raises the application fees to provide adequate revenue for the full recovery of the cost of producer certification in the organic food program.

Other Federal and State Agencies that Regulate this Subject and the Process Coordinating the Rule with These Agencies: None.

Process for Developing New Rule: The amended rules are being developed with the assistance of the Washington State Department of Agriculture, Organic Advisory Board, and other interested parties within the organic food industry.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication by contacting Miles McEvoy, Washington State Department of Agriculture, Organic Food Program, P.O. Box 42560, Olympia, WA 98504-2560, (360) 902-1836, FAX (360) 902-2087, e-mail mmcevoy@agr.wa.gov. The proposed amended rules will be discussed on August 20, 1997, in Ellensburg, Washington. The department will individually mail to all certified organic producers and other interested parties copies of the proposed language when the department files the CR-102.

August 1, 1997
Candace Jacobs
Assistant Director

## WSR 97-16-087
### PREPROPOSAL STATEMENT OF INQUIRY
### DEPARTMENT OF HEALTH
(Board of Pharmacy)
[Filed August 5, 1997, 8:14 a.m.]

Subject of Possible Rule Making: Chapter 246-901 WAC, Pharmacy assistants, rule making is needed to implement legislation (SHB 1768) passed by the 1997 legislature.

Statutes Authorizing the Agency to Adopt Rules on this Subject: Chapter 18.64A RCW.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: SHB 1768 made significant changes in the law regulating the practice of pharmacy assistants. The rules dealing with pharmacy assistants needs to be amended to reflect these changes.

Other Federal and State Agencies that Regulate this Subject and the Process Coordinating the Rule with These Agencies: None.

Process for Developing New Rule: Public meetings, mailings, workgroup.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication by contacting Lisa Salmi, Washington State Board of Pharmacy, P.O. Box 47863, Olympia, WA 98504-7863, (360) 586-3018, FAX (360) 586-4359.

July 31, 1997
Donald H. Williams
Executive Director

## WSR 97-16-088
### PREPROPOSAL STATEMENT OF INQUIRY
### DEPARTMENT OF HEALTH
[Filed August 5, 1997, 8:17 a.m.]

Subject of Possible Rule Making: WAC 246-802-030 Approval of school, program, apprenticeship or tutorial instruction, 246-802-040 Western sciences, 246-802-050 Acupuncture sciences, and 246-802-060 Clinical training.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 43.70.040.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: The educational course requirements and credit hours do not reflect what the National Certification Commission for Acupuncture and Oriental Medicine approves and what the acupuncture schools are teaching. The number of contact hours in rule do not reflect the national trend.

Other Federal and State Agencies that Regulate this Subject and the Process Coordinating the Rule with These Agencies: None.

Process for Developing New Rule: Negotiated rule making.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication by contacting Vicki Brown, Program Manager, Acupuncture Program, P.O. Box 7868, Olympia, WA 98504-7868, (360) 664-3230, FAX (360) 753-0876. There will be an open summit/public meeting to gather suggestions, recommendations, comments on September 24, 1997, in the SeaTac area. The location is to be determined.

Bruce Miyahara
Secretary

## WSR 97-16-095
### PREPROPOSAL STATEMENT OF INQUIRY
### SUPERINTENDENT OF PUBLIC INSTRUCTION
[Filed August 5, 1997, 3:48 p.m.]

Subject of Possible Rule Making: Chapter 392-121 WAC, Basic education funding.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 28A.150.290.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: The 1997-99 Biennial Appropriations Act modified the vocational education enrollment reporting to coincide with regular basic education nine-month reporting cycle.

Other Federal and State Agencies that Regulate this Subject and the Process Coordinating the Rule with These Agencies: None.

Process for Developing New Rule: Early solicitation of public comments and recommendations respecting new, amended or repealed rules, and consideration of the comments and recommendations in the course of drafting rules.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication by sending written comments to Rules Coordinator, Legal Services, P.O. Box 47200, Olympia, WA 98504-7200, FAX (360) 753-4201, TDD (360) 664-3631. Apportionment and Research, (360) 753-6708.

August 5, 1997
Dr. Terry Bergeson
Superintendent of
Public Instruction

## WSR 97-16-096
### PREPROPOSAL STATEMENT OF INQUIRY
### SUPERINTENDENT OF PUBLIC INSTRUCTION
[Filed August 5, 1997, 3:50 p.m.]

Subject of Possible Rule Making: Chapter 392-121 WAC, Basic education funding—Certificated instructional staff component.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 28A.150.290.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: Changes are necessary to comply with (1) chapter 90, Laws of 1997 (SB 5925) which modified what can be counted as credits for placement on the state-wide salary allocation schedule. (2) Standard established in state board internship rules in chapter 180-83 WAC. (3) Standards set in state board rules for degree

equivalency in chapter 180-79A WAC. Also references need to be corrected.

Other Federal and State Agencies that Regulate this Subject and the Process Coordinating the Rule with These Agencies: None.

Process for Developing New Rule: Early solicitation of public comments and recommendations respecting new, amended or repealed rules, and consideration of the comments and recommendations in the course of drafting rules.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication by sending written comments to Rules Coordinator, Legal Services, P.O. Box 47200, Olympia, WA 98504-7200, FAX (360) 753-4201, TDD (360) 664-3631. Apportionment and Research, (360) 753-6708.

August 5, 1997
Dr. Terry Bergeson
Superintendent of
Public Instruction

## WSR 97-16-097
### PREPROPOSAL STATEMENT OF INQUIRY
### SUPERINTENDENT OF PUBLIC INSTRUCTION
[Filed August 5, 1997, 3:52 p.m.]

Subject of Possible Rule Making: Chapter 392-122 WAC, Finance—Categorical apportionment.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 28A.150.290.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: (1) Repeal outdated sections and language pertaining to special education allocations. (2) Repeal sections pertaining to the fair start program which is no longer funded. (3) To allow carryover for special education allocations as permitted by the legislature. (4) To modify the formula for highly capable students to reflect 2 percent rather than 1-1/2 percent. (5) To make other changes as identified during the rule-making process.

Other Federal and State Agencies that Regulate this Subject and the Process Coordinating the Rule with These Agencies: None.

Process for Developing New Rule: Early solicitation of public comments and recommendations respecting new, amended or repealed rules, and consideration of the comments and recommendations in the course of drafting rules.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication by sending written comments to Rules Coordinator, Legal Services, P.O. Box 47200, Olympia, WA 98504-7200, FAX (360) 753-4201, TDD (360) 664-3631. Apportionment and Research, (360) 753-6708.

August 5, 1997
Dr. Terry Bergeson
Superintendent of
Public Instruction

## WSR 97-16-098
### PREPROPOSAL STATEMENT OF INQUIRY
### SUPERINTENDENT OF PUBLIC INSTRUCTION
[Filed August 5, 1997, 3:54 p.m.]

Subject of Possible Rule Making: Chapter 392-139 WAC, Finance—Maintenance and operation levies. Defines procedures that the Office of the Superintendent of Public Instruction uses to determine for each school district: (1) Maximum maintenance and operation levy authority; and (2) local effort assistance allocations.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 84.52.0531(9).

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: Chapter 259, Laws of 1997 (ESHB 2069) amended RCW 84.52.0531 and 28A.500.010. Levy authority is increased by two percent for 1998 and permanently increased by four percent in 1999 and thereafter. Levy equalization is increased to twelve percent for some school districts beginning in 1999.

Other Federal and State Agencies that Regulate this Subject and the Process Coordinating the Rule with These Agencies: None.

Process for Developing New Rule: Early solicitation of public comments and recommendations respecting new, amended or repealed rules, and consideration of the comments and recommendations in the course of drafting rules.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication by sending written comments to Rules Coordinator, Legal Services, P.O. Box 47200, Olympia, WA 98504-7200, FAX (360) 753-4201, TDD (360) 664-3631. Apportionment and Research, (360) 753-6708.

August 5, 1997
Dr. Terry Bergeson
Superintendent of
Public Instruction

## WSR 97-16-101
### PREPROPOSAL STATEMENT OF INQUIRY
### UNIVERSITY OF WASHINGTON
[Filed August 5, 1997, 4:45 p.m.]

Subject of Possible Rule Making: Chapter 478-156 WAC, Regulations for the University of Washington residence halls, apartments, and family housing.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 28B.20.130.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: The University of Washington intends to extend eligibility to reside in its family housing apartments to registered, same-sex domestic partners, requiring modifications to the eligibility standards for assignment to those units. Minor changes of a housekeeping nature are proposed to update and clarify the language without changing the effects of the rules.

Other Federal and State Agencies that Regulate this Subject and the Process Coordinating the Rule with These Agencies: None.

Process for Developing New Rule: Agency study.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication. Written comments on inquiries may be directed to Rebecca Goodwin Deardorff, Administrative Procedures Officer via one of the following routes: United States mail: University of Washington, 4014 University Way N.E., Seattle, WA 98105-6203; campus mail: Box 355509; e-mail: adminpro@u.washington.edu; FAX (206) 543-0786.

August 1, 1997
Rebecca Goodwin Deardorff
Administrative Procedures Officer

## WSR 97-16-119
### PREPROPOSAL STATEMENT OF INQUIRY
### DEPARTMENT OF LABOR AND INDUSTRIES
[Filed August 6, 1997, 11:48 a.m.]

Subject of Possible Rule Making: High voltage electrical, chapters 296-44 and 296-45 WAC.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 49-17-010, [49.17].040, and [49.17].050.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: These rules will be proposed for amendment to be consistent with national codes and standards. Amendments will also be proposed to clarify information and to make the standard easier to use.

Other Federal and State Agencies that Regulate this Subject and the Process Coordinating the Rule with These Agencies: No other state or federal agencies (other than OSHA) are known that regulate this subject.

Process for Developing New Rule: The department has been meeting with the Electrical Utility Safety Advisory Committee to develop proposed rules. Interested parties may contact the individuals listed below. The public may also participate by commenting after amendments are proposed by providing written comments or giving oral testimony during the public hearing process.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication by contacting Ron Dillon, Safety and Health Specialist, phone (360) 902-5562; or Chuck Blocher, Safety and Health Specialist, phone (360) 902-5523, FAX (360) 902-5529; Department of Labor and Industries, Division of Consultation and Compliance Services, P.O. Box 44620, Olympia, WA 98504-4620.

August 6, 1997
Lucille Christenson
for Gary Moore
Director

## WSR 97-15-042
### PROPOSED RULES
## FOREST PRACTICES BOARD
[Filed July 11, 1997, 2:45 p.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 97-05-033.

Title of Rule: Revisions to stream typing rules.

Purpose: To modify forest practices rules that define Type 2 and 3 Waters in WAC 222-16-030, and define requirements for the Forest Practices Board manual.

Statutory Authority for Adoption: Chapter 35.05 [34.05] RCW, RCW 76.09.040, [76.09.]050.

Statute Being Implemented: Chapter 76.09 RCW.

Summary: WAC 222-16-030 and 222-12-090.

Reasons Supporting Proposal: New data has shown that the physical characteristics of streams, as defined in the current forest practices rules, are no longer accurate. This proposed rule would update those physical characteristics based on current knowledge so that appropriate [no further information supplied by agency].

Name of Agency Personnel Responsible for Drafting: Judith Holter, 1111 Washington Street S.E., Olympia, WA 98501-7012, (360) 902-1412; and Implementation and Enforcement: John Edwards, 1111 Washington Street S.E., Olympia, WA 98501-7012, (360) 902-1730.

Name of Proponent: Forest Practices Board, governmental.

Rule is not necessitated by federal law, federal or state court decision.

Explanation of Rule, its Purpose, and Anticipated Effects: The proposed rules establish presumptions for determining fish use in the absence of field verification. Current knowledge about fish use of streams and habitat is needed in the forest practices rules so that appropriate riparian protection is provided along streams. Recent studies have resulted in upgrading a large number of Type 4 (nonfish-bearing) streams to fish bearing (Type 2 or 3). The proposed rules are necessary to protect public resources, specifically fish, by ensuring that riparian rules are being applied to fish-bearing streams and that the water quality upstream of fish hatchery intakes is protected.

The proposal also adds fish use determination protocols to the Forest Practices Board manual.

Timber, fish and wildlife participants developed this rule and recommended it as a consensus proposal to the Forest Practices Board as a first step in developing a comprehensive strategy to deal with fish, water quality, and a functional water typing system. TFW is continuing to develop a more comprehensive proposed state rule that will also meet federal water quality requirements.

Because this proposed rule pertains to water quality, it will be coadopted by the Department of Ecology per RCW 76.09.040(1). The board and ecology will conduct the public review process jointly, including the public hearings.

Proposal Changes the Following Existing Rules: WAC 222-123-090 adds a new section to the Forest Practices Board manual.

WAC 222-16-030, provides protection of water quality above fish hatcheries; stream gradient percentages change from "less than 12%" to "16% or less"; stream channel widths change from "5 ft." to "2 ft. or greater in western Washington" and "3 ft. or greater in eastern Washington"; contributing basin sizes are added to the rule, 50 acres in western Washington and 175 acres in eastern Washington; and the department is given authority to waive the presumption of fish use based on three specific criteria.

A small business economic impact statement has been prepared under chapter 19.85 RCW.

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Small Business Economic Impact Statement

**Executive Summary:** The proposed rule amendments create an impact on owners of forest land and dependent sectors. The amendments would have a disproportionate impact on small business and small landowners. Most of the disproportionate impact is caused by the fact that small parcels of land crossed by a stream are more likely to have a substantial share of the parcel separated by the buffer and are thus not harvestable. Small businesses, including individuals with no employees, are more likely to own smaller parcels of land. 5.6% of the parcels in the sample had part of the land economically separated by the buffer, in other words, part of the harvest is lost.

Both the proposed rule amendments and the program include all of the cost minimization features that are legal and feasible. Some of the cost minimization features were not required but were allowed by law. The primary reduction in costs was provided by two exemptions and one service:

- Parcels that are thirty acres or less with more than 10% of the timber in the buffer qualify for a buffer exemption that allows 50% of the buffer to be harvested. 16% of the parcels in the sample qualify for this exemption.
- A further exemption is provided if a structure is on the parcel and the trees are within one hundred fifty feet of the structure. These trees are exempted from the rule.[1] Parcels under two acres that have an existing commercial or residential structure were removed from the sample. There were 4 parcels or 1.88% of the final sample that fit this criteria.
- Survey work for small landowners will be done cooperatively by Washington Department of Fish and Wildlife, the tribes, and the USFWS. This expense will not accrue to the landowner. The rule amendments are designed to protect fish. If a survey shows that the stream segment is not fish bearing it will be reclassified as Type 4 or Type 5. Thus mechanisms that protect fish will not be required if there are no fish. Approximately 25% of the reclassified parcels may be removed from the Type 3 classification.

**I. Background Information:** The Washington State Department of Ecology (ecology) and Forest Practices Board (board) have proposed permanent amendments to three sections, WAC 222-12-090, 222-16-030, and 173-202-020. The Forest Practices Board will amend WAC 222-12-090 and 222-16-030, while ecology will amend WAC 173-202-020. The ecology amendments only adopt the Forest Practices Board rules by reference. This small business economic impact statement covers all three rule amendments.

**A. A Brief Description of What the Proposed Rule Amendments Do:** These proposed rule amendments change the existing presumptions for determining whether streams are fish bearing in the absence of field verification. This

"presumption" is a legal assumption about whether fish are living in or swimming through the stream reach. Field checks can be used to reverse this assumption if no fish are found.

The amendments are a first step towards updating the water type rules and associated riparian protection. Water typing triggers riparian protection through the forest practices rules, watershed analysis, and some local land use decisions. In order to assure this protection the definitions used to determine water types must reflect current knowledge about fish use and habitat.

The proposed amendments would change the designation of some Type 4 and Type 5 stream segments to Type 2 or Type 3 stream segments.[2] The practical impact is that some parts of Type 4 and Type 5 streams would be redesignated fish bearing streams and would be protected during logging. The following fish protection may cause costs:

- A twenty-five foot buffer must be provided on both sides of the stream in western Washington and a thirty foot buffer on both sides of the stream must be provided in eastern Washington.[3]
- Chemicals must be applied by hand rather than using aerial application in the buffer.[4]
- Logs must not be dragged across the streams.[5]
- Road crossings must have a culvert or bridge that fish can pass through.[6]

This document compares the potential economic impacts of the proposed change on small and large business.

The small forest landowners generally have no employees or very few employees. They will be treated as small businesses for purposes of this report. There are thousands of these owners. The one hundred ten large industrial forest land owners have employees, however, some of them have fewer than fifty employees.[7]

**B. General Information on the Water Typing System and the Need for the Rule:** The water typing system used in Washington's forest practices rules are based on beneficial uses, one of which is providing fish habitat. The water typing system has been in place for more than twenty years. Type 1, 2 and 3 Waters contain anadromous and resident fish, while Type 4 and 5 Waters do not. Maps based on aerial photo interpretation were developed to implement the system with limited field verification.

Over the years, field verification has provided data on actual fish use of waters which has led to updated water type maps. TFW[8] is an integral part of the field verification process. Although water types are continually reviewed and updated, large numbers of stream segments have not been field verified.

In August 1994, the Point-No-Point Treaty Council published a report, Stream Typing Errors in Washington Water Type Maps for Watersheds of Hood Canal and the Southwest Olympic Peninsula. Simultaneously, the Quinault Indian Nation and the Department of Fish and Wildlife were also reviewing water types in the southwest part of the Olympic Peninsula. Data from both studies indicated that seventy-two percent of the Type 4 streams were actually Type 2 or 3 streams. In addition, projects funded by the United States Fish and Wildlife Service with cooperation from some western Cascade landowners and Washington Trout have also resulted in significant upgrades.

In recent years, much public attention has focused on the status of Washington's fish and water resources. The number of waterbodies included on EPA's 303(d) water quality limited list has increased and now includes many forested streams. Numerous fish stocks are being considered for listing under the Endangered Species Act (ESA).

Due to significant field verification of water types and research, more is known today about fish distribution and the physical characteristics of fish habitat than was known when the existing water type definitions were written.[9]

**II. Statement of Economic Impacts:** The purpose of this report is to assist ecology and the board in making decisions on the proposed rule amendments. It will also assist in complying with legal requirements. The law requires that the economic aspects of state agency rules be evaluated prior to promulgation. If there is a disproportionate impact on small businesses then the agencies must reduce the costs of the rule if it is legal and feasible to do so.

Each rule proposed by ecology and the board in response to legislative mandates must comply with the Economic Policy Act[10], the Administrative Procedure Act[11], and the Regulatory Fairness Act.[12]

***The proposed rule amendments have been reviewed and have been found to have a disproportionate impact on small businesses. The rule and the amendments provide all of the cost minimization features that are legal and feasible.***

**A. Regulatory Fairness Act Compliance:** The Regulatory Fairness Act requires preparation of a small business economic impact statement (SBEIS) for proposed rules affecting industry.[13] The proposed rule has been evaluated and the amendments may have a significant impact on some affected businesses. Therefore, this document meets the requirements for an SBEIS. The purpose of this analysis is to look at small businesses as a group, not at individual businesses.

The Regulatory Fairness Act also requires that the economic impacts be reduced if there is a disproportionate economic impact on small businesses in comparison with large businesses and if it is legal and feasible. Several types of cost reductions are listed in the act. Cost reductions must be both legal and feasible. If the agency chooses not to use these cost reductions, the agency must provide a written justification for that decision.

An agency that is adopting administrative rules is required to analyze the compliance costs of the proposed rules. The SBEIS must compare the cost of compliance for small businesses with the costs of compliance for the largest 10% of the businesses. For these proposed rule amendments, the relevant questions to the Regulatory Fairness Act are:

1. What are the costs for forest landowners whose property is affected?

2. Do the proposed rules disproportionately impact small businesses as compared to large businesses?

| Table 1: Impacts by company size, totals and percentages | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | $ 3 | $ 4 | 5 | 6 | 7 | 8 | 9 |
| | | # of Parcels | Total Board feet | Value of bdf | Value of separated areas | % of value separated | Value of buffered areas | % of values in buffer | Value of separated + buffer | % of value buffered and severed |
| Unclassified: no available data on employment but have UBI or are on industrial list | 1 | 82 | 104,995,335 | $ 30,342,073 | $ 989,398 | 3.26% | $ 811,738 | 2.68% | $1,801,136 | 5.94% |
| Likely Small Companies: with no UBI, not industrial, no public listing of employment | 2 | 105 | 94,968,288 | $ 29,615,132 | $ 1,026,746 | 3.47% | $ 834,364 | 2.82% | $1,861,109 | 6.28% |
| Small companies employing <=50 | 3 | 5 | 5,197,200 | $ 1,527,527 | $ 127,890 | 8.37% | $ 22,841 | 1.50% | $ 150,731 | 9.87% |
| large companies employing > 50 | 4 | 21 | 152,430,042 | $ 49,879,547 | $ 119,772 | 0.24% | $1,256,911 | 2.52% | $1,376,683 | 2.76% |
| Large as % of total | 5 | 9.9% | 42 6% | | 44.8% | 5.3% | | 43.0% | 26.5% | |

Impacts due to the proposed rule amendment are largely defined by parcel size, so it has also been necessary to answer the question:

3. What are the compliance costs per acre for different parcel sizes?

This question is relevant because the small parcels are more likely to have land that is "separated" (see below, section I B).

A final question had to be addressed for this SBEIS:

4. How are large and small businesses identified?

The definition of small and large business in the Regulatory Fairness Act does not fit forest sectors well. Size is defined by the number of employees in the act. A company that has fifty or fewer employees is "small." Impacts on these small businesses have to be compared to "the largest 10% of the businesses." In other words the small companies must be compared with the top 10% of the companies. In forestry, individuals who own forested land may not act like a "business" until they harvest the timber. Furthermore, published data on employment for individuals and companies is unavailable for many companies in the affected sectors. This document relies on both the existence and absence of data to define which companies are small and which companies are in the largest 10% of the companies affected. Companies for which employment data is available are ranked based on that data. If no data on employment is available this document assumes that those individuals and companies that are not listed as industrial and those companies with no UBI number are likely to be small. It is this distinction rather than employment that defines the first and second rows of data for Table 1. It was necessary to create this alternative breakdown because of the lack of data.

**B. Results: Finding of Disproportionate Impact:** The proposed rule amendments have been reviewed. This document only examines the impact of the rule amendments and not the rule as it stands now. The proposed amendments do have a disproportionate impact.[14] Many small parcels are not affected at all. For those that are affected the impact is disproportionate. Table 1 titled "Impacts by company size" displays various acre and dollar based measures of impact.

Based on the sample the impact is disproportionate. Companies with fifty or fewer employees lose a larger percentage of the value of the timber to buffers and separated[15] land. If one compares companies for whom employment is uncertain with the largest companies, the impact is also disproportionate.

Why is the impact disproportionate? **The greater percentage of the separated land in small parcels creates most of the disproportionate impact.** Note that in Table 1, column 5, the small businesses lose a greater percentage of their land through separation. The impact of the buffers themselves would be disproportionate but the rule incorporates some exemptions (see part E, 2, a and b in this section). These exemptions change the impact so that it is unclear whether the buffers themselves have a disproportionate impact. Data would support the assertion that for the companies for which employment is known there is no disproportionate impact. However for companies for which employment is uncertain, the data supports a disproportionate impact.

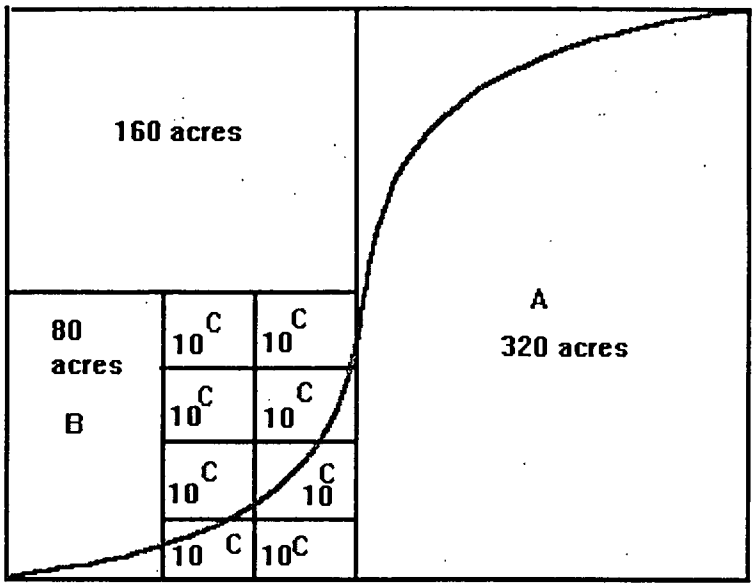
State-wide about 1.37% of the privately owned forested land is affected by the rule.[16] Many parcels of land are completely unaffected by the new requirements. Indeed, five of sixty sections sampled had no newsixty buffer. However, for parcels that are affected, the range of impacts in the sample is from a negligible effect to 95% of the land.

If an owner has a larger parcel of land the impact will be closer to the state-wide average impact. If an owner has a small parcel it is highly likely that there will be no impact. However, when there is an impact on a small parcel, it is likely to affect a greater percentage of the parcel.

The following map (Figure 1) represents a hypothetical example of a section divided into parcels marked A, B, and

C. The largest parcel (A) will have from .48% to 4.13% of the parcel in a buffer and from 0% to 30% of the parcel separated.[17] The medium sized parcel (B) will have a somewhat larger impact. The smallest parcels (C) have an impact ranging from nothing to a very high percentage of the property. In the sample the impact for small parcels ranges from .06% to 95% for small landowners with stream segments on their property.[18] [19] The average percentage impacts range from 1.5% (see column 7) to 9.87% (see column 9) of the parcel (depending on whether the parcel is separated).[20] Most parcels have no impact whatsoever but they are not evaluated in this sample.

Figure 1: Hypothetical map of a stream through a section



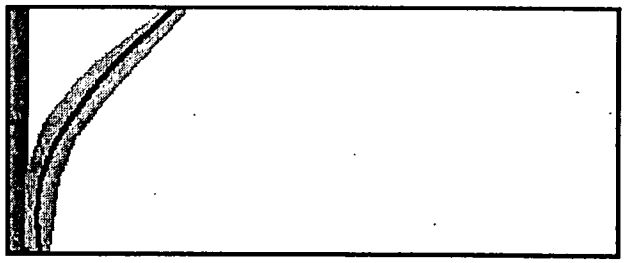

Explanation of parcel separation.

A buffer area can cut part of a forest off from the road. If the value of the timber is too low to cover the cost of appropriate stream crossings it may not be harvested. Small parcels are more likely to be separated by the buffer. In the examples below the black line is the stream segment, the dark gray line is a road and the light gray area is a buffer.

Figure 2: Hypothetical map of a parcel

In Figure 2 the upper left hand portion of the parcel (the white area not in the buffer) may be physically separated by the buffer. Depending on the cost of crossing the buffer its economic value may not be available to the owner. Some owners may be able to arrange to move the timber through an adjacent owner's property but some may not. In the sample, this separated land ranges from 0 to 95% of the parcel.

Figure 3: Hypothetical map of a parcel



Large percentages of a parcel are more likely to be separated if the parcel has a road as one of its boundaries like the hypothetical parcel in Figure 3. Out of 213 parcels, seven of the parcels have land that is separated under current economic conditions, twelve will have land separated by this rule, and eighteen will have land that is physically but not economically separated by the rule. Approximately 14% of the parcels have an existing road crossing and are not counted in the other percentages listed in this paragraph or the table below.[21]

**Table 1a. Separation in parcels**

| | Parcel Status | Number of parcels | Value of separated area | Percent of parcels in the category |
|---|---|---|---|---|
| | I | II | III | IV |
| 1 | No separated area | 176 | 0 | 82.63% |
| 2 | Part of the parcel is separated economically by the existing rule | 7 | less than $3,000 | 3.29% |
| 3 | No part of the parcel is separated by the existing rule | 30* | more than $3,000 | 14.08% |
| 4 | Part of the parcel is economically separated by the proposed amendments | 12* | more than $3,000 and less than $15,000 | 5.63% |
| 5 | Part of the parcel is separated but its value does not preclude harvest | 18* | more than $15,000 | 8.45% |
| 6 | Total | 213 | | |

* The 12 parcels in row 4 and the 18 parcels in row 5 are the same parcels as the 30 parcels in row 3.

Owners with large parcels will not usually face this problem. Roads are cheaper to build than stream crossings. If roads are built through upland areas rather than across streams it may save money to avoid stream crossings. Then less areas will be separated. If a parcel is large the owner is more likely to be able to build roads through upland areas. The owner can simply go around the stream without passing through someone else's land. Parcels over sixty acres in size were remarkable for the small number of stream crossings. In some cases extensively roaded sections have only two or three stream crossings. This indicates that access to all of a parcel is unlikely to be a problem for the larger parcels. In the sample, some parcels appear to have extensive roading while some parcels appear to have none. For large parcels that have no roads it is impossible to know where the roads or stream crossings will be built. This is a weakness of this data. Parcels with complete roading will have lower costs than other parcels.

**C. Which industries are affected?**

The Regulatory Fairness Act defines "industry" as all of the businesses in this state in any one four-digit Standard Industrial Classification (SIC) as published by the United States Department of Commerce (RCW 19.85.020).[22]

The primary impact of the amendments is in SIC Code 0811 because all the companies in this code are forest landowners. Forest landowners become subject to the forest practices rules when they make the decision to harvest their timber. The other SIC codes/businesses listed below depend upon this decision to harvest; their businesses can function only when there is a timber supply available.

The Forest Practices Board's proposed rules will apply to any person preparing to conduct forest practices described in those rules. The industries impacted by the proposed rules could include the following SIC codes listed in Table 2.[23]

Timber Tracts and Logging, the 0811 and 2411 SIC coded sectors respectively are the industries most likely to be affected by the proposed changes. The companies outside of 0811 are directly affected as forest landowners. The other SIC codes are affected either as landowners or as producers dependent on harvests. Many companies in many sectors own forest land for purposes that may or may not be directly related to their primary SIC classification (see Table 2 below). Note that the number of companies in the table represents the number reported in the SIC list by Employment Security. The table indicates that diverse industries own forest land.

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Table 2. Affected Industries by 4-Digit SIC Code

| SIC | INDUSTRY | * Number of sites in the industry | * Total wages |
|---|---|---|---|
| 0811 | Timber Tracts | 149 | 14,135,284 |
| 1422 | Crushed and Broken Limestone | 13 | 5,957,203 |
| 2411 | Logging | 1113 | 223,008,548 |
| 2421 | Sawmills and Planing Mills | 198 | 460,411,278 |
| 2426 | Hardwood dimension and flooring mills* | 18 | 33,021,972 |
| 2429 | Special Product Sawmills | 104 | 11,203,930 |
| 2435 | Hardwood veneer and plywood* | 5 | 12,238,688 |
| 2436 | Softwood veneer and plywood | 25 | 56,936,603 |
| 2493 | Reconstituted Wood Products | 9 | 2,511,378 |
| 2611 | Pulp Mills | 10 | 64,340,189 |
| 2621 | Paper Mills | 32 | 401,420,251 |
| 2653 | Corrugated and Solid Fiber Boxes | 27 | 54,643,847 |
| 2657 | Die-Cut Paper and Paperboard and Cardboard | 7 | 20,016,221 |
| 2676 | Sanitary Paper Products | 6 | 25,547,707 |
| 2869 | Industrial Organic Chemicals | 10 | 6,759,594 |
| 3334 | Steel Investment Foundries | 9 | 209,537,671 |
| 3559 | Special Industry Machinery | 41 | 19,176,2 |
| 3599 | Industrial and Commercial Machinery and Equipment: not elsewhere classified | 351 | 68,131,36 |
| 3911 | Jewelry, Precious Metal | 48 | 5,280,258 |
| 3999 | Manufacturing Industries: not elsewhere classified | 75 | 19,716,482 |

* Data Source: Washington State Employment and Security Department 1993. * 1994 2nd quarter extrapolated.

**D. Compliance Cost Considerations Required Under the Law:** The Regulatory Fairness Act requires that several kinds of costs be considered.[24] These are listed and addressed below.

**1. Will the rule cause businesses to lose sales or revenues?**

Loss of sales revenue is the dominant cost impact of the rule. Landowners may lose revenues from the harvest of timber from their lands. Even if the landowner does not sell the timber, the reduced board footage can affect the value of the land and the owner could have a reduced value from the sale of the land itself.[25]

Businesses that use raw lumber and sell product may also lose sales if the rule causes reduced supplies of raw logs and product prices in the Pacific Northwest rise.

**2. What reporting, record-keeping or professional services are required?**

A landowner who has a stream segment that is less than 20% gradient and two feet or more in width will have the stream segment treated as a Type 3 (fish bearing) stream. This requires buffers unless a protocol survey is conducted and documents the absence of fish. The Department of Fish and Wildlife, the USFWS/NMFS and the tribes have agreed to conduct surveys for nonindustrial landowners. Thus a nonindustrial landowner would not have to bear the cost of conducting the protocol survey. Industrial landowners will have to cover the cost of these studies.

No additional reporting requirements result from these proposed rule amendments.

**3. What additional equipment, supplies, labor, and or administration is needed?**

Several mechanisms are required in the buffers to protect the fish. Hand broadcasting fertilizer and chemicals is more expensive than mechanical broadcasting. Stream crossings must allow fish passage and logs can't be dragged through the buffer. The cost of hand broadcasting and dragging logs farther depends in part on topographical information that is unavailable. The tables in this document therefore assume that timber in the buffer is not harvested (unless an exemption is provided) and that timber in separated areas must be brought out over a stream crossing.

Landowners with timber separated by a stream may opt to:

- Build a bridge or road across the stream. Requires a hydraulic project approval.
- Use a suspended harvest system cutting a corridor through the riparian management zone (RMZ) or flying above the RMZ.[26]
- Not cut the timber (see 1. above).

Economists assume that the owner will choose the option that maximizes their gain from a harvest. The dollar value of the loss of the timber is therefore the maximum loss.

Stream Crossing Costs: There are several provisions available to allow fish to pass at road crossings. Each of these would make it possible to harvest separated land. Oversized culverts can be allowed to fill with rock and soil to provide a passable stream bed. Bottomless and box culverts or baffles can allow the fish to move naturally upstream. Bridges also allow fish to pass. Each of these options is more expensive than a normal culvert.

The cost of stream crossings and roads defines whether part of a parcel is separated. For example, suppose a landowner wants to build a road across a stream segment that would be reclassified. Suppose the timber is worth $17,000. If the road and stream crossing cost $3,000 each ($6,000) without the rule amendments, then cutting the timber will create a gain of $11,000. With the rule amendments the stream crossing would cost $15,000.[27] This is a $12,000 increase in cost. However, the total cost of the stream crossing and road is important in deciding whether part of the parcel would be separated. If the cost of the crossing jumps from $3,000 to $15,000 because the stream is reclassified and the road still costs $3000, then the total cost of the road and crossing jumps to $18,000. The $17,000 worth of harvestable timber is now economically separated.

There are three different measures of the cost of the rule amendments. The increased cost of the culvert is $12,000. The loss to the owner from the amendment is his/her $11,000 gain. If there are unemployed resources (such as culvert installers, mills or workers) the loss to wage earners and the owners of all resources combined is the $17,000. **This document counts the loss by counting the entire $17,000 value of the timber as a loss** (under sales above). Without additional information on each parcel the model is unable to tell where the crossings will go for each parcel and how much they will cost. It is also difficult to determine whether the timber is already separated regardless of the rule amendments. In order to avoid undercounting the cost of the rule, the entire value of all separated timber is counted as a cost in Table 1. (See Table 1a which shows that only part of the counted cost is actually separated and the discussion in "1." above regarding loss of sales revenue.)

Table 3 data shows the range of possible costs for parcels with separated land that has a high economic value. Without the rule amendments the costs listed are for installation of a four foot culvert. With the rule amendments the low cost is for an oversized culvert that is allowed to partially fill allowing fish passage, the medium cost is for a bottomless culvert and the high cost is for a bridge.

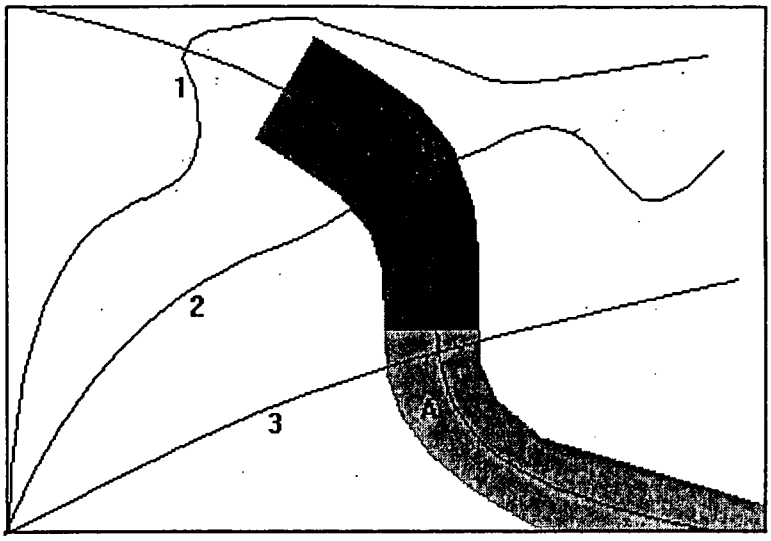
Table 3. Stream crossing costs

| Estimated cost of stream crossing construction for a 16% slope | | | |
|---|---|---|---|
| | Low [28] | Medium | High |
| No rule amendments | $ 1,500 | $ 3,000 | $ 8,000 |
| With rule amendments | $ 6,000 | $ 15,000 | $ 32,000 |

Road Costs: It is unclear whether the rule amendments will cause more roads to be built. One source that provided cost estimates indicated that longer roads may be necessary. This is based on the assumption that there will be about an $8,000 increase in the cost of the culverts for a stream crossing. Avoiding this cost may be possible by building extra roads at $700 per 100 feet.[29] They can build over 1,000 feet of road (1/5th of a mile) for the $8,000. The assumption that more roads will be built may be true for parcels where there are many options for road placement. Indeed, for some large plots with existing roads and road crossings in the sample, the builders apparently have gone out of their way to avoid existing Type 3 streams.

In some cases the rule may change the designation for a sufficient length of stream to make it impossible or very expensive to reach the Type 4 or Type 5 areas for a stream crossing. Given the added expense of baffled or bottomless culverts on steep stream reaches (12% to 20% slopes) it is possible that more crossings will occur on the flatter portions (0% to 12% slopes) of streams previously classified as Type 3 streams.

Figure 4. Options for roads in a parcel




In Figure 4 the parcel currently contains land buffered as Type 3 (light gray A area) and land that is now Type 4 but which would be Type 3 under the proposed amendments (dark gray B area). The landowners have three options for the road. Under the current rule the owner can save $8,000 for the stream crossing and spend $2,000 more on extra road if they use road 2 rather than road 3. Under the revised rule the cost of the culvert for road 2 would be the same as it is for road 3. In evaluating road 1 they would spend $8,500 more on road 1 to save the extra $8000 for the stream crossing. The more direct road 3 would be chosen. In situations like this, the rule amendments may tend to reduce the miles of road. It depends entirely on the relative cost of options 1 and 3.

Suspension System: Suspension systems only work in specific topographies. The data doesn't allow analysis of this option. Companies would only use it if it was the least expensive option. Therefore, not including this option may exaggerate the cost of the rule amendments.

**E. Cost Reduction Under the Regulatory Fairness Act:** If a rule has a disproportionate impact, cost reduction is required where it is legal and feasible in meeting the objectives of the statutes on which the rule is based. The rule and the program are already set up to reduce the cost for small landowners. The proposed amendments provide cost reductions in most of the categories required in the Regulatory Fairness Act.[30]

1. Adjusting reporting and record-keeping requirements.

Survey work for small landowners will be done cooperatively by Washington Department of Fish and Wildlife, the tribes, and the USFWS. This expense will not be accrued to the landowner. The rule amendments are designed to protect fish. If a survey shows that the stream segment is not fish bearing it will be reclassified as Type 4 or Type 5. Thus mechanisms that protect fish will not be required if there are no fish. Approximately 25% of the streams may be reclassified and have reduced costs based on the studies.

2. Establishing performance rather than design standards:

a. Parcels that are thirty acres or less with more than 10% of the timber in the buffer qualify for a buffer exemption that allows 50% of the buffer to be harvested. 16% of the parcels in the sample qualify for this exemption. The exemption was incorporated into the calculations for Table 1. It substantially reduces the disproportionate impact of the buffers themselves.[31]

b. A further exemption is provided if a structure is on the parcel and the trees are within one hundred fifty feet of the structure. These trees are exempted from the rule.[32] Parcels under two acres that have an existing commercial or residential structure were removed from the sample. There were four parcels or 1.88% of the final sample that fit this criteria.[33]

c. Finally, there are multiple mechanisms for avoiding fish impacts. An alternative plan can be approved if a fisheries biologist can demonstrate that the plan meets or exceeds the requirements.

3. Exempting small businesses from any or all regulatory requirements, to the extent allowable and feasible under the law:

It is not feasible to create such an exemption. The goal of the law and the rule is to protect the fish. Exempting all small businesses would exempt 99% of the landowners[34] and make the rule completely ineffective at protecting the fish. The only exemption that could be provided is to exempt existing road crossings from being rebuilt if they are in an area newly classified as Type 3. This will benefit more small landowners than large landowners.

4. Reducing or modifying fine schedules: The civil penalty schedule in WAC 222-46-060 already allows penalties to be modified based on whether:

- The violation was intentional
- The violation caused an adverse impact
- The violation caused damage to public resources
- There is a history of violations
- The person cooperates with the department
- Someone else contributed to the violation
- The damages are repairable

Small landowners are likely to have someone else harvest the trees and to have a very limited history of cuts. Thus at least two of the factors available for consideration are more likely to exist for small landowners.

**F. How are small and large businesses being involved in the rule making?**

This rule was developed by timber, fish and wildlife participants, who used a consensus process to: (1) Determine that a rule revision is needed; (2) identify possible alternatives; and (3) arrive at a recommendation which was presented to the Forest Practices Board and ecology. Timber, fish and wildlife participants include representatives of both industrial and nonindustrial landowners, as well as federal and state agencies, counties, tribes, and the environmental community.

Members of the public, including large and small businesses, have been invited to participate in this rule making via the following:

After this language was adopted by the board as an emergency rule (November 1996), it was distributed to more than 1200 individuals and groups who have requested to be notified about Forest Practices Board rule making.

The board's Preproposal Statement of Inquiry was published in the Washington State Register on March 5, 1997; ecology's notice was published April 16, 1997.

The board and ecology conducted the thirty-day review required by the Forest Practices Act (RCW 76.09.040(2)) from February 20, 1997, to March 21, 1997. In addition to notifying the Department of Fish and Wildlife and the counties, comments were requested from TFW participants.

More than 300 individuals and groups, many of whom are large and small businesses, are kept up-to-date on board rule making by receiving Forest Practices Board meeting agendas and minutes. The board takes public comment at every regular quarterly meeting, and at each special meeting.

A hearing is tentatively scheduled for November 12, 1997, at 5 p.m. in the Natural Resources Building, Room 172, at 1111 Washington Street S.E., in Olympia. It will be held jointly by the Forest Practices Board and ecology. When phase 2 of the rule making (the "forest module") begins public hearings will be held state-wide. Please send written comments on the proposed rule amendments to Judith Holter, Forest Practices Board, Rules Coordinator, Department of Natural Resources, Forest Practices Division, P.O. Box 47012, Olympia, WA 98504-7012.

Ecology and the Forest Practices Board will also consider comments on this small business economic impact statement and may opt to revise the content. Send comments to Cathy Carruthers at (360) 407-6938, Department of Ecology, Economic and Regulatory Research, P.O. Box 47600, Olympia, WA 98504-7600, carr461@ecy.wa.gov. Ecology is particularly interested in analysis of demand and supply elasticity or costs of roads and stream crossings.

**III. Study Design:** No existing data sets or analyses of potential impacts were available. The research team therefore generated a new data set for this rule. The data set matches GIS data, photo interpreted data and county assessor data using parcels of forested land as the case basis.

**A. Department of Natural Resources Data:** The Department of Natural Resources provided mapped GIS data from a random sample of thirty sections in both eastern and western Washington for a total of sixty sections (see Appendix 1 for the methods). The maps identified private and public land and marked out land of less than 20% slope and greater than 20%. The maps showed roads, streams and buffers of streams that may shift from Type 4 or 5 to Type 3.

**1. Data:** The ARC/INFO Geographic Information System (GIS) layers used in this project included:

Trans, WA DNR, 1997.
Hydro, WA DNR, 1997.
County, WA DNR, 1997.
Major Public Lands (MPL), WA DNR, 1988.
Private Forest Land Ownership (PFL_OWN), WA DNR 1994. Private forest land information was generated from the WA DNR/WFPA resource lands mapping project and from Atterbury Consultants through a digital data exchange with the National Biological Survey-National Environmental Research Center.
Slope layer was derived from 7.5 minute 30 meter Digital Elevation Model (DEM), USGS.
1:250,000 digital map of Land Use/Land Cover (LULC) was used to separate forested from nonforested lands, USGS, 1976.
Public Land Survey (PLS) layer containing township and section boundaries was used to define our sample grid of approximately 1 mile by 1 mile, WA DNR, 1997.
Forest Class layer derived from 1:1000 and 1:2000 scale orthophotos and/or aerial photos by Tim Gregg and Terry Curtis, Resource Mapping Section, WA DNR, 1997.
East/West Riparian Management Zones (RMZ). Created for Forest Practices Division by Bill Ware, 1992. This east-west dividing line is described in the Washington forest practices rules, Title 222 WAC, WA DNR, 1995.

**2. Software and Hardware:** A SUN Sparc20 workstation running ARC/INFO version 7.01 and approximately 10 gigabytes of disk space were dedicated to this project. An HP 650C Color Ink Jet plotter produced the maps used by both WA DNR and Washington Department of Ecology personnel.

**3. Data Preparation and Processing: Creating BASEDATA:** Ownership layers MPL and PFL_OWN were combined with slope, LULC, and PLS to produce a layer called BASEDATA. Then, using the RMZ layer, BASEDATA was divided into 2 layers: EAST and WEST.

**Hydro Processing:** The WA DNR Hydro database was split into six regions (three in the east and three in the west) due to file size and processing limitations. In each of these regions the Type 3, Type 4, and Type 5 streams were buffered to the left side of the arc then separately to the right side. This was done to preserve both the ownership attributes on each side of the stream where the stream shared the ownership boundary, as well as preserve the water type that created the buffer. A buffer distance of twenty-five feet on each side of the stream was used in western Washington and thirty feet on each side of the stream in eastern Washington. The resulting layers were then put back together into one layer called HYDROBUF. Finally, an ARC/INFO IDENTI-

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TY was completed using HYDROBUF on BASEDATA to create a layer called HYDROBASE.

**Sample Population:** Before selecting the thirty random sections from each half of the state, HYDROBASE was filtered to leave only PLS sections with Type 3, 4, and 5 stream buffers that contained private forested lands and were 0%-20% in slope. The result of this filtering was our **sample population** that we ran our random sample on. Using ARC/INFO s RESELECT RANDOM function in ARCPLOT we selected out sixty of the remaining PLS sections (thirty in the east and thirty in the west) to give us our **sample sets.**

**Photo Interpretation:** Sixty maps were printed, one for each randomly selected section, at a scale of 1:1000 and 1:2000 so that photogramatrists in resource mapping section could perform photo-interpretation at the same scale as the photos and orthophotos. They classified the forest type within the stream buffers into eleven categories:

| | |
|---|---|
| Brush/recent clear cut (eastern Washington data only) | 0-5 years |
| Reproduction | 5-15 years |
| Conifer Pole timber | 15-30 years |
| Conifer Saw timber | 30-100 years |
| Over mature conifer timber | 100 + |
| Hardwood pole | 15-30 years |
| Hardwood saw | 30 - 60 years |
| Over mature hardwood | 60+ |
| Mixed conifer/hardwood pole | (30% - 70%) |
| Mixed conifer/hardwood saw | (30% - 70%) |
| Mixed conifer/hardwood over mature | (30% - 70%) |

Forest class densities were not considered when forest typing was done. The photo interpreted forest class information was then entered into a GIS layer for each section and reports were generated.

**4. Maps:** A set of sixty maps was plotted at a scale of 1:4800 that included: Ownership, slope, hydro features, transportation routes, county boundaries, PLS, industrial ownership boundaries, and highlighted stream buffers (with stream length) that met our filter criteria mentioned above. Clear overlays of forest class information within the stream buffers were plotted at the same scale and all these maps were delivered to ecology for further field work and analysis.

**B. County Data on Parcels:** Ecology collected county assessor data on affected parcels in the sixty sample sections. Affected parcels were hand drawn onto the maps. Affected parcels included the parcels with streams that may be reclassified or parcels which may have a piece of buffer. Researchers also gathered parcel data on acreage, dollar value, zoning, current land use, ownership and taxes. Each county had different types of data accessible to the public. The most consistently available data were the acreage, ownership, and current assessed valuation. Some parcels are used either for a residence, for commerce or for agriculture. These uses have a significant impact on valuation. The parcel data used for this study was collected from each county assessor office across the state. The researchers traveled to the various jurisdictions with Department of Natural Resources (DNR) section maps (see appendix 1) marking streams and new type three streams in that section. Data collection required matching up the section maps and official county maps. The DNR maps were used in conjunction with the assessor's maps to locate parcel numbers. From there, information about the parcel was obtained from the assessor's records. After locating the parcels on the assessor's maps, a rough sketch was made on the researcher's map.

The parcel data formed the case basis for all other data. For each parcel, a separate sheet was recorded based on the assessor's information. Data was recorded on the survey instrument at the end of this appendix. No data was collected for parcels that did not have at least a piece of mapped buffer falling within the parcel boundary. The plot number for each parcel was used as the specific case number. The categories of data collected included the township, range, section, and map ID number for each parcel. Additionally, landowner information (names and addresses) were recorded. The last date of sale, the acreage, zoning, land usage and type of timber were also included. Other categories had to do with the land at the time of the cut and any changes in zoning that had occurred.

The data collected was limited by the varying quality of information available at each assessor's office. Some of the counties had computerized their information which facilitated the process. However, even with the computerized information the procedure was limited by the fact that the records kept did not contain data which was uniform across counties. For example, most counties had tax record information, although some did not. Additionally, some had data about the type of forest and timber on the land while most did not. Complete information was not generally available for most of the counties in the sample.

The following data was collected:

| | |
|---|---|
| RA Name | Date |
| County | Township |
| Range | Section Number |
| Plot number or tax ID | Map code |
| code from the county | UBI number if available |

Tax codes
Owners name, address
Tax status (are all the taxes paid up? if not what is owed?)
Current valuation
Last date of sale and price
Number of acres in the plot
Approximate percentage of the plot affected by the buffer
Any information on taxes paid at the time of a cut
Zoning code (is it in one of the reduced tax categories)
Type of forest/timber if available
Any existing county limitations (e.g. classed as a sensitive area?)
Are there any "improvements" on the plot (house, garage, well, equipment)?
Were there indications of land use change?
Date
Withdrawal from timber tax assessment of the land
Withdrawal from open space assessment of the land
Subdivision of the land into smaller parcels
Other notes in the file(s)

The information was entered into an EXCEL spreadsheet. The parcels were the case basis for the data. Other

data from on the vegetation, road crossings, the value of the timber was added to the parcel data.

**Timber Values:** The Department of Revenue tax tables were used to estimate the value of the timber. Values for Eastern Washington Conifer prices were estimated by averaging DOR values for Douglas Fir, True Firs, Lodgepole Pine, Ponderosa Pine, and Cedar. Western Washington conifer prices were estimated by averaging DOR values for Douglas Fir, Red Cedar and Hemlock. Low and high values were estimated by using close and distant haul zone values. Staff assumed that: DOR class 1 timber corresponded with the over mature vegetative types, DOR class 2 and 3 timber corresponded with the saw timber vegetative types, and that DOR class 4 timber corresponded with the pole vegetative types. This data was combined with the photo interpreted data provided by DNR overlays and the board feet estimates provided by DNR (see Table 4).

**Roads, Streams and Stream Crossings:** After the parcels were drawn on the DNR maps the number of places where roads crossed through or into the new buffered areas was tallied. The researchers also estimated the percentage of each parcel severed by a new buffer. Finally, the number of feet of stream with new buffers was calculated. Ecology staff used this to calculate the percentage of the parcel that would be in the new buffered zone.

Using the maps DNR provided in conjunction with county maps ecology noted road crossings and portions of parcels that would be inaccessible under the proposed rule amendments for each affected parcel.

**C. Cost Data:** Potential costs from the rule include building extra road, building a better stream crossing, loss of timber sales and/or doing a survey to reclassify a stream.[35] This analysis assumes that the landowner will choose the option that creates the smallest loss. For example, if the value of the timber is greater than the cost of building a stream crossing, researchers assumed that the owner will opt to harvest the timber. Thus, the loss of the timber is the maximum cost.

The cost of road building and stream crossing construction was based on confidential discussions with contractors, an industrial source and on costs for the Department of Natural Resources.

The value of the timber was calculated based on its age and vegetation class. The following values were used to estimate the board feet for each class:

Table 4: Estimated Volume of Board Feet for the Timber Classes

| Category: | Board foot Volume per Acre |
|---|---|
| Non-forest | 0 |
| Brush | 0 |
| Reproduction | 0 |
| | |
| Conifer pole | 12,000 |
| Conifer saw | 40,000 |
| Conifer Old Growth | 75,000 |
| | |
| Hardwood pole(pulp) | 5,000 |
| Hardwood saw | 20,000 |
| Hardwood Old Growth | 34,375 |
| | |
| Mixed cn/hwd pole | 15,000 |
| Mixed cn/hwd saw | 30,000 |

The Table 5 dollar values were estimated based on the dollar value of board feet by species in the current Department of Revenue stumpage tax tables. Species and quality level for the base data were chosen based on the aged class categories listed below. High and low values were based on the haul zone. Quality values were averaged since the photo data does not allow quality estimates.

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Table 5: Estimated Values for Timber

| | Western Washington value per 1000 bdf | | Eastern Washington value per 1000 bdf | |
|---|---|---|---|---|
| | high | low | high | low |
| Non-Forest | 0 | 0 | 0 | 0 |
| Brush | 0 | 0 | 0 | 0 |
| Reproduction | 0 | 0 | 0 | 0 |
| | | | | |
| Conifer Pole | 392 | 301 | 266 | 238 |
| Conifer Saw | 494 | 405 | 304 | 276 |
| Conifer Old Growth | 570 | 437 | 315 | 287 |
| | | | | |
| Hardwood Pole | 66 | 28 | 50 | 22 |
| Hardwood Saw | 106 | 64 | 50 | 22 |
| Hardwood Old Growth | 125 | 83 | 50 | 22 |
| | | | | |
| Mixed CN/HWD Pole | 164 | 110 | 115 | 87 |
| Mixed CN/HWD Saw | 222 | 166 | 126 | 98 |
| Mixed CN/HWD Old Growth | 259 | 189 | 130 | 102 |

**D. Problems in the Data Set:** In some cases the parcel is used as residential or has a vacation cabin on it. We consider it unlikely that the timber on such parcels will be harvested. The information from these parcels has been included because the owner may wish to harvest all or part of the timber on the site at some time in the future.

Different counties had very different property data. Other than ownership and acreage the data was not consistent enough to use.

Mapping was not sufficient to determine whether there were obvious positions for roads and crossings or whether the topography would support suspension systems or flying the logs.

**E. Assumptions:** Given the complexity of the impacts it was necessary to make the following assumptions.

- All harvest losses are based on current prices and the costs are assumed to occur this year. There is no extrapolation of growth rates for the forest and no estimation of the timing of future cuts. This tends to overestimate the cost of the rule.[36]
- Owners are expected to forego harvesting separated portions of their parcels if the value of the timber is less than the $15,000 estimated cost of a 16% slope stream crossing on a 4-foot stream. It is not clear whether this over estimates or under estimates the cost of the rule. There are many for whom the cost may be lower and many for whom costs may be higher.
- Upland timber is expected to have the same set of species as are identified in the RMZ.
- Suspension of logs is either not economical or physically impossible. This will tend to overestimate the cost of the rule.[37]
- Owners will harvest no timber in the buffers. This will tend to overestimate the cost of the rule.
- Owners of timber are expected to be unable to purchase easements to move timber through adjacent property owned by other people or firms.
- Eastern Washington conifer prices were characterized by Department of Revenue tables for Douglas-fir, true firs, lodgepole pine, ponderosa pine, and cedar. Western Washington conifer prices can be characterized by Department of Revenue tables for Douglas-fir, red cedar and hemlock. Averages were used.
- Parcels with a structure and with less than two acres of timber will fall within the one hundred fifty foot exemption.

1 This exemption was incorporated into the data. Parcels with less than two acres, which had a residence or commercial building were taken out of the sample. The disproportionate impact was reduced only slightly. Large companies were unaffected.

2 Water Types 1, 2, 3, 4, and 5 refer to streams segments with different characteristics and presence or absence of fish. Depending on the water type designation, a stream segment will be afforded different levels of protection, primarily through the use of buffers.

3 For western and eastern Washington see WAC 222-30-020 (3) or (4) respectively.

4 See WAC 222-38-020 (3) and (5).

5 See WAC 222-30-060(1).

6 See WAC 222-24-025(7).

7 Technically with fifty or fewer employees they are small businesses but they are also in the largest 10% of businesses. There were very few companies with data on employment that was publicly available. In order to assure that the results of the small business economic impact statement were not influenced by this lack of data ecology used other factors in addition to employment to compare impacts. (See Table 1.)

8 TFW means timber, fish and wildlife. It is a consensus based public process where parties involved and interested in forestry assess issues. Based on their assessments they make recommendations to the Forest

Practices Board and ecology. The stream typing was recommended by TFW.

9 WAC 222-16-030.

10 Chapter 43.21H RCW.

11 RCW 34.05.328.

12 Chapter 19.85 RCW.

13 An industry is defined by a four digit Standard Industrial Classification Code.

14 Disproportionate impact is usually measured based on cost per unit of employment or cost per unit of sales. Sales in this case are proportionate to the value of the timber harvest. Size of average annual sales is proportionate to the amount of harvestable timber that is owned. We have, therefore, used the loss per acre as the measure of disproportionate impact.

15 A portion of a parcel is considered to be separated if a stream crossing through a buffered area is required in order to harvest the timber. If it is not profitable to harvest it because of the cost of crossing the new buffer, the area is economically separated also, that is, the value of the timber is lost to the owner.

16 This figure is based on the sample. Formula Σ(all buffer area) /Σ(area of sections).

17 See Table 1 column 8 for average % impacts of the buffer and column 9 for average % impacts with both a buffer and separated land.

18 Ecology only collected data on affected lands. No data was collected on unaffected parcels.

19 In the sample 0.9% of the cases have buffer for 100% of the land.

20 See Table 1 column 8 for average % impacts of the buffer and column 9 for average % impacts with both a buffer and separated land.

21 Existing culverts for stream crossings will not have to be removed and replaced.

22 The SIC code assigned to an industry is based on the primary business for any given company. Only one SIC code is assigned to an individual business.

23 This list may not be all inclusive and some industries identified may not actually be impacted.

24 See RCW 19.85.040(1).

25 Most of the literature on property taxes holds that the most of the present value of a property tax increase or reduction accrues to the owner of the property at the time that the tax change takes place. This may not be true for this case because the loss of some timber may have little affect on the value of lands in other uses.

26 This option was not addressed because it was impossible to tell whether it is physically feasible from the maps. Eliminating the option from consideration may in some cases raise the estimated costs above their actual levels.

27 There is actually a wide range of possible values. The maximum range is listed in Table 4.

28 "Low" is the lowest private sector estimate, "medium" is a DNR estimate, and "high" is the highest private sector estimate.

29 Estimates range from $700 to $1,000 per 100 feet.

30 See RCW 19.85.030(3).

31 WAC 222-30-20 [222-30-020] (7)(a).

32 This exemption was incorporated into the data. Parcels with less than two acres, which had a residence or commercial building were taken out of the sample. The disproportionate impact was reduced only slightly. Large companies were unaffected.

33 Internal DNR procedure.

34 85% of the new buffered stream feet in this sample.

35 This latter is only a cost for the industrial land owners.

36 If the growth rate of the value of stumpage increases to a point greater than the return on capital this assumption would no longer overestimate the costs of the rule. This may happen if prices increase rapidly, if trees are in the most rapid phase of their growth cycle, or if interest rates fall.

37 There was insufficient data on the parcels to make estimates based on this option.

A copy of the statement may be obtained by writing to Forest Practices Board, Recording Secretary, Department of Natural Resources, Forest Practices Division, P.O. Box 47012, Olympia, WA 98504-7012, phone (360) 902-1413, FAX (360) 902-1730.

Section 201, chapter 403, Laws of 1995, applies to this rule adoption.

Hearing Location: Natural Resources Building, Room 172, 1111 Washington Street S.E., Olympia, WA, on November 12, 1997, at 5 p.m.

Assistance for Persons with Disabilities: Contact Forest Practices Board Secretary, (360) 902-1413, by October 1, 1997, TDD (360) 902-1431.

Submit Written Comments to: Judith Holter, Department of Natural Resources, Forest Practices Division, FAX (360) 902-1784, by November 30, 1997.

Date of Intended Adoption: December 10, 1997.

May 1, 1997
Jennifer M. Belcher
Commissioner of Public Lands

PROPOSED

AMENDATORY SECTION (Amending WSR 92-15-113, filed 7/21/92, effective 8/21/92)

**WAC 222-12-090 Forest practices board manual.** When approved by the board the manual serves as an advisory technical supplement to these forest practices regulations. The department, in cooperation with the departments of fisheries, wildlife, agriculture, ecology, and such other agencies, affected Indian tribes, or interested parties as may have appropriate expertise, is directed to prepare, and submit to the board for approval, revisions to the forest practices board manual. The manual shall include:

(1) **Method for determination of adequate shade requirements on streams** needed for use with WAC 222-30-040.

(2) **The standard methods** for measuring channel width, stream gradient and flow which are used in the water typing criteria WAC 222-16-030.

(3) **A chart for** establishing recommended permanent culvert sizes and associated data.

(4) **Guidelines** for clearing slash and debris from Type 4 and 5 Waters.

(5) **Guidelines** for landing location and construction.

(6) **Guidelines** for determining acceptable stocking levels.

(7) **Guidelines** for calculating average widths of riparian management zones.

(8) **Guidelines** for wetland delineation.

(9) **Guidelines** for wetland replacement or substitution.

(10) A list of nonnative wetland plant species.

(11) The standard methodology, which shall specify the quantitative methods, indices of resource conditions, and definitions, for conducting watershed analysis under chapter 222-22 WAC. The department, in consultation with Timber/Fish/Wildlife's Cooperative Monitoring, Evaluation and Research Committee (CMER), may make minor modifications to the version of the standard methodology approved by the board. Substantial amendments to the standard methodology requires approval by the board.

(12) A list of special concerns related to aerial application of pesticides developed under WAC 222-16-070(3).

(13) **Guidelines** for determining fish use for the purpose of typing waters under WAC 222-16-030.

AMENDATORY SECTION (Amending WSR 94-01-134, filed 12/20/93, effective 1/1/94)

**WAC 222-16-030 Water typing system.** *The department in cooperation with the departments of fisheries, wildlife and ecology, and in consultation with affected Indian tribes shall classify streams, lakes and ponds and prepare stream classification maps showing the location of Type 1, 2, 3 and 4 Waters within the various forested areas of the state. Such maps shall be available for public inspection at region offices of the department. The waters will be classified using the following criteria. If a dispute arises concerning a water type the department shall make available informal conferences, which shall include the departments of fisheries, wildlife and ecology, and affected Indian tribes and those contesting the adopted water types. These conferences shall be established under procedures established in WAC 222-46-020.

*(1) **"Type 1 Water"** means all waters, within their ordinary high-water mark, as inventoried as "shorelines of the state" under chapter 90.58 RCW and the rules promulgated pursuant to chapter 90.58 RCW, but not including those waters' associated wetlands as defined in chapter 90.58 RCW.

*(2) **"Type 2 Water"** shall mean segments of natural waters which are not classified as Type 1 Water and have a high fish, wildlife, or human use. These are segments of natural waters and periodically inundated areas of their associated wetlands, which:

(a) Are diverted for domestic use by more than 100 residential or camping units or by a public accommodation facility licensed to serve more than 100 persons, where such diversion is determined by the department to be a valid appropriation of water and the only practical water source for such users. Such waters shall be considered to be Type 2 Water upstream from the point of such diversion for 1,500 feet or until the drainage area is reduced by 50 percent, whichever is less;

(b) Are diverted for use by federal, state, tribal or private fish hatcheries. Such waters shall be considered Type 2 Water upstream from the point of diversion for 1,500 feet and tributaries if highly significant for protection of downstream water quality;

(c) Are within a federal, state, local, or private campground having more than 30 camping units: *Provided,* That the water shall not be considered to enter a campground until it reaches the boundary of the park lands available for public use and comes within 100 feet of a camping unit, trail or other park improvement;

((~~(c)~~)) (d) Are used by substantial numbers of anadromous or resident game fish for spawning, rearing or migration. Waters having the following characteristics are presumed to have highly significant fish populations:

(i) Stream segments having a defined channel 20 feet or greater in width between the ordinary high-water marks and having a gradient of less than 4 percent.

(ii) Lakes, ponds, or impoundments having a surface area of 1 acre or greater at seasonal low water.

((~~(d)~~)) (e) Are used by salmonids for off-channel habitat. These areas are critical to the maintenance of optimum survival of juvenile salmonids. This habitat shall be identified based on the following criteria:

(i) The site must be connected to a stream bearing salmonids and accessible during some period of the year; and

(ii) The off-channel water must be accessible to juvenile salmonids through a drainage with less than a 5% gradient.

*(3) **"Type 3 Water"** shall mean segments of natural waters which are not classified as Type 1 or 2 Water and have a moderate to slight fish, wildlife, and human use. These are segments of natural waters and periodically inundated areas of their associated wetlands which:

(a) Are diverted for domestic use by more than 10 residential or camping units or by a public accommodation facility licensed to serve more than 10 persons, where such diversion is determined by the department to be a valid appropriation of water and the only practical water source for such users. Such waters shall be considered to be Type 3 Water upstream from the point of such diversion for 1,500 feet or until the drainage area is reduced by 50 percent, whichever is less;

(b) Are used by significant numbers of anadromous or resident game fish for spawning, rearing or migration. Guidelines for determining fish use are described in the *Forest Practices Board Manual.* If fish use has not been determined:

(i) Waters having the following characteristics are presumed to have significant anadromous or resident game fish use:

((~~(i)~~)) (A) Stream segments having a defined channel of ((~~5~~)) 2 feet or greater in width between the ordinary high-water marks in Western Washington; or 3 feet or greater in width between the ordinary high-water marks in Eastern Washington; and having a gradient ((~~of less than 12~~)) 16 percent ((~~and not upstream of a falls of more than 10 vertical feet~~)) or less;

(B) Stream segments having a defined channel of 2 feet or greater in width between the ordinary high-water marks in Western Washington; or 3 feet or greater in width between the ordinary high-water marks in Eastern Washington; and having a gradient greater than 16 percent and less than or equal to 20 percent; and having greater than 50 acres in contributing basin size in Western Washington; or greater than 175 acres in contributing basin size in Eastern Washington based on hydrographic boundaries;

(ii) The department shall waive or modify the characteristics in (i) above where:

(A) Waters have confirmed, long term, naturally occurring water quality parameters incapable of supporting anadromous or resident game fish;

(B) Snowmelt streams have short flow cycles that do not support successful life history phases of anadromous or resident game fish. These streams typically have no flow in the winter months and discontinue flow by June 1; or

(C) Sufficient information about a geographic region is available to support a departure from the characteristics in (i), as determined in consultation with the department of fish and wildlife, department of ecology, affected tribes and interested parties.

((~~(ii)~~)) (iii) Ponds or impoundments having a surface area of less than 1 acre at seasonal low water and having an outlet to an anadromous fish stream.

(((~~(c) Are used by significant numbers of resident game fish. Waters with the following characteristics are presumed to have significant resident game fish use:~~

~~(i) Stream segments having a defined channel of 10 feet or greater in width between the ordinary high water marks; and a summer low flow greater than 0.3 cubic feet per second; and a gradient of less than 12 percent.~~

~~(ii)~~))) (iv) For resident game fish ponds or impoundments having a surface area greater than 0.5 acre at seasonal low water.

(((~~(d)~~))) (c) Are highly significant for protection of downstream water quality. Tributaries which contribute greater than 20 percent of the flow to a Type 1 or 2 Water are presumed to be significant for 1,500 feet from their confluence with the Type 1 or 2 Water or until their drainage area is less than 50 percent of their drainage area at the point of confluence, whichever is less.

*(4) **"Type 4 Water"** classification shall be applied to segments of natural waters which are not classified as Type 1, 2 or 3, and for the purpose of protecting water quality downstream are classified as Type 4 Water upstream until the channel width becomes less than 2 feet in width between the ordinary high-water marks. Their significance lies in their influence on water quality downstream in Type 1, 2, and 3 Waters. These may be perennial or intermittent.

*(5) **"Type 5 Water"** classification shall be applied to all natural waters not classified as Type 1, 2, 3 or 4; including streams with or without well-defined channels, areas of perennial or intermittent seepage, ponds, natural sinks and drainageways having short periods of spring or storm runoff.

*(6) For purposes of this section:

(a) "Residential unit" means a home, apartment, residential condominium unit or mobile home, serving as the principal place of residence.

(b) "Camping unit" means an area intended and used for:

(i) Overnight camping or picnicking by the public containing at least a fireplace, picnic table and access to water and sanitary facilities; or

(ii) A permanent home or condominium unit or mobile home not qualifying as a "residential unit" because of part time occupancy.

(c) "Resident game fish" means game fish as described in the Washington game code that spend their life cycle in fresh water. Steelhead, searun cutthroat and Dolly Varden trout are anadromous game fish and should not be confused with resident game fish.

(d) "Public accommodation facility" means a business establishment open to and licensed to serve the public, such as a restaurant, tavern, motel or hotel.

(e) "Natural waters" only excludes water conveyance systems which are artificially constructed and actively maintained for irrigation.

(f) "Seasonal low flow" and "seasonal low water" mean the conditions of the 7-day, 2-year low water situation, as measured or estimated by accepted hydrologic techniques recognized by the department.

(g) "Channel width and gradient" means a measurement over a representative section of at least 500 linear feet with at least 10 evenly spaced measurement points along the normal stream channel but excluding unusually wide areas of negligible gradient such as marshy or swampy areas, beaver ponds and impoundments. Channel gradient may be determined utilizing stream profiles plotted from United States geological survey topographic maps.

(h) "Intermittent streams" means those segments of streams that normally go dry.

PROPOSED

## WSR 97-15-125
### PROPOSED RULES
### PUGET SOUND AIR POLLUTION CONTROL AGENCY
[Filed July 23, 1997, 10:10 a.m.]

Original Notice.

Exempt from preproposal statement of inquiry under RCW 70.94.141(1).

Title of Rule: Adopt Section 3.04 of Regulation I; amend Sections 3.03, 3.11, 5.05, 5.07, 6.04, 6.10, 6.11, 7.07, 7.09 of Regulation I and Section 2.02 of Regulation III.

Purpose: Establish general regulatory order fees; adjust maximum civil penalty amount for inflation; adjust registration, notice of construction, and operating permit fees to cover program costs; update delegation for New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAPs).

Other Identifying Information: 3.03 and 3.04 General Regulatory Orders; 3.11 Civil Penalties; 5.05 and 5.07 Registration; 6.04 and 6.10 Notice of Construction; 6.11 New Source Performance Standards; 7.07 and 7.09 Operating Permits; and 2.02 National Emission Standards for Hazardous Air Pollutants.

Statutory Authority for Adoption: Chapter 70.94 RCW.

Statute Being Implemented: RCW 70.94.141.

Summary: This proposal will establish general regulatory order fees; increase the maximum civil penalty amount for inflation; adjust registration, notice of construction, and operating permit fees to cover program costs; and update delegation for NSPS and NESHAPs.

Reasons Supporting Proposal: General regulatory order fees need to be established; maximum civil penalty amount needs to be adjusted for inflation; fees for the registration program, notice of construction program, and operating permit program need to be adjusted to cover the costs of administering these programs; and delegation for NSPS and NESHAPs needs to be updated.

Name of Agency Personnel Responsible for Drafting: Jim Nolan, 110 Union Street, #500, Seattle, WA 98101, (206) 689-4053; Implementation: Dave Kircher, 110 Union Street, #500, Seattle, WA 98101, (206) 689-4050; and Enforcement: Neal Shulman, 110 Union Street, #500, Seattle, WA 98101, (206) 689-4078.

Name of Proponent: Puget Sound Air Pollution Control Agency, governmental.

Agency Comments or Recommendations, if any, as to Statutory Language, Implementation, Enforcement, and Fiscal Matters: The state implementation plan will be updated to reflect these amendments.

Rule is not necessitated by federal law, federal or state court decision.

Explanation of Rule, its Purpose, and Anticipated Effects: This proposal would establish General Regulatory Order fees; increase maximum civil penalty amount for

inflation; adjust Registration, Notice of Construction, and Operating Permit fees to cover the costs of administering these programs; and update delegation for federal NSPS and NESHAPs.

Proposal Changes the Following Existing Rules: General Regulatory Order fees will be established; maximum civil penalty amount would increase for inflation; Registration, Notice of Construction, and Operating Permit fees would increase to cover program costs; and delegation for federal NSPS and NESHAPs will be updated.

No small business economic impact statement has been prepared under chapter 19.85 RCW. This agency is not subject to the small business economic impact provision of the Administrative Procedure Act.

RCW 34.05.328 does not apply to this rule adoption. Pursuant to RCW 70.94.141(1), RCW 34.05.328 does not apply to this rule adoption.

Hearing Location: Puget Sound Air Pollution Control Agency Offices, 110 Union Street, #500, Seattle, WA 98101, on September 11, 1997, at 9:00 a.m.

Assistance for Persons with Disabilities: Contact Agency Receptionist, (206) 689-4010 by September 4, 1997, TDD (800) 833-6388, or (800) 833-6385 (Braille).

Submit Written Comments to: Dennis McLerran, Puget Sound Air Pollution Control Agency, 110 Union Street, #500, Seattle, WA 98101, FAX (206) 343-7522, by September 2, 1997.

Date of Intended Adoption: September 11, 1997.

July 22, 1997
James Nolan
Director - Compliance

## AMENDATORY SECTION

## REGULATION I SECTION 3.03 GENERAL REGULATORY ORDERS

(a) **Purpose**. The Board may, by regulatory order, apply to a specific source or sources any applicable provision of chapter 70.94 RCW or the rules adopted thereunder.

(b) **Public Involvement Process**. The Board may issue a regulatory order after the following public involvement process has been completed:

(1) Public notice of the proposed order shall be published in a newspaper of general circulation in the area where the source that is the subject of the order is located. Notice shall also be sent to the U.S. Environmental Protection Agency Regional Administrator. ((~~The cost of providing public notice shall be borne by the affected source.~~)) The public notice shall include, at a minimum, the following information:

(A) The name and address of the owner or operator and the source;

(B) A brief description of the purpose of the proposed order and the requirements included in the proposed order;

(C) The deadline for submitting written comments to PSAPCA; and

(D) The opportunity for a public hearing if PSAPCA determines that there is significant public interest in the proposed order.

(2) The initial public comment period shall be at least 30 days.

(3) During the initial 30-day public comment period, any person may request a public hearing be held. Any such request shall be submitted in writing to the Agency, shall indicate the interest of the entity filing it, and describe why a hearing is warranted. The Agency may, at its discretion, hold a public hearing if it determines significant public interest exists. Any such hearing shall be held before a hearing officer and upon such notice and at a time and place as the Agency deems reasonable. The hearing officer shall hear testimony at the public hearing and prepare a written summary of the testimony received at the hearing. The Agency shall provide at least 30 days prior notice of any hearing. If a public hearing is held, the public comment period shall extend through the hearing date.

(c) **Board Action**. The Board shall only issue an order under this section after:

(1) The public comment period has ended;

(2) Any public hearing scheduled has been held; and

(3) The Board has considered all information and data related to the proposed order received by PSAPCA, including all written comments received and any summary of testimony prepared by the hearing officer.

The Board shall take action on a proposed order at a Board meeting. Unless otherwise ordered by the Board, an order issued under this section shall be effective on the date the Board approves the order.

(d) **Appeals**. Orders issued by the Board under this section may be appealed to the Pollution Control Hearings Board pursuant to Section 3.17 of Regulation I and RCW 43.21B.310.

## NEW SECTION

## REGULATION I SECTION 3.04 GENERAL REGULATORY ORDER FEES

(a) The applicant must pay a fee of $1,000.00 to the Agency when submitting an application for a general regulatory order under Section 3.03 of Regulation I; and

(b) The applicant must pay to the Agency a fee equal to the cost of providing public notice in accordance with Section 3.03(b) of Regulation I.

## AMENDATORY SECTION

## REGULATION I SECTION 3.11 CIVIL PENALTIES

(a) Any person who violates any of the provisions of Chapter 70.94 RCW or any of the rules or regulations in force pursuant thereto, may incur a civil penalty in an amount not to exceed ((~~$11,550.00~~)) $11,977.00 per day for each violation.

(b) Any person who fails to take action as specified by an order issued pursuant to Chapter 70.94 RCW or Regulations I, II, and III of the Puget Sound Air Pollution Control Agency shall be liable for a civil penalty of not more than ((~~$11,550.00~~)) $11,977.00 for each day of continued noncompliance.

(c) Within 15 days after receipt of a Notice and Order of Civil Penalty, the person incurring the penalty may apply in writing to the Control Officer for the remission or mitigation of the penalty. Any such request must contain the following:

(1) The name, mailing address, telephone number, and telefacsimile number (if available) of the appealing party;

(2) A copy of the Notice and Order of Civil Penalty appealed from;

(3) A short and plain statement showing the grounds upon which the appealing party considers such order to be unjust or unlawful;

(4) A clear and concise statement of facts upon which the appealing party relies to sustain his or her grounds for appeal;

(5) The relief sought, including the specific nature and extent; and

(6) A statement that the appealing party has read the notice of appeal and believes the contents to be true, followed by the party's signature.

Upon receipt of the application, the Control Officer shall remit or mitigate the penalty only upon a demonstration by the requester of extraordinary circumstances such as the presence of information or factors not considered in setting the original penalty.

(d) Any civil penalty may also be appealed to the Pollution Control Hearings Board pursuant to Chapter 43.21B RCW and Chapter 371-08 WAC if the appeal is filed with the Hearings Board and served on the Agency within 30 days after receipt by the person penalized of the notice imposing the penalty or 30 days after receipt of the notice of disposition on the application for relief from penalty.

(e) A civil penalty shall become due and payable on the later of:

(1) 30 days after receipt of the notice imposing the penalty;

(2) 30 days after receipt of the notice of disposition on application for relief from penalty, if such application is made; or

(3) 30 days after receipt of the notice of decision of the Hearings Board if the penalty is appealed.

(f) If the amount of the civil penalty is not paid to the Agency within 30 days after it becomes due and payable, the Agency may bring action to recover the penalty in King County Superior Court or in the superior court of any county in which the violator does business. In these actions, the procedures and rules of evidence shall be the same as in an ordinary civil action.

(g) Civil penalties incurred but not paid shall accrue interest beginning on the 91st day following the date that the penalty becomes due and payable, at the highest rate allowed by RCW 19.52.020 on the date that the penalty becomes due and payable. If violations or penalties are appealed, interest shall not begin to accrue until the 31st day following final resolution of the appeal.

(h) To secure the penalty incurred under this section, the Agency shall have a lien on any vessel used or operated in violation of Regulations I, II, and III which shall be enforced as provided in RCW 60.36.050.

## AMENDATORY SECTION

## REGULATION I SECTION 5.05 GENERAL REPORTING REQUIREMENTS FOR REGISTRATION

(a) **General.** The owner or operator of an air contaminant source for which registration is required by Section 5.03, shall make reports containing information as required by the Agency concerning location, size, and height of contaminant outlets, processes employed, nature and quantity of the air contaminant emission, and such other information as is relevant to air pollution and available or reasonably capable of being assembled.

(b) **Registration Form.** Registration information shall be provided on forms supplied by the Agency and shall be completed and returned within the time specified on the form.

(c) **Reporting Responsibility.** The owner, operator, or a designated representative shall sign Agency registration and reporting forms for each source. The owner or operator of the source shall be responsible for notifying the Agency of the existence of the source, and for the accuracy, completeness, and timely submittal of registration reporting information and any accompanying fee.

(d) **Emission Reporting.** An emission report shall be required from each registered source of those air contaminants during the previous calendar year that equal or exceed the following (tons/year):

| | |
|---|---|
| carbon monoxide (CO) emissions | 25 |
| facility-combined total of all toxic air contaminant (TAC) emissions | ~~((5))~~ 6 |
| any single toxic air contaminant (TAC) emissions | 2 |
| nitrogen oxide (NOx) emissions | 25 |
| particulate matter ($PM_{10}$) emissions | 25 |
| sulfur oxide (SOx) emissions | 25 |
| volatile organic compounds (VOC) emissions | 25 |

Annual emission rates shall be reported to the nearest whole tons per year for only those air contaminants that equal or exceed the thresholds above.

(e) **Operation and Maintenance Plan.** Owners or operators of air contaminant sources subject to Section 5.03 above shall develop and implement an operation and maintenance plan to assure continuous compliance with Regulations I, II, and III. A copy of the plan shall be filed with the Control Officer upon request. The plan shall reflect good industrial practice and shall include, but not be limited to, the following:

(1) Periodic inspection of all equipment and control equipment;

(2) Monitoring and recording of equipment and control equipment performance;

(3) Prompt repair of any defective equipment or control equipment;

(4) Procedures for start up, shut down, and normal operation;

(5) The control measures to be employed to assure compliance with Section 9.15 of Regulation I; and

(6) A record of all actions required by the plan.

The plan shall be reviewed by the source owner or operator at least annually and updated to reflect any changes in good industrial practice.

(f) **Report of Closure.** Continued payment of the annual registration fee to the Agency maintains the registration of the source with the Agency, as well as the status of the source as an operating facility. A source shall only be removed from the registration program after a written request has been received from the owner or operator of the source. It shall be unlawful for any person to operate a source that has been removed from registration, unless the owner or operator has submitted and received an approval for a

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"Notice of Construction and Application for Approval", in compliance with Article 6.

(g) **Report of Change of Ownership.** A new owner of a source shall report in writing any change of ownership to the Agency within 90 days of such a change.

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## AMENDATORY SECTION

## REGULATION I SECTION 5.07 REGISTRATION FEES

(a) The Agency shall levy annual fees as set forth in Section 5.07(b) below ((~~the 1997 Registration Fee Schedule~~)) for services provided in administering the registration program. Fees received under the registration program shall not exceed the cost of administering the program. Registration fees do not apply to sources subject to Article 7 of Regulation I.

(b) Upon assessment by the Agency, the following registration fees are due and payable within 30 days. They shall be deemed delinquent if not fully paid within 90 days.

((~~1997 REGISTRATION FEE SCHEDULE~~

~~Facility Fees:~~))

(1) Automobile body repair and painting (SIC = 7532) ..... $200

(2) ((~~Dry Cleaning~~)) Dry-cleaning plants, except rug cleaning (SIC = 7216) ..... $130

(3) Gasoline service stations with more than 1 tank ..... $300

(4) Gasoline service stations with 1 tank ..... $150

(5) Emission reporting sources under Section 5.05(d) that equal or exceed any of the following emission thresholds in tons per year during the previous calendar year:

| | |
|---|---|
| carbon monoxide (CO) emissions ..... | 50 |
| facility-combined total of all toxic air contaminant (TAC) emissions ..... | 12 |
| any single toxic air contaminant (TAC) emissions ..... | 5 |
| nitrogen oxide (NOx) emissions ..... | 50 |
| particulate matter ($PM_{10}$) emissions | 50 |
| sulfur oxide (SOx) emissions ..... | 50 |
| volatile organic compounds (VOC) emissions ..... | 50 |
| ..... ((~~$2,000~~)) | $2,500 |

(6) Emission reporting sources under Section 5.05(d) that equal or exceed any of the following emission thresholds in tons per year during the previous calendar year:

| | |
|---|---|
| carbon monoxide (CO) emissions ..... | 25 |
| facility-combined total of all toxic air contaminant (TAC) emissions ..... | 6 |
| any single toxic air contaminant (TAC) emissions | 2 |
| nitrogen oxide (NOx) emissions ..... | 25 |
| particulate matter ($PM_{10}$) emissions ..... | 25 |
| sulfur oxide (SOx) emissions ..... | 25 |
| volatile organic compounds (VOC) emissions ..... | 25 |
| ..... | $1,500 |

(7) Other sources ((~~with 8 or more equipment items (including control equipment)~~)) requiring registration under Section 5.03 in the following Standard Industrial Classification (SIC) codes (*Standard Industrial Classification Manual*, Executive Office of the President, Office of Management and Budget, 1987): ((~~a Notice of Construction under Article 6~~))

| | |
|---|---|
| 1422 | Crushed and Broken Limestone |
| 1429 | Crushed and Broken Stone |
| 1442 | Construction Sand and Gravel |
| 1446 | Industrial Sand |
| 1611 | Highway and Street Construction |
| 2035 | Pickled Fruits & Vegetables, Vegetable Sauces & Seasonings, and Salad Dressings |
| 2077 | Animal and Marine Fats and Oils |
| 2099 | Food Preparations |
| 2491 | Wood Preserving |
| 2834 | Pharmaceutical Preparations |
| 2842 | Specialty Cleaning, Polishing, and Sanitation Preparations |
| 2873 | Nitrogenous Fertilizers |
| 2875 | Fertilizers, Mixing Only |
| 2893 | Printing Ink |
| 2951 | Asphalt Paving Mixtures and Blocks |
| 2952 | Asphalt Felts and Coatings |
| 3061 | Molded, Extruded, and Lathe-Cut Mechanical Rubber Goods |
| 3211 | Flat Glass |
| 3241 | Cement, Hydraulic |
| 3272 | Concrete Products, except Block and Brick |
| 3273 | Ready-Mix Concrete |
| 3275 | Gypsum Products |
| 3291 | Abrasive Products |
| 3292 | Asbestos Products |
| 3295 | Minerals and Earths, Ground or Otherwise Treated |
| 3299 | Nonmetallic Mineral Products |
| 3312 | Steel Works, Blast Furnaces, and Rolling Mills |
| 3315 | Steel Wiredrawing and Steel Nails and Spikes |
| 3321 | Gray and Ductile Iron Foundries |
| 3324 | Steel Investment Foundries |
| 3325 | Steel Foundries |
| 3334 | Primary Production of Aluminum |
| 3341 | Secondary Smelting & Refining of Nonferrous Metals |
| 3365 | Aluminum Foundries |
| 3366 | Copper Foundries |
| 3369 | Nonferrous Foundries, except Aluminum and Copper |
| 3398 | Metal Heat Treating |
| 3433 | Heating Equipment, except Electric and Warm Air Furnaces |
| 3471 | Electroplating, Plating, Polishing, Anodizing, and Coloring |
| 3479 | Coating, Engraving, and Allied Services |
| 3599 | Industrial and Commercial Machinery and Equipment |
| 3674 | Semiconductors and Related Devices |
| 3679 | Electronic Components |

| | |
|---|---|
| 3731 | Ship Building and Repairing |
| 4013 | Railroad Switching and Terminal Establishments |
| 4613 | Refined Petroleum Pipelines |
| 4911 | Electric Services |
| 4952 | Sewerage Systems, (Treatment Plants) |
| 4953 | Refuse Systems |
| 5153 | Grain and Field Beans |
| 5169 | Chemicals and Allied Products |
| 7694 | Armature Rewinding Shops |
| 8063 | Psychiatric Hospitals |
| 8069 | Specialty Hospitals, except Psychiatric |
| 8611 | Business Associations |

..... $1,000

(8) Other sources ((~~with 3 to 7 or more equipment items (including control equipment)~~)) requiring registration under Section 5.03 in the following Standard Industrial Classification (SIC) codes: ((~~a Notice of Construction under Article 6~~))

| | |
|---|---|
| 0711 | Soil Preparation Services |
| 1459 | Clay, Ceramic, and Refractory Minerals |
| 1521 | General Contractor — Single-Family Homes |
| 1629 | Heavy Construction |
| 1731 | Electrical Work |
| 2013 | Sausages and Other Prepared Meat Products |
| 2032 | Canned Specialties |
| 2041 | Flour and Other Grain Mill Products |
| 2045 | Prepared Flour Mixes and Doughs |
| 2047 | Dog and Cat Food |
| 2048 | Prepared Feeds and Feed Ingredients for Animals and Fowls, except Dogs and Cats |
| 2052 | Cookies and Crackers |
| 2082 | Malt Beverages |
| 2086 | Bottled and Canned Soft Drinks and Carbonated water |
| 2091 | Canned and Cured Fish and Seafoods |
| 2095 | Roasted Coffee |
| 2096 | Potato Chips, Corn Chips, and Similar Snacks |
| 2098 | Macaroni, Spaghetti, Vermicelli, and Noodles |
| 2421 | Sawmills and Planing Mills |
| 2426 | Hardwood Dimension and Flooring Mills |
| 2429 | Special Product Sawmills |
| 2431 | Millwork |
| 2434 | Wood Kitchen Cabinets |
| 2439 | Structural Wood Members |
| 2441 | Nailed and Lock-Corner Wood Boxes and Shook |
| 2448 | Wood Pallets and Skids |
| 2452 | Prefabricated Wood Buildings and Components |
| 2493 | Reconstituted Wood Products |
| 2631 | Paperboard Mills |
| 2652 | Setup Paperboard Boxes |
| 2653 | Corrugated and Solid Fiber Boxes |
| 2657 | Folded Paperboard Boxes |
| 2671 | Packaging Paper and Plastics Film, Coated and Laminated |
| 2675 | Die-Cut Paper and Paperboard and Cardboard |
| 2711 | Newspapers: Publishing, or Publishing and Printing |
| 2721 | Periodicals: Publishing, or Publishing and Printing |
| 2731 | Books: Publishing, or Publishing and Printing |
| 2752 | Commercial Printing, Lithographic |
| 2759 | Commercial Printing |
| 2819 | Industrial Inorganic Chemicals |
| 2821 | Plastic Materials, Synthetic Resins, and Nonvulcanizable Elastomers |
| 2851 | Paints, Varnishes, Lacquers, Enamels, and Allied Products |
| 2869 | Industrial Organic Chemicals |
| 3089 | Plastics Products |
| 3271 | Concrete Block and Brick |
| 3441 | Fabricated Structural Metal |
| 3443 | Fabricated Plate Work |
| 3444 | Sheet Metal Work |
| 3446 | Architectural and Ornamental Metal Work |
| 3449 | Miscellaneous Structural Metal Work |
| 3463 | Nonferrous Forgings |
| 3469 | Metal Stampings |
| 3483 | Ammunition, except for Small Arms |
| 3496 | Miscellaneous Fabricated Wire Products |
| 3498 | Fabricated Pipe and Pipe Fittings |
| 3499 | Fabricated Metal Products |
| 3545 | Cutting Tools, Machine Tool Accessories, and Machinists' Precision Measuring Devices |
| 3556 | Food Products Machinery |
| 3567 | Industrial Process Furnaces and Ovens |
| 3571 | Electronic Computers |
| 3629 | Electrical Industrial Apparatus |
| 3639 | Household Appliances |
| 3648 | Lighting Equipment |
| 3663 | Radio & Television Broadcasting and Communications Equipment |
| 3672 | Printed Circuit Boards |
| 3691 | Storage Batteries |
| 3713 | Truck and Bus Bodies |
| 3721 | Aircraft |
| 3728 | Aircraft Parts and Auxiliary Equipment |
| 3743 | Railroad Equipment |
| 3823 | Industrial Instruments for Measurement, Display, and Control of Process Variables; and Related Products |
| 3873 | Watches, Clocks, Clockwork Operated Devices, and Parts |
| 4173 | Terminal and Service Facilities for Motor Vehicle Passenger Transportation |
| 4212 | Local Trucking without Storage |
| 4222 | Refrigerated Warehousing and Storage |
| 4491 | Marine Cargo Handling |
| 4492 | Towing and Tugboat Services |
| 4512 | Air Transportation, Scheduled |
| 4581 | Airports, Flying Fields, and Airport Terminal Services |
| 4952 | Sewerage Systems, (Pump Stations) |
| 4961 | Steam and Air-Conditioning Supply |
| 5032 | Brick, Stone, and Related Construction Materials |
| 5039 | Construction Materials |
| 5051 | Metals Service Centers and Offices |
| 5065 | Electronic Parts and Equipment |
| 5093 | Scrap and Waste Materials |

PROPOSED

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| | |
|---|---|
| 5162 | Plastics Materials and Basic Forms and Shapes |
| 5171 | Petroleum Bulk Stations and Terminals |
| 5172 | Petroleum and Petroleum Products Wholesalers, except Bulk Stations and Terminals |
| 5199 | Nondurable Goods |
| 5712 | Furniture Stores |
| 5984 | Liquefied Petroleum Gas Dealers |
| 6513 | Operators of Apartment Buildings |
| 7218 | Industrial Launderers |
| 7219 | Laundry and Garment Services |
| 7261 | Funeral Service and Crematories |
| 7374 | Computer Processing and Data Preparation and Processing Services |
| 7534 | Tire Retreading and Repair Shops |
| 8062 | General Medical and Surgical Hospitals |
| 8221 | Colleges, Universities, and Professional Schools |
| 8331 | Job Training and Vocational Rehabilitation Services |
| 8422 | Arboreta and Botanical or Zoological Gardens |
| 8731 | Commercial Physical and Biological Research |
| 8744 | Facilities Support Management Services |
| 9221 | Police Protection |
| 9223 | Correctional Institutions |
| 9711 | National Security |

. . . . . $500

(9) All Other sources, other than listed above in (1) through (8), ((~~with 2 or less equipment items (including control equipment) requiring a Notice of Construction under Article 6~~)) requiring registration under Section 5.03

. . . . . ((~~$200~~)) $250

((~~Additional Fees:~~

~~Emission fees applicable to all emission reporting sources:~~

~~1995 CO emission fee[1] . . . . . $8/ton~~
~~1995 TAC emission fee[2] . . . . . $8/ton~~
~~1995 NOx, $PM_{10}$, or SOx emission fee[3] . $25/ton~~
~~1995 NR or VOC emission fee[4] . . . . . $25/ton~~
~~Continuous emission monitor fee[5] . . $1,500/monitor~~

~~[1] Required only when CO emissions equal or exceed 25 tons in 1995.~~

~~[2] Required only when individual TAC emissions equal or exceed 2 tons in 1995 or when total facility TAC emissions exceed 5 tons in 1995.~~

~~[3] Required only when NOx, $PM_{10}$, or SOx emissions equal or exceed 25 tons in 1995.~~

~~[4] Required only when organic compounds with negligible photochemical reactivity (NR), as listed in 40 CFR 51.100 (s)(1), or VOC emissions equal or exceed 25 tons in 1995.~~

~~[5] Required only of continuous emission monitors required by Section 12.02, counting each pollutant and location as a separate monitor.~~))

## AMENDATORY SECTION

## REGULATION I SECTION 6.04 NOTICE OF CONSTRUCTION REVIEW FEES

A Notice of Construction and Application for Approval is incomplete until the Agency has received a ((~~plan examination~~)) fee as shown below:

General (not classified below) for each Piece of Equipment or Control Equipment . . . . . $500
Minor NOC Change . . . . . $500
NOC Applicability Determination . . . . . $200
Relocation of Previously Permitted Portable Source to a New Address, except soil thermal desorption units . . $500
Asphalt Concrete Plant . . . . . $1,000
Coffee Roaster . . . . . $1,000
Composting Facility . . . . . $2,500
Dry Cleaner (per machine) . . . . . $300
Gasoline Station . . . . . $500
Landfill Gas System . . . . . $2,500
Refuse Burning Equipment: (rated capacity)
12 tons per day or less . . . . . $5,000((~~.00~~))
greater than 12 tons per day but less than 250 tons per day . . . . . $20,000((~~.00~~))
250 tons per day or greater . . . . $50,000((~~.00~~))
Spray-Painting Operation (per booth) . . . . . $500
Storage Tanks excluding those at gasoline stations: (gallons)
less than 20,000 . . . . . ((~~$200.00~~)) $300
20,000 or more . . . . . ((~~$500.00~~)) $1,000

((~~Spray Painting Operation (per booth) . . . . . $300.00~~
~~Gasoline Station . . . . . $300.00~~
~~Dry Cleaner (per machine) . . . . . $200.00~~
~~Landfill Gas System . . . . . $1,000.00~~
~~Composting Facility . . . . . $1,000.00~~))

Soil Thermal Desorption Unit (initial) . . . . ((~~$2,000.00~~)) $3,000
Relocation of Approved Desorption Unit to New Address . . . . . ((~~$700.00~~)) $1,000

((~~Minor NOC Change not Involving a Change in Equipment . . . . . $300.00~~
~~Relocation of Previously Permitted Portable Source to a New Address, except Soil Thermal Desorption Units . . . . . $300.00~~
~~NOC Applicability Determination . . . . . $100.00~~
~~Other (not classified above) . . . . . $300.00~~))

Additional Charges:
SEPA Threshold Determination . . . . . ((~~$100.00~~)) $250
Air Toxics Review (under Regulation III, Section 2.07 (c)(2)) . . . . . $500((~~.00~~))
Air Toxics Review (under Regulation III, Section 2.07 (c)(3)) . . . . . $5,000((~~.00~~))
Major Source, Major Modification, or Emission Increases greater than Prevention of Significant Deterioration Thresholds (see Regulation I, Section 6.07(d)) $5,000((~~.00~~))
Opacity/Grain Loading Correlation (see Regulation I, Section 9.09(c)) . . . $5,000((~~.00~~))
Emissions Units Subject to an NSPS or NESHAP

(except residential wood heaters, asbestos renovation or demolition, and ((~~chromic acid anodizing, chromium electroplating,~~)) perchloroethylene dry cleaning((~~, or cold solvent cleaners~~))) . . . . . $1,000((~~.00~~))

Public Notice (plus publication fees) . . . ((~~$200.00~~)) $500

AMENDATORY SECTION

REGULATION I SECTION 6.10 WORK DONE WITHOUT AN APPROVAL

Where work for which a Notice of Construction is required is commenced or performed prior to making application and receiving approval, the Control Officer may conduct an investigation as part of the Notice of Construction review. In such a case, an investigation fee, in addition to the fees of Section 6.04, shall be assessed in an amount equal to 3 times the ((~~plan examination~~)) fees of Section 6.04. Payment of the fees does not relieve any person from the requirement to comply with the regulations nor from any penalties for failure to comply.

AMENDATORY SECTION

REGULATION I SECTION 6.11 NEW SOURCE PERFORMANCE STANDARDS

It shall be unlawful for any person to cause or allow the operation of any source in violation of any provision of Part 60, Title 40, of the Code of Federal Regulations (CFR) in effect July 1, ((~~1996~~)) 1997 herein incorporated by reference.

AMENDATORY SECTION

REGULATION I SECTION 7.07 OPERATING PERMIT FEES

(a) The Agency shall levy annual operating permit fees as set forth in ((~~the 1997 Operating Permit Fee Schedule~~)) Section 7.07(b) below to cover the cost of administering the operating permit program.

(b) Upon assessment by the Agency, the following operating permit fees are due and payable within 30 days. They shall be deemed delinquent if not fully paid within 90 days.

((~~1997 OPERATING PERMIT FEE SCHEDULE~~))

(1) Facility Fees:

Operating permit sources with ((~~SIC =~~)) the following Standard Industrial Classification (SIC) codes: ((~~2911, 3241, 3312, or 9711~~))

| | |
|---|---|
| 2911 | Petroleum Refining |
| 3241 | Cement, Hydraulic |
| 3312 | Steel Works, Blast Furnaces, and Rolling Mills |
| 9711 | National Security |

. . . . . $18,000

Operating permit sources with ((~~SIC =~~)) the following SIC codes: ((~~1721, 2051, 2431, 2434, 2491, 2499, 2672, 3086, 3251, 3443, 3498, 3585, or 7641~~))

| | |
|---|---|
| 1721 | Painting and Paper Hanging |
| 2051 | Bread and other Bakery Products, except Cookies and Crackers |
| 2431 | Millwork |
| 2434 | Wood Kitchen Cabinets |
| 2491 | Wood Preserving |
| 2499 | Wood Products |
| 2672 | Coated and Laminated Paper |
| 3086 | Plastics Foam Products |
| 3251 | Brick and Structural Clay Tile |
| 3443 | Fabricated Plate Work |
| 3498 | Fabricated Pipe and Pipe Fittings |
| 3585 | Air Conditioning and Warm-Air Heating Equipment, and Commercial and Industrial Refrigeration Equipment |
| 7641 | Reupholstery and Furniture Repair |

. . . . . $3,000

Operating permit sources with ((~~SIC =~~)) the following SIC codes: 3721 Aircraft or 3728 Aircraft Parts and Auxiliary Equipment with employee population:

8,000 or greater . . . . . $18,000
1,000 through 7,999 . . . . . $6,000
less than 1,000 . . . . . $3,000

Operating permit sources with a SIC code ((~~=~~)) other than listed above . . . . . $6,000

(2) Additional Emission Fees:

((~~1995~~)) 1996 CO emission fee[1] . . $((~~8~~)) 10/ton
((~~1995~~)) 1996 TAC emission fee[2] . $((~~8~~)) 10/ton
((~~1995~~)) 1996 NOx, $PM_{10}$, or SOx emission fee[3] . . . . . $((~~25~~)) 30/ton
((~~1995~~)) 1996 ((~~NR or~~)) VOC emission fee[4] . . . . . $((~~25~~)) 30/ton
Continuous emission monitor fee[5] $1,500/monitor

1 Required only when CO emissions equal or exceed 25 tons in ((~~1995~~)) 1996.

2 Required only when individual TAC emissions equal or exceed 2 tons in ((~~1995~~)) 1996 or when total facility TAC emissions exceed ((~~5~~)) 6 tons in ((~~1995~~)) 1996.

3 Required only when NOx, $PM_{10}$, or SOx emissions equal or exceed 25 tons in ((~~1995~~)) 1996.

4 Required only when ((~~organic compounds with negligible photochemical reactivity (NR), as listed in 40 CFR 51.100 (s)(1), or~~)) VOC emissions equal or exceed 25 tons in ((~~1995~~)) 1996.

5 Required only of continuous emission monitors ((~~required by~~)) subject to Section 12.02, counting each pollutant and location as a separate monitor.

(b) The agency shall, on a source-by-source basis, levy the following surcharges:

(1) for the issuance, reissuance, or renewal of an operating permit, a surcharge equal to 20% of the annual operating permit fee, not to exceed $5,000.00.

(2) to cover the cost of public involvement under WAC 173-401-800.

(3) to cover the cost incurred by the Washington State Department of Health in enforcing 40 CFR Part 61, Subpart I and Chapter 246-247 WAC.

(c) The Agency shall collect and transfer to the Washington State Department of Ecology a surcharge established by the Department of Ecology under WAC 173-401 to cover the Department of Ecology's program development and oversight costs.

(d) Upon assessment by the Agency, operating permit fees are due and payable within 30 days. They shall be deemed delinquent if not fully paid within 90 days.

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(e) Continued payment to the Agency of the annual operating permit fee maintains the operating permit and the status of the source as an operating facility.

AMENDATORY SECTION

**REGULATION I SECTION 7.09 GENERAL REPORTING REQUIREMENTS**

(a) **Emission Reporting.** An emission report shall be required from each operating permit source of those air contaminants during the previous calendar year that equal or exceed the following (tons/year):

| | |
|---|---|
| carbon monoxide (CO) emissions | 25 |
| facility-combined total of all toxic air contaminant (TAC) emissions | ((~~5~~)) 6 |
| any single toxic air contaminant (TAC) emissions | 2 |
| nitrogen oxide (NOx) emissions | 25 |
| particulate matter ($PM_{10}$) emissions | 25 |
| sulfur oxide (SOx) emissions | 25 |
| volatile organic compounds (VOC) emissions | 25 |

Annual emission rates shall be reported to the nearest whole tons per year for only those air contaminants that equal or exceed the thresholds above.

(b) **Operation and Maintenance Plan.** Owners or operators of air contaminant sources subject to Regulation I Article 7 shall develop and implement an operation and maintenance plan to assure continuous compliance with Regulations I, II, and III. A copy of the plan shall be filed with the Control Officer upon request. The plan shall reflect good industrial practice and shall include, but not be limited to, the following:

(1) Periodic inspection of all equipment and control equipment;

(2) Monitoring and recording of equipment and control equipment performance;

(3) Prompt repair of any defective equipment or control equipment;

(4) Procedures for start up, shut down, and normal operation;

(5) The control measures to be employed to assure compliance with Section 9.15 of Regulation I; and

(6) A record of all actions required by the plan.

The plan shall be reviewed by the source owner or operator at least annually and updated to reflect any changes in good industrial practice.

AMENDATORY SECTION

**REGULATION III SECTION 2.02 NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS**

It shall be unlawful for any person to cause or allow the operation of any source in violation of any provision of Part 61 or Part 63, Title 40, of the Code of Federal Regulations (CFR) in effect July 1, ((~~1996~~)) 1997 herein incorporated by reference.

## WSR 97-16-001
## PROPOSED RULES
## SUPERINTENDENT OF PUBLIC INSTRUCTION
[Filed July 23, 1997, 3:38 p.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 96-17-005.

Title of Rule: Chapter 392-130 WAC.

Purpose: Repeal chapter 392-130 WAC because legislature has removed authority of subject matter.

Statutory Authority for Adoption: RCW 48.62.030 and 48.62.035.

Summary: See Purpose above.

Name of Agency Personnel Responsible for Drafting, Implementation and Enforcement: Richard M. Wilson, Superintendent of Public Instruction, Olympia, 753-2298.

Name of Proponent: Superintendent of Public Instruction, governmental.

Rule is not necessitated by federal law, federal or state court decision.

Explanation of Rule, its Purpose, and Anticipated Effects: See Purpose above.

Proposal Changes the Following Existing Rules: Repeals chapter 392-130 WAC.

No small business economic impact statement has been prepared under chapter 19.85 RCW. The rule will have a minor or negligible economic impact.

RCW 34.05.328 does not apply to this rule adoption.

Hearing Location: Wanamaker Conference Room, 2nd Floor, 600 South Washington Street, Olympia, WA 98504-7200, on September 9, 1997, at 9:00 a.m.

Assistance for Persons with Disabilities: Contact Jim Rich by August 28, 1997, TDD (360) 664-3631, or (360) 753-6733.

Submit Written Comments to: Rules Coordinator, Legal Services, P.O. Box 47200, Olympia, WA 98504, FAX (360) 753-4201, by September 8, 1997.

Date of Intended Adoption: September 10, 1997.

July 23, 1997
Dr. Terry Bergeson
Superintendent of
Public Instruction

REPEALER

The following chapter of the Washington Administrative Code is repealed:

| | |
|---|---|
| WAC 392-130-005 | Authority. |
| WAC 392-130-010 | Purposes. |
| WAC 392-130-015 | Definition—Joint self-funded plan for employee benefits. |
| WAC 392-130-020 | Definition—Individual self-funded plan for employee benefits. |
| WAC 392-130-025 | Definition—Self-funded employee loss of time and health benefit plans. |
| WAC 392-130-030 | Definition—Self-funded plan or a plan. |

PROPOSED

## WSR 97-16-013
### PROPOSED RULES
### PERSONNEL RESOURCES BOARD
[Filed July 25, 1997, 2:55 p.m.]

Original Notice.

Exempt from preproposal statement of inquiry under RCW 34.05.310(4).

Title of Rule: WAC 356-30-065 Temporary appointments—From outside state service and 356-30-067 Temporary appointments from within classified service.

Purpose: These rules govern temporary appointments from outside and within classified service.

Statutory Authority for Adoption: Chapter 41.06 RCW.

Statute Being Implemented: RCW 41.06.150.

Summary: These modifications will allow an additional reason to grant a temporary appointment.

Name of Agency Personnel Responsible for Drafting, Implementation and Enforcement: Department of Personnel, 521 Capitol Way South, Olympia, WA, (360) 753-0468.

Name of Proponent: Department of Personnel, governmental.

Rule is not necessitated by federal law, federal or state court decision.

Explanation of Rule, its Purpose, and Anticipated Effects: These rules allow temporary appointments to classified positions during the absence of a permanent employee or during a workload peak. These modifications will also allow temporary appointments to be made to reduce the effects of an impending or actual reduction in force.

Proposal Changes the Following Existing Rules: See above.

No small business economic impact statement has been prepared under chapter 19.85 RCW. Not required.

RCW 34.05.328 does not apply to this rule adoption. These rules relate to internal government operations that are not subject to violation by a nongovernmental party. Therefore, pursuant to RCW 34.05.328 [(5)](b)(ii), section 201 does not apply.

Hearing Location: Department of Personnel, 521 Capitol Way South, Olympia, WA, on September 11, 1997, at 10:00 a.m.

Assistance for Persons with Disabilities: Contact Department of Personnel by September 4, 1997, TDD (360) 753-4107, or (360) 586-0509.

Submit Written Comments to: Sharon Peck, Department of Personnel, P.O. Box 47500, FAX (360) 586-4694, by September 9, 1997.

Date of Intended Adoption: September 11, 1997.

July 25, 1997
Dennis Karras
Secretary

AMENDATORY SECTION (Amending WSR 88-18-096 (Order 308), filed 9/7/88, effective 11/1/88)

**WAC 356-30-065 Temporary appointments—From outside state service.** (1) Temporary appointments may be made to classified positions during the absence of a permanent employee, to reduce the effects of an impending or actual reduction in force, or during a workload peak when there is a need to fill a position for not more than nine months or 1560 nonovertime hours or while recruitment is being conducted to establish a complete register.

(2) Temporary appointments may be made at a lower level than the allocation of the position being filled provided the class falls within the same or a related class series.

(3) Temporary appointments shall be approved by the director of personnel, or designee. Single or multiple temporary appointments shall last no more than nine months or 1560 nonovertime hours within a twelve-month period. Time spent in emergency appointments will be counted in the 1560 hours.

(4) No temporary appointment of an employee who has worked for the agency for nine months or 1560 nonovertime hours within the last twelve months may be made without a three-month break in service. Consecutive nonpermanent appointments of the same person in the same agency which would cause the employee to work more than 1560 nonovertime hours in a twelve-month period can only be made with the approval of the director of personnel. Extensions of temporary appointments of persons from outside classified service may be granted when a permanent employee's leave extends beyond nine months or 1560 nonovertime hours or as otherwise approved by the director of personnel. Such extensions must be approved by the director of personnel.

(5) Temporary appointees must meet the minimum qualifications of the class to which they are appointed unless the director of personnel determines that program needs demand otherwise. Established registers, certification, and referral services are available and may be used when making temporary appointments. An employee given a temporary appointment following certification from the register to fill a position in the absence of a permanent employee may enter a probationary period when the permanent employee does not return to the position and the agency needs to fill the position permanently. The director must approve the change in status before it occurs. Time served in a temporary appointment will not be counted as part of the probationary period.

(6) Compensation of temporary employees shall be consistent with the rules unless exempted by RCW 41.06.070 and WAC 356-06-020.

(7) Merit system rules governing all forms of leave will apply to temporary employees unless exempted by RCW 41.06.070 and WAC 356-06-020.

(8) An employee's temporary appointment may be ended by stipulating a termination date in the appointment letter or by giving one full working day's notice prior to the effective date. The employee receiving such notice shall not have the right of appeal or hearing.

(9) The appointing authority shall advise the temporary employee of the temporary status of the appointment. Temporary employees not appointed from within the classified service have no appeal rights.

(10) The director of personnel shall monitor temporary appointments made pursuant to this section and may revoke delegated authority where abuse is found.

AMENDATORY SECTION (Amending WSR 91-20-029 (Order 383), filed 9/23/91, effective 11/1/91)

**WAC 356-30-067 Temporary appointments from within classified service.** (1) Temporary appointments may be made with the approval of the director of personnel or designee to classified positions during the absence of a permanent employee, to reduce the effects of an impending or actual reduction in force, or during a workload peak when there is a need to fill a position for not more than nine months or 1560 nonovertime hours or while recruitment is being conducted to establish a complete register.

(2) Temporary appointments may be made at a lower level than the allocation of the position being filled provided the class falls within the same or a related class series.

(3) All temporary appointments to supervisory or managerial positions must be made from within state service unless the director determines that such action is not practicable.

(4) Established registers, certification, and referral services are available and may be used when making temporary appointments. An employee certified from the register to fill a position in the absence of a permanent employee may enter a probationary or trial service period and subsequently gain permanent status when the permanent employee does not return to the position and the agency needs to fill the position permanently. The director of personnel must approve the change in status before it occurs. Time served in a temporary appointment will not be counted as part of the probationary or trial service period.

(5) Temporary appointees must meet the minimum qualifications of the class to which they are appointed unless the director of personnel determines that program needs demand otherwise. Upon termination of such temporary

appointment, permanent or probationary employees shall have the right to resume a permanent position within their permanent agency at their former status except as provided in (6) below. The employee's salary upon return will be determined as if the employee had remained in the permanent position.

(6) An employee who accepts a temporary appointment to a higher class in the same series in the same work unit shall continue the probationary or trial service period for the lower class.

(7) Temporary appointments made from within classified service will normally last no more than nine months or 1560 nonovertime hours for single or multiple appointments. An extension may be approved by the director when a temporary appointment is made to replace a permanent employee who has been granted a leave of absence, when temporarily filling a supervisory or managerial position when there is reorganization pending, or as otherwise approved by the director. Temporary appointments may extend to thirty days after the date the permanent employee returns or the position is filled permanently. Time spent in emergency appointments will be counted in the 1560 hours.

(8) Compensation for temporary appointees shall be made in accordance with the rules governing promotions, demotions, or transfers.

(9) The director of personnel shall monitor temporary appointments made pursuant to this section and may revoke delegated authority where abuse is found.

## WSR 97-16-014
### PROPOSED RULES
### PERSONNEL RESOURCES BOARD
[Filed July 25, 1997, 2:56 p.m.]

Original Notice.

Exempt from preproposal statement of inquiry under RCW 34.05.310(4).

Title of Rule: WAC 356-26-030 Register designation.

Purpose: This rule pertains to human resources broad band classification and reduction in force registers.

Statutory Authority for Adoption: Chapter 41.06 RCW.

Statute Being Implemented: RCW 41.06.150.

Summary: This modification will allow employees in the human resources consultant broad band classification to be placed on the reduction in force register for the tier(s) in which they meet under certain criteria.

Name of Agency Personnel Responsible for Drafting, Implementation and Enforcement: Department of Personnel, 521 Capitol Way South, Olympia, WA, (360) 753-0468.

Name of Proponent: Department of Personnel, governmental.

Rule is not necessitated by federal law, federal or state court decision.

Explanation of Rule, its Purpose, and Anticipated Effects: This rule defines the composition, ranking, life, and special provisions of registers. The purpose of this rule establishes certain criteria for placement of eligible names for employment or reemployment in a class. A proposal has been submitted to change the current classification system to allow for a new concept called "broad band approach." The "broad band approach" allows compensation through tiers. Tiers are equivalent to a class. If adopted, this modification would be necessary to allow employees in the human resources consultant broad band classification to be placed on the reduction in force register for their tier(s) in which they meet under certain criteria. The employee will be eligible for referral to positions with the same or similar duties as those in which they have held permanent status.

Proposal Changes the Following Existing Rules: See above.

No small business economic impact statement has been prepared under chapter 19.85 RCW. Not required.

RCW 34.05.328 does not apply to this rule adoption. These rules relate to internal government operations that are not subject to violation by a nongovernmental party. Therefore, pursuant to RCW 34.05.328 [(5)](b)(ii), section 201 does not apply.

Hearing Location: Department of Personnel, 521 Capitol Way South, Olympia, WA, on September 11, 1997, at 10:00 a.m.

Assistance for Persons with Disabilities: Contact Department of Personnel by September 4, 1997, TDD (360) 753-4107, or (360) 586-0509.

Submit Written Comments to: Sharon Peck, Department of Personnel, P.O. Box 47500, FAX (360) 586-4694, by September 9, 1997.

Date of Intended Adoption: September 11, 1997.

July 25, 1997
Dennis Karras
Secretary

AMENDATORY SECTION (Amending WSR 94-10-008, filed 4/21/94, effective 5/31/94)

**WAC 356-26-030 Register designation.** (1) **Agency reduction in force.**

(a) Composition.

(i) The agency reduction in force register will consist of classes and the names of all employees who hold or have held permanent status in those classes and: (A) Have been notified they are scheduled for reduction in force; or (B) held permanent status prior to separation due to a reduction in force; or (C) who have accepted a voluntary demotion in a class in lieu of a reduction in force; or (D) were in a trial service period with another department and separated due to reduction in force; or (E) employees requesting to be placed on this register for classes held immediately prior to the position being reallocated downward; or (F) who were separated due to disability within the last year as provided in WAC 356-35-010 and who have submitted to the director of personnel a current statement from a physician or licensed mental health professional that they are physically and/or mentally able to perform the duties of the class for which the register is established.

(ii) Employees in the human resources consultant broad band classification will be placed on the reduction in force register for the tier(s) in which they meet the criteria listed in (a)(i) of this subsection. The employee will be eligible for referral to positions with the same or similar duties as those in which they have held permanent status.

((~~(ii)~~)) (iii) The employee's name shall appear for all classifications for which he/she is not disabled in which he/she held permanent status since the employee's last separa-



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tion other than a reduction in force, or in which he/she served more than six months on a position which would have meant permanent status had it been under the jurisdiction of the state personnel board at the time.

(b) Method of ranking.

(i) This register will be ranked according to seniority.

(c) Life of register.

(i) An eligible's name will normally remain on this register for three years.

(d) Special provisions.

(i) Employees appointed from this register will assume the same status they held prior to the reduction in force. Persons on this register will indicate the geographic areas in which they are available. Appointment of persons from this register to seasonal positions will be as provided in WAC 356-30-130.

(ii) An employee's name shall not appear for classes at or below the range level of a class in which the employee is serving on a permanent full-time basis, except:

(A) When the employee has accepted an option beyond a reasonable commuting distance in lieu of separation due to reduction in force. The employee's name may appear for classes at the same or lower range levels when the availability would return the employee back to his/her previous work location.

(B) When the employee has accepted a position in lieu of separation due to a reduction in force, in a different class series.

(C) Any other exceptions shall be approved by the director or designee.

(2) **Service-wide reduction in force.**

(a) Composition.

(i) This register will consist of the same names as the agency reduction in force register, except for those requesting to be on the agency reduction in force register following a reallocation downward.

(b) Method of ranking.

(i) This register will be ranked according to seniority.

(c) Life of register.

(i) An eligible's name will normally remain on this register for two years.

(d) Special provisions.

(i) Employees appointed from this register will assume the same status they held prior to the reduction in force. Persons on this register will indicate the geographic areas and departments for which they are available. Appointment of persons from this register to seasonal positions will be as provided in WAC 356-30-130.

(3) **Dual-agency reversion.**

(a) Composition.

(i) This register will contain the names of employees who while serving a trial service period in another agency or in a position under the jurisdiction of the higher education personnel board were either voluntarily or involuntarily reverted to their former class and status.

(b) Method of ranking.

(i) This register will be ranked according to total unbroken classified service.

(c) Life of register.

(i) An eligible's name will normally remain on this register for two years.

(d) Special provisions.

(i) This register refers to the agency from which promoted and the agency from which reverted. Employees appointed from this register will assume the status they held prior to promotion. Persons on this register will indicate the geographic area in which they are available.

(4) **Agency promotional.**

(a) Composition.

(i) This register will be established by appropriate classes for each agency and shall include the names of those current permanent employees of each agency who have served six months of a probationary period, or past permanent employees who have been separated due to reduction in force within the last year and who have received a passing final grade in the total promotional examination and are eligible to be certified. The names of past permanent employees who were separated due to disability within the last year as provided in WAC 356-35-010 shall also be included on this register provided that they submit to the director of personnel a statement from a physician or licensed mental health professional that they are physically and/or mentally able to perform the duties of the class for which the register is established and they have received a passing final grade as required for other promotional applicants.

(b) Method of ranking.

(i) This register shall be ranked according to final score from the highest to the lowest.

(c) Life of register.

(i) An eligible's name will normally remain on this register for an indefinite period unless replaced by a register established by the use of a substantially new examination.

(d) Special provisions.

(i) An employee may convert any current open competitive rating to this register after six months.

(5) **Higher education reduction in force.**

(a) Composition.

(i) This register shall contain the names of permanent employees ranked in order of seniority from higher education institutions or related boards laid off or scheduled for layoff and who have requested placement on this register. The employee's name shall appear for all classifications or equivalent classifications for which the employee held permanent status.

(b) Method of ranking.

(i) This register will be ranked according to seniority.

(c) Life of the register.

(i) An eligible's name will normally remain on this register for two years from the date of placement on the register.

(d) Special provisions.

(i) The employee must request placement on this register within thirty calendar days of the effective date of layoff or previously have requested placement on the inter-system employment register due to layoff. The employee may request placement on lower classes in the same class series or equivalent classes and must demonstrate the ability to meet the minimum qualifications and pass the qualifying examination for classes in which the employee has held permanent status, or lower classes in the same class series, or equivalent classes. Employees appointed from this register shall be required to complete a trial service period of six months.

(6) **Service-wide reversion.**

(a) Composition.

(i) This register will contain the names of employees who while serving a trial service period in another agency or in a position under the jurisdiction of the higher education personnel board were either voluntarily or involuntarily reverted to their former class and status.

(b) Method of ranking.

(i) This register will be ranked according to total unbroken classified service.

(c) Life of register.

(i) An eligible's name will normally remain on this register for two years.

(d) Special provisions.

(i) This register refers to all agencies, except the two which are involved with the dual-agency transaction. Persons on this register will indicate the geographic areas and agencies for which they are available.

(7) **Transfer.**

(a) Composition.

(i) This register shall contain the names of all permanent employees who have submitted a request to be considered for transfer.

(b) Method of ranking.

(i) This register will be unranked.

(c) Life of register.

(i) An eligible's name shall normally remain on this register for one year.

(d) Special provisions.

(i) To use this register, the employee must transfer either within the same class or the same pay range having the same salary range number.

(8) **Voluntary demotion.**

(a) Composition.

(i) This register shall contain the names of all permanent employees who have submitted a request for and are eligible under the rules to be considered for a voluntary demotion.

(b) Method of ranking.

(i) This register shall be unranked. However, employees subject to reduction in force shall have priority.

(c) Life of register.

(i) An eligible's name shall normally remain on this register for one year.

(d) Special provisions.

(i) Employees appointed from this register to a class not previously held will serve a trial service period. All examination ratings for the class from which demoted shall be nullified; however, the employee may be elevated to the class from which demoted with permanent status without benefit of certification provided permanent status was achieved at the higher level.

(9) **Service-wide promotional.**

(a) Composition.

(i) This register shall contain the names of those permanent employees who have served six months of a probationary period or past permanent employees who have been separated due to reduction in force within the last year who have obtained a passing final grade in the total promotional examination. The names of past permanent employees who were separated due to disability within the last year as provided in WAC 356-35-010 shall also be included on this register provided that they submit to the director of personnel a statement from a physician or licensed mental health professional that they are physically and/or mentally able to perform the duties of the class for which the register is established and they have received a passing final score as required for other promotional applicants.

(b) Method of ranking.

(i) This register shall be ranked according to final score, from the highest to the lowest.

(c) Life of register.

(i) An eligible's name will normally remain on this register for an indefinite period unless replaced by a register established by the use of a substantially new examination.

(d) Special provisions.

(i) An employee may convert any current open competitive rating to this register after six months. Persons on this register will indicate the geographic areas and agencies for which they are available.

(10) **Reemployment.**

(a) Composition.

(i) This register shall contain the names of all past permanent employees who have submitted a request and an application for reemployment within five years from the date of separation, provided that the names of employees separated for cause while performing similar duties shall not be placed on this register except with the approval of the agency from which they were separated for cause. This register shall also contain the names of those employees who have been in reversion or reduction in force status and have been offered and declined employment. The director of personnel may extend the time during which an employee may apply for reemployment if the director of personnel has determined that a need for eligibles exists in a certain class and/or geographical area.

(b) Method of ranking.

(i) This register shall be unranked.

(c) Life of register.

(i) An eligible's name will normally remain on this register for two years.

(d) Special provisions.

(i) Persons reemployed from this register will serve a probationary period. The former employee may limit or enlarge upon his/her area of availability either by department or geographic area.

(11) **Inter-system employment.**

(a) Composition. This register shall contain the names of permanent classified employees under the jurisdiction of the higher education personnel board who have submitted an application and who have passed the required examination.

(b) Method of ranking. This register shall be ranked according to final passing score from the highest to the lowest.

(c) Life of register. An eligible's name will normally remain on this register for one year.

(d) Special provisions. Employees appointed from this register will serve a six month trial service period.

(12) **Open competitive.**

(a) Composition.

(i) This register will contain the names of all persons who have passed the entrance examination.

(b) Method of ranking.

(i) This register shall be ranked by the final score.

(c) Life of register.

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(i) An eligible's name will normally remain on this register for one year unless changed by the director of personnel.

(d) Special provisions.

(i) Persons on this register will indicate the geographic areas for which they are available.

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## WSR 97-16-015
### PROPOSED RULES
### PERSONNEL RESOURCES BOARD
[Filed July 25, 1997, 2:58 p.m.]

Continuance of WSR 97-12-079.

Exempt from preproposal statement of inquiry under RCW 34.05.310(4).

Title of Rule: New section WAC 356-05-422 Tier and 356-14-069 Compensation for human resources consultant broad band classification; and amending WAC 356-05-075 Class, 356-14-010 Compensation plan—General provisions, 356-14-110 Salary—Periodic increment dates—Original—Subsequent, 356-14-120 Salary—Periodic increment date—Promotion, 356-14-140 Salary—Increase on promotion, 356-14-160 Salary—Voluntary demotion—Computation, 356-30-330 Reduction in force—Reasons, regulations—Procedure, and 356-34-020 Reduction in salary—Demotion—Procedure.

Hearing Location: Department of Personnel, 521 Capitol Way South, Olympia, WA, on September 11, 1997, at 10:00 a.m.

Assistance for Persons with Disabilities: Contact Department of Personnel by September 4, 1997, TDD (360) 753-4107, or (360) 586-0509.

Submit Written Comments to: Sharon Peck, Department of Personnel, P.O. Box 47500, FAX (360) 586-4694, by September 9, 1997.

Date of Intended Adoption: September 11, 1997.

July 25, 1997
Dennis Karras
Secretary

## WSR 97-16-034
### PROPOSED RULES
### SECRETARY OF STATE
(Corporations Division)
[Filed July 30, 1997, 9:38 a.m.]

Supplemental Notice to WSR [97-08-076].

Preproposal statement of inquiry was filed as WSR 97-03-014.

Title of Rule: Chapter 434-120 WAC, Charitable solicitation organizations and charitable trust.

Purpose: To revise the form for charitable organization registration.

Statutory Authority for Adoption: RCW 19.09.075.

Statute Being Implemented: RCW 19.09.075.

Summary: There have been requests from constituents to clarify, review and revise the registration form and financial reporting requirements for charitable organizations.

Reasons Supporting Proposal: These rules update the form to comply with other WAC changes and simplify reporting requirements for charitable organizations.

Name of Agency Personnel Responsible for Drafting: Frances Sant, 505 East Union, 1st Floor, Olympia, WA 98504-0234, (360) 753-7120, ext. 261; Implementation and Enforcement: Colleen Kemp, 505 East Union, 1st Floor, Olympia, WA 98504-0234, (360) 586-8465.

Name of Proponent: Office of the Secretary of State, governmental.

Rule is not necessitated by federal law, federal or state court decision.

Explanation of Rule, its Purpose, and Anticipated Effects: WAC 434-120-105 Description of the content of the registration form and solicitation report for charitable organizations.

Proposal Changes the Following Existing Rules: Information collected on the registration and renewal forms will facilitate better information for public disclosure. Use of the federal information tax return (990 and 990PF) and use of the uniform registration form, with the required addendum will be accepted.

Note: This information was published under a previous proposal in WSR 97-08-076. This supplemental notice is being filed in order to correct errors in the previous version and to accommodate comments that were received.

No small business economic impact statement has been prepared under chapter 19.85 RCW. There is no fiscal impact being made on small business by this rule-making order.

Section 201, chapter 403, Laws of 1995, does not apply to this rule adoption.

Hearing Location: Office of the Secretary of State, 505 East Union, 2nd Floor, Olympia, WA 98504-0234, on September 10, 1997, at 8:30.

Assistance for Persons with Disabilities Contact: Frances Sant, by September 8, 1997, TDD (360) 586-4250.

Submit Written Comments to: Frances Sant, P.O. Box 40244, Olympia, WA 98504-0244, FAX (360) 664-4250, by September 8, 1997.

Date of Intended Adoption: September 10, 1997.

July 30, 1997
Tracy Guerin
Assistant Secretary of State

AMENDATORY SECTION (Amending WSR 94-01-004, filed 12/1/93, effective 1/1/94)

**WAC 434-120-105 Form.** (1) Charitable organizations registering under this act shall use the ((~~combined charitable organization, charitable trust, and public benefit~~)) registration form available in the office of the corporations division ((~~or shall provide, by letter, the required information organized and topically sectioned in exactly the following manner:~~

~~(1) Section I. The name, address, and telephone number of the charitable organization; and the name under which the organization will solicit contributions.~~

~~(2) Section II. The name, address, and telephone number of the corporate officers, directors of the board, or persons accepting responsibility for the organization; and the names of the three officers, directors, or employees who receive the greatest amount of compensation from the organization. If this is a consolidated registration, then list the names of the three officers or employees of the parent organization.~~

~~(3) Section III. The purpose of the charitable organization; the names and addresses of beneficiaries or the selected group of persons or activities which the charitable organization supports; and to whom assets would be given in the event of dissolution.~~

~~(4) Section IV. Whether or not the organization has a federal income tax exempt status, and, if so, the basis. Attach a copy of the letter or other written proof of the status declaration if granted under 26 U.S.C. 501 (c)(3) by the Internal Revenue Service. Include the name, address, and telephone number of the entity that prepares, compiles, reviews, or audits the financial statement of the charitable organization.~~

~~(5) Section V. A financial statement in the form of a solicitation report, which includes the following information:~~

~~(a) From a newly formed entity that has not completed its first accounting year, the annual budget expenditures approved by the board of directors or other responsible person(s), which must clearly identify the reported figures as budget estimates not based upon actual funds expended; or, from an entity that has completed one or more accounting years but has not previously registered under this act, its actual expenditures from the preceding fiscal year, and its proposed budget for the coming fiscal year; and~~

~~(i) The number and types of solicitations planned; and~~

~~(ii) From the existing entity, total revenue for the preceding year and the amount that was used for the charitable purpose;~~

~~In addition, seven months after registration all newly formed entities shall file a six month report containing actual budget figures.~~

~~(b) From charitable organizations registering for the second or more years, the following information from the preceding fiscal year:~~

~~(i) The number and types of solicitations conducted;~~

~~(ii) The total dollar value of gross revenue received from solicitations conducted by or on behalf of the organization and from all other sources (including revenue from activities regulated by the gambling commission) received, which must equal the total revenue of the organization;~~

~~(iii) A solicitation report that contains the gross revenue applied to charitable purposes, fund raising costs, and other expenses, which are figured in accordance with WAC 434-120-125, including the amount of any compensation allocated to charitable purposes and paid to a commercial fund raiser or other entity, who is not a bona fide employee, as defined in RCW 19.09.020(1), for fund raising services; and~~

~~(iv) The name, physical address, and telephone number of any commercial fund raiser used by the organization.~~)). The secretary of state shall develop a form in compliance with this rule. The secretary's failure to affirmatively reject or return an incomplete registration or other filing that does not fully comply with these rules or chapter 19.09 RCW shall not excuse the failure to comply. The secretary may accept the Uniform Registration Statement developed by the National Association of State Charity Officials if accompanied by an addendum developed by the secretary for use in Washington, if the uniform form and addendum contain all of the information required by this rule.

(2) A registration form is not complete, and will not be accepted for filing, unless it includes:

(a) The name of the organization, and every address (including both physical address and any mailing address if different), telephone number(s), FAX number(s), and taxpayer identification number, including those of all offices, chapters, branches, and affiliates used in charitable solicitations reflected in the registration including any electronic mail or Internet addresses used by the organization;

(b) All of the names under which the organization will solicit contributions;

(c) If incorporated, the corporate name, unified business identifier number, state and date of incorporation, or if not incorporated, the type of organization and date established;

(d) The end date of its current fiscal year;

(e) The court or other forum, case number and title of all legal actions, if any, in which a judgment or final order was entered, or action is currently pending, against any organization or individual required to be identified in the registration. "Actions" include any administrative or judicial proceeding alleging that the entity has failed to comply with these rules, chapter 19.09 RCW, or state or federal laws pertaining to taxation, revenue, charitable solicitation, or recordkeeping, whether such action has been instituted by a public agency or a private person or entity;

(f) A list of all states where the organization is registered for charitable solicitations, including any other names under which the organization is currently registered or has been registered in the past three years;

(g) The name, address, and telephone number of the officers or of persons accepting responsibility for the organization;

(h) The names of the three officers or employees receiving the greatest amount of compensation from the organization;

(i) The purpose of the charitable organization, including, if applicable, the names and addresses of any specific beneficiaries which the charitable organization supports and to whom assets would be distributed to in the event of dissolution;

(j) Whether the charitable organization is exempt from federal income tax, and, if so, attaching to its initial registration a copy of the letter by which the Internal Revenue Service granted such status;

(k) The name and address of the person or entity with authority for the preparation of financial statements or the maintenance of financial information on behalf of the organization;

(l) The name, address, and telephone number of an individual with expenditure authority who can respond to questions regarding expenditures of funds, and the names and addresses of any commercial fund-raiser and any commercial coventurer who have the authority to expend funds or incur obligations on behalf of the organization;

(m) An irrevocable appointment of the secretary to receive service of process in noncriminal proceedings as provided in RCW 19.09.305;

(n) A solicitation report of the charitable organization for the preceding fiscal year including:

(i) The types of solicitations conducted; and

(ii) The name, physical address, and telephone number of any commercial fund-raiser, including any commercial coventurer conducting solicitations on behalf of the organiza-

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tion in Washington during the period covered by this report; and

(iii) Either:

(A) A copy of the charitable organization's federal informational tax return (Form 990 or Form 990 PF, but not Form 990 EZ) covering the period covered by this report. The form shall include lines on which to report the amounts reported on the return as "program services" and "total expenses"; or

(B) If, for the fiscal year covered by the report, the charitable organization either filed a federal informational tax return using Form 990 EZ, or did not file a federal informational tax return, (I) the total dollar value of all support received from solicitations, (II) the total dollar value of revenue from all other sources, (III) total expenditures, including amounts paid to or retained by a commercial fund-raiser, during the reporting period and (IV) the amount of those expenditures devoted directly to charitable program services. Amounts paid to or retained by a commercial fund-raiser include all revenue, as defined by WAC 434-120-025, including, without limitation, fees for services, contributions, proceeds from the sale of goods or services (including tickets to events), and all other revenue from solicitations;

(o) The form shall also include a space within which any charitable organization may provide additional information which the organization believes would be of assistance in understanding other reported information, or to provide context for reported information.

(3) Solicitation reports shall not report estimates, but shall report actual figures. If the organization did not directly or indirectly conduct any charitable solicitations in the previous accounting year, it shall file a supplemental registration form no later than the end of the ninth month after registering which provides a complete solicitation report with actual figures from the first six months of activity after registering, if its gross revenue from solicitations exceeds twelve thousand five hundred dollars during that six-month period or otherwise ceases to qualify for an exemption under WAC 434-120-100 (2)(c).

(4) A parent organization may file a consolidated registration form, including the solicitation report, when registering including the solicitation information required for each of its related foundations, supporting organizations, chapters, branches, or affiliates in the state of Washington, which are supervised or controlled by the parent organization. A parent organization may report financial information either separately or in consolidated form for all subsidiary organizations. A filing by the parent organization relieves each subsidiary organization identified in that filing of any duty to file independently. ((~~Alternatively, it may file a single combined solicitation report including funds raised by all such units of the parent organization and listing the individual names of all units who raised five thousand dollars or more in the preceding year.~~

~~(6) Section VI: A signed statement from the entity who prepares, compiles, reviews, or audits the financial statement who is listed under the requirement of WAC 434-120-105(4), attesting that the figures of the solicitation report are consistent with the organization's annual financial statement; and a written list of the copies of any annual or periodic reports on file that were made by the charitable organization and its subsidiaries, or affiliates, if any, which substantiate the figures; and~~

~~(7) An irrevocable appointment of the secretary to receive service of process in non-criminal proceedings.~~))

(5) All charitable solicitation organization registrations shall be signed by the president, treasurer, or comparable officer of the organization or, in the absence of officers, person responsible for the organization, whose signature shall be notarized.

## WSR 97-16-054
### PROPOSED RULES
### DEPARTMENT OF SOCIAL AND HEALTH SERVICES
(Public Assistance)
[Filed July 31, 1997, 4:49 p.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 97-14-046.

Title of Rule: Chapter 388-300 WAC, Job opportunities and basic skills training (JOBS) program.

Purpose: EHB 3901 (1997) and federal legislation under Public Law 104-193, Personal Responsibility and Work Opportunity Reconciliation Act of 1996 repeals the JOBS program and replaces it with the Washington WorkFirst program. Chapter 388-300 WAC that governed the JOBS program is no longer needed and should be repealed.

Statutory Authority for Adoption: RCW 74.08.090 and 74.04.050.

Statute Being Implemented: Section 209, chapter 409, Laws of 1997.

Summary: Repeal obsolete WACs.

Reasons Supporting Proposal: State and federal legislation.

Name of Agency Personnel Responsible for Drafting, Implementation and Enforcement: Leslie Baldwin, Rules and Policies Assistance Unit, (360) 902-7540.

Name of Proponent: Department of Social and Health Services, governmental.

Rule is not necessitated by federal law, federal or state court decision.

Explanation of Rule, its Purpose, and Anticipated Effects: Chapter 388-300 WAC provides rules for the job opportunities and basic skills training (JOBS) program. This chapter will no longer be needed because EHB 3910 [3901] (1997) Part III and federal legislation under Public Law 104-193, Personal Responsibility and Work Opportunity Reconciliation Act of 1996 have replaced the JOBS program with a new program, the Washington WorkFirst program.

Proposal Changes the Following Existing Rules: Chapter 388-300 WAC is repealed.

No small business economic impact statement has been prepared under chapter 19.85 RCW. This rule does not impact business.

RCW 34.05.328 does not apply to this rule adoption. Repeal of these rules has been dictated by state and federal statute.

Hearing Location: Lacey Government Center (behind Tokyo Bento restaurant), 1009 College Street S.E., Room 102, Lacey, WA 98503, on September 9, 1997, at 10:00 a.m.

Assistance for Persons with Disabilities: Contact Leslie Baldwin by August 27, 1997, phone (360) 902-0750, TTY (360) 902-8324, e-mail lbaldwin@dshs.wa.gov.

Submit Written Comments to and Identify WAC Numbers: Leslie Baldwin, Rules Coordinator, Rules and Policies Assistance Unit, P.O. Box 45850, Olympia, WA 98504-5850, FAX (360) 902-8292, by September 9, 1997.

Date of Intended Adoption: No sooner than September 10, 1997.

July 31, 1997
Merry A. Kogut, Manager
Rules and Policies Assistance Unit

REPEALER

The following chapter of the Washington Administrative Code is repealed:

388-300 Job opportunities and basic skills training (JOBS) program.

## WSR 97-16-060
### PROPOSED RULES
### DEPARTMENT OF LICENSING
(Board of Funeral Directors and Embalmers)
[Filed August 1, 1997, 10:48 a.m.]

Original Notice.

Exempt from preproposal statement of inquiry under RCW 34.05.310(4).

Title of Rule: Brief adjudicative proceedings.

Purpose: To implement procedures for holding brief adjudicative proceedings for certain matters requiring a board decision but which do not require a hearing before the entire board.

Statutory Authority for Adoption: RCW 18.39.175(4).

Statute Being Implemented: Chapter 18.39 RCW.

Reasons Supporting Proposal: This rule is promulgated in order to bring the board up to par with other boards and commissions which have authority for brief adjudicating proceedings, and in part, in accordance with legislative mandate.

Name of Agency Personnel Responsible for Drafting, Implementation and Enforcement: Jon Donnellan, Administrator, Department of Licensing, 405 Black Lake Boulevard, Olympia, (360) 586-4905.

Name of Proponent: Board or Funeral Directors and Embalmers, governmental.

Rule is not necessitated by federal law, federal or state court decision.

Explanation of Rule, its Purpose, and Anticipated Effects: These rules provide guidelines for the board to hold brief adjudicative proceedings for the following issues:

- To determine whether an applicant meets the minimum requirement for any license or registration issued by the board.
- To determine whether a person is in compliance with terms and conditions of a final order or agreement issued by the board.
- To determine whether an education course or curriculum meets the criteria for approval.
- To determine whether a license holder requesting renewal has submitted all required information and meets minimum criteria.
- To determine whether a license holder has been certified by a lending agency and reported to the board for nonpayment or default on a federally or state-guaranteed educational loan or service-conditional scholarship.

Proposal does not change existing rules.

No small business economic impact statement has been prepared under chapter 19.85 RCW. The Board of Funeral Directors and Embalmers has determined there is no impact on small business as a result of this rule.

Section 201, chapter 403, Laws of 1995, does not apply to this rule adoption. Department of Licensing is exempt from this statute.

Hearing Location: Holiday Inn (Ballroom "C"), 800 Rainier Avenue South, Renton, WA 98055, (425) 226-7700, on September 18, 1997, at 9:30 a.m.

Assistance for Persons with Disabilities: Contact Jon Donnellan by telephone, TDD (360) 586-2788, or (360) 586-4905.

Submit Written Comments to: Jon Donnellan, Administrator, Funeral and Cemetery Unit, P.O. Box 9012, Olympia, WA 98507-9012, (360) 586-4905, FAX (360) 664-2550, by September 11, 1997.

Date of Intended Adoption: September 18, 1997.

August 1, 1997
Jon Donnellan
Administrator

NEW SECTION

**WAC 308-48-810 Application of brief adjudicative proceedings.** The board adopts RCW 34.05.482 through 34.05.494 for the administration of brief adjudicative proceedings conducted by request, and/or at the discretion of the board chair pursuant to RCW 34.05.482, for the categories of matters set forth below. Brief adjudicative proceedings will be limited to a determination of one or more of the following issues:

(1) Whether an applicant for a license meets the minimum criteria for a license to operate a funeral establishment, branch funeral establishment, or a crematory; or to receive a prearrangement funeral service contract license; or for a license to practice as a funeral director, embalmer, apprentice funeral director, or apprentice embalmer; and the board proposes to deny the application;

(2) Whether a person is in compliance with the terms and conditions of a final order or agreement previously issued by the board;

(3) Whether an education course or curriculum meets the criteria for approval when approval by the board is required or authorized by statute or rule;

(4) Whether a license holder requesting renewal has submitted all required information and whether a license holder meets minimum criteria for renewal; and

(5) Whether a license holder has been certified by a lending agency and reported to the board for nonpayment or default on a federally or state-guaranteed educational loan or service-conditional scholarship.

NEW SECTION

**WAC 308-48-820 Preliminary record in brief adjudicative proceedings.** (1) The preliminary record with respect to an application for an original or renewal license or for approval of an education course or curriculum shall consist of:

(a) The application for the license, renewal, or approval and all associated documents;

(b) All documents relied upon by the board in proposing to deny the license, renewal, or approval; and

(c) All correspondence between the applicant for license, renewal, or approval and the board regarding the application.

(2) The preliminary record with respect to determination of compliance with a previously issued final order or agreement shall consist of:

(a) The previously issued final order or agreement;

(b) All reports or other documents submitted by, or at the direction of, the license holder, in full or partial fulfillment of the terms of the final order or agreement;

(c) All correspondence between the license holder and the board regarding compliance with the final order or agreement; and

(d) All documents relied upon by the board showing that the license holder has failed to comply with the previously issued final order or agreement.

(3) The preliminary record with respect to the determination of nonpayment or default by the license holder on a federally or state-guaranteed educational loan or service-conditional scholarship shall consist of:

(a) Certification and report by the lending agency that the identified person is in default or nonpayment on a federally or state-guaranteed educational loan or service-conditional scholarship; or

(b) A written release, if any, issued by the lending agency stating that the identified person is making payment on the loan in accordance with a repayment agreement approved by the lending agency.

NEW SECTION

**WAC 308-48-830 Conduct of brief adjudicative proceedings.** (1) Brief adjudicative proceedings shall be conducted by a presiding officer for brief adjudicative proceedings designated by the current board chair. The presiding officer for brief adjudicative proceedings shall not have personally participated in the decision which resulted in the request for a brief adjudicative proceeding.

(2) The parties or their representatives may present written documentation. The presiding officer for brief adjudicative proceedings shall designate the date by which written documents must be submitted by the parties.

(3) The presiding officer for brief adjudicative proceedings may, in his or her discretion, entertain oral argument from the parties or their representatives.

(4) No witnesses may appear to testify.

(5) In addition to the record, the presiding officer for brief adjudicative proceedings may employ board expertise as a basis for the decision.

(6) The presiding officer for brief adjudicative proceedings shall not issue an oral order. Within ten days of the final date for submission of materials or oral argument, if any, the presiding officer for brief adjudicative proceedings shall enter an initial order.

## WSR 97-16-061
### PROPOSED RULES
### DEPARTMENT OF LICENSING
(Board of Funeral Directors and Embalmers)
[Filed August 1, 1997, 10:50 a.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 95-22-004.

Title of Rule: Prearrangement funeral service trust agreement requirements.

Purpose: To delete WAC 308-49-162 and amend WAC 308-49-164 so that one rule covers all requirements for prearrangement funeral service trust agreements.

Statutory Authority for Adoption: RCW 18.39.175(4).

Statute Being Implemented: Chapter 18.39 RCW.

Reasons Supporting Proposal: It is not necessary to have separate rules for "master" trust agreements and prearrangement funeral service trust agreements. This rule will delete WAC 308-49-162 and amend WAC 308-49-164 so that one rule covers all requirements for prearrangement funeral service trust agreements.

Name of Agency Personnel Responsible for Drafting, Implementation and Enforcement: Jon Donnellan, Administrator, Department of Licensing, 405 Black Lake Boulevard, Olympia, (360) 586-4905.

Name of Proponent: Board of Funeral Directors and Embalmers, governmental.

Rule is not necessitated by federal law, federal or state court decision.

Explanation of Rule, its Purpose, and Anticipated Effects: WAC 308-49-162 and 308-49-164 are similar in nature, WAC 308-49-162 pertaining to master trust agreement requirements and 308-49-164 pertaining to trust agreement requirements for those firms which are not in a master trust. The proposed rule is intended to combine the two rules as only one rule dealing with all prearrangement funeral service trust agreement requirements is necessary.

Proposal Changes the Following Existing Rules: WAC 308-49-162 and 308-49-164 will be combined into one rule by deleting WAC 308-49-162 and amending WAC 308-49-164 to include any provisions from WAC 308-49-162 which need to be retained.

No small business economic impact statement has been prepared under chapter 19.85 RCW. The proposed rule does not change the requirements; it simply incorporates two rules into one.

Section 201, chapter 403, Laws of 1995, does not apply to this rule adoption. Department of Licensing is exempt from this statute.

Hearing Location: Holiday Inn (Ballroom "C"), 800 Rainier Avenue South, Renton, WA 98055, (425) 226-7700, on September 18, 1997, at 9:30 a.m.

Assistance for Persons with Disabilities: Contact Jon Donnellan by telephone, TDD (360) 586-2788, or (360) 586-4905.

Submit Written Comments to: Jon Donnellan, Administrator, Funeral and Cemetery Unit, P.O. Box 9012, Olympia,

WA 98507-9012, (360) 586-4905, FAX (360) 664-2550, by September 11, 1997.

Date of Intended Adoption: September 18, 1997.

August 1, 1997
Jon Donnellan
Administrator

AMENDATORY SECTION (Amending WSR 90-17-148, filed 8/22/90, effective 9/22/90)

**WAC 308-49-164 Prearrangement funeral service trust agreement requirements.** (1) Each establishment entering into prearrangement funeral service contracts which does not use insurance as a method of funding shall establish one or more prearrangement funeral service trust agreements. The establishment may join with one or more other Washington state licensed funeral establishments in a "master trust."

(2) Such prearrangement funeral service trust agreements shall be between the funeral establishment and trustees designated by the funeral establishment. The agreement shall include language that provides for:

(a) ((~~Number and appointment~~)) A minimum of two trustees;

(b) Duties and responsibilities of the trustees;

(c) Method of removal of trustees;

(d) Selection of depository(ies);

(e) Procedures to be followed when the establishment deposits prearrangement funeral service contract moneys;

(f) Conditions under which moneys may be withdrawn from the trust and procedures to be followed in making withdrawals;

(g) Details as to investment and administration of the trust;

(h) Compensation of trustees and expenses to be incurred;

(i) Accounting methods to be used;

(j) Provisions for amendment and termination of the trust agreement.

(3) Such prearrangement funeral service trust agreements are an integral part of the prearrangement funeral service contract and shall be approved by the board prior to use. Amendments, changes to the trust agreement, or termination of the trust agreement shall receive prior approval from the board before incorporation of amendment or change, or implementation of termination.

REPEALER

The following section of the Washington Administrative Code is repealed:

| | |
|---|---|
| WAC 308-49-162 | Trustee and master trust requirements. |

## WSR 97-16-062
## PROPOSED RULES
## DEPARTMENT OF LICENSING
(Board of Funeral Directors and Embalmers)
[Filed August 1, 1997, 10:54 a.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 95-22-002.

Title of Rule: Course of training—Apprentice funeral director and apprentice embalmer.

Purpose: To amend WAC 308-48-150 and 308-48-160 to include a requirement that apprentices and their sponsors report to the board the training that has taken place.

Statutory Authority for Adoption: RCW 18.39.175(4).

Statute Being Implemented: Chapter 18.39 RCW.

Reasons Supporting Proposal: The present statute and rules do not identify any reasonable apprentice training requirements. Rules are needed to address such things as: Skill level before working independently; training report forms and reporting periods; identify duties the training is to address; and responsibilities of both apprentice and sponsor.

Name of Agency Personnel Responsible for Drafting, Implementation and Enforcement: Jon Donnellan, Administrator, Department of Licensing, 405 Black Lake Boulevard, Olympia, (360) 586-4905.

Name of Proponent: Board of Funeral Directors and Embalmers, governmental.

Rule is not necessitated by federal law, federal or state court decision.

Explanation of Rule, its Purpose, and Anticipated Effects: The board feels there is a need to develop rules that address:

- Attaining an appropriate skill level before working independently;
- Identify professional duties for training;
- Require completion of report forms by the apprentice and sponsor;
- Address the accountability of the apprentice and sponsor;
- Responsibilities of the sponsor.

This will provide a better measure for determining the level of training received by the apprentice.

Proposal Changes the Following Existing Rules: This rule identifies training and reporting requirements which are missing in current rules.

No small business economic impact statement has been prepared under chapter 19.85 RCW. The Board of Funeral Directors and Embalmers has determined there is no impact to small business as a result of this rule. Reporting costs to the firm are determined to fall below the threshold (less than $165) of minor and negligible impact per BAC's Table of Minor and Negligible Impacts, 1993.

Section 201, chapter 403, Laws of 1995, does not apply to this rule adoption. Department of Licensing is exempt from this statute.

Hearing Location: Holiday Inn (Ballroom "C"), 800 Rainier Avenue South, Renton, WA 98055, (425) 226-7700, on September 18, 1997, at 9:30 a.m.

Assistance for Persons with Disabilities: Contact Jon Donnellan by telephone, TDD (360) 586-2788, or (360) 586-4905.

Submit Written Comments to: Jon Donnellan, Administrator, Funeral and Cemetery Unit, P.O. Box 9012, Olympia, WA 98507-9012, (360) 586-4905, FAX (360) 664-2550, by September 11, 1997.

Date of Intended Adoption: September 18, 1997.

PROPOSED

August 1, 1997
Jon Donnellan
Administrator

AMENDATORY SECTION (Amending Order PM 604, filed 7/11/86)

**WAC 308-48-150 Course of training—Apprentice funeral director ((~~apprentice~~)).** (1) For the purposes of RCW 18.39.035, the term "one year course of training" shall include assisting a licensed funeral director in ((~~conducting~~)) coordinating all aspects of at least twenty-five ((~~funerals and assisting in the burial and/or final disposition of at least twenty-five~~)) arrangements for funeral, memorial and/or final disposition services for human ((~~bodies~~)) remains.

(2) The term "one year" shall consist of at least eighteen hundred hours of employment and cannot be completed in a period of time less than one calendar year.

(3) Registered apprentice funeral directors shall report to the board on a form supplied by the board, not more than quarterly, information relating to the arrangements, services, final dispositions and other duties of a funeral director the apprentice has assisted with or performed during the required term of apprenticeship.

(4) Licensed sponsors shall report to the board on a form supplied by the board, not more than quarterly, the progress of the apprentice toward the skill level required to work independently.

(5) Registered apprentice funeral directors may receive training from their sponsor and other licensed funeral directors as approved by the sponsor.

AMENDATORY SECTION (Amending Order PM 604, filed 7/11/86)

**WAC 308-48-160 Course of training—Apprentice embalmer((~~2~~))s ((~~apprentice~~)).** (1) For the purposes of RCW 18.39.035, the term "two year course of training" shall include the embalming of at least fifty human ((~~bodies~~)) remains under the supervision of a licensed embalmer.

(2) The term "two year" shall consist of at least thirty-six hundred hours of employment and cannot be completed in a period of time less than two calendar years.

(3) Registered apprentice embalmers shall report to the board on a form supplied by the board, not more than quarterly, information related to the embalmings the apprentice has assisted with or performed during the required term of apprenticeship.

(4) Licensed sponsors shall report to the board on a form supplied by the board, not more than quarterly, the progress of the apprentice toward the skill level required to work independently.

(5) Registered apprentice embalmers may receive training from their sponsor and other licensed embalmers as approved by the sponsor.

## WSR 97-16-063
PROPOSED RULES
## DEPARTMENT OF LICENSING
(Board of Funeral Directors and Embalmers)
[Filed August 1, 1997, 10:56 a.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 95-22-003.

Title of Rule: Funeral establishment facility, equipment, and embalming and preparation room standards.

Purpose: To amend WAC 308-48-031 to address the minimum facility, equipment, and prep standards that are necessary for operating a funeral establishment.

Statutory Authority for Adoption: RCW 18.39.175(4).

Statute Being Implemented: Chapter 18.39 RCW.

Reasons Supporting Proposal: With the increased number of funeral establishments becoming licensed, many of which offer only alternative care of human remains, there is a need to clarify the facility and equipment standards by which a funeral establishment can operate. This rule will protect the public health and maintain appropriate professional standards by identifying the minimum facility standards necessary for a funeral establishment to provide for the respectful care of human remains and to operate a funeral business.

Name of Agency Personnel Responsible for Drafting, Implementation and Enforcement: Jon Donnellan, Administrator, Department of Licensing, 405 Black Lake Boulevard, Olympia, (360) 586-4905.

Name of Proponent: Board of Funeral Directors and Embalmers, governmental.

Rule is not necessitated by federal law, federal or state court decision.

Explanation of Rule, its Purpose, and Anticipated Effects: At present, the only statutory requirements for a funeral establishment license are: (1) That it have a designated name and location; (2) the applicant must be, or employ, a licensed funeral director and embalmer at each location; (3) be licensed by the department; and (4) the applicant shall be bound by all then existing prearrangement funeral service contracts when purchasing an existing funeral establishment. This rule addresses the need to:

- Have an exclusive area/office to conduct business and to maintain business records;
- Identify the location to the public as the location of the business;
- Provide a private and secure area for holding human remains which will include: A refrigerated holding area for unembalmed remains; a sink with hot and cold running water; covered receptacles for soiled linens and waste materials; adequate chemicals for disinfection of human remains and the equipment used in handling and caring for them; a chemical storage area.
- Provide rest rooms for staff and the public;
- Provide the identification of the facility where the human remains are held when the holding of human remains is not provided for at the establishment;
- Provide for privacy of the remains when being transported in a vehicle.

Proposal Changes the Following Existing Rules: This rule identifies requirements in areas listed in Explanation of Rule above which are deficient in existing rules.

No small business economic impact statement has been prepared under chapter 19.85 RCW. The Board of Funeral Directors and Embalmers gave serious consideration to the economic impacts of this rule and were unanimous that the rule has no economic impact because **all existing funeral homes** are already fully in compliance with the new sections of the rule and determined there are no new costs. The rule reflects the current standards that exist in the profession that needed to be placed in rule so that these standards will continue to exist for the benefit of the public.

Section 201, chapter 403, Laws of 1995, does not apply to this rule adoption. Department of Licensing is exempt from this statute.

Hearing Location: Holiday Inn (Ballroom "C"), 800 Rainier Avenue South, Renton, WA 98055, (425) 226-7700, on September 18, 1997, at 9:30 a.m.

Assistance for Persons with Disabilities: Contact Jon Donnellan by telephone, TDD (360) 586-2788, or (360) 586-4905.

Submit Written Comments to: Jon Donnellan, Administrator, Funeral and Cemetery Unit, P.O. Box 9012, Olympia, WA 98507-9012, (360) 586-4905, FAX (360) 664-2550, by September 11, 1997.

Date of Intended Adoption: September 18, 1997.

August 1, 1997
Jon Donnellan
Administrator

AMENDATORY SECTION (Amending Order PM 716, filed 3/28/88)

**WAC 308-48-031 Funeral establishment facility, equipment, and embalming and preparation room standards.** ((~~(1) Embalming.~~)) A funeral establishment or branch establishment shall:

(1) Have an exclusive area/office at an identified location for conducting the business which is accessible to the public.

(2) Provide private and secure area(s) for holding human remains which will include:

(a) A refrigerated holding area of adequate capacity for unembalmed remains with a maximum temperature of 48 degrees Fahrenheit;

(b) A sink with hot and cold running water;

(c) Covered receptacles for soiled linens, bandages, refuse and other waste materials which meet OSHA, WISHA, department of health and any other applicable regulations;

(d) Adequate chemicals for the disinfection of human remains and the equipment used in handling and caring for human remains;

(e) Chemical storage that meets OSHA, WISHA, department of health and any other applicable regulations.

(3) Provide rest rooms that are available for staff and the public.

(4) In the case where the holding of human remains is not provided at this facility, provide the identification of the facility to the board and the public where this establishment or branch provides for the holding and/or preparation of the human remains entrusted to its care (this off-site facility must meet the above requirements).

(5) Provide for the privacy of uncasketed human remains in vehicles used for transportation of the remains by screening, curtains, or adequately tinted windows.

(6) Provide that if embalming is performed at the establishment or branch, no embalming of a ((~~body of a deceased person~~)) human remains shall be performed in a funeral establishment or branch establishment except in a room set aside exclusively for embalming ((~~or other preparation~~)) of a ((~~body of a deceased person~~)) human remains. Such room shall be maintained and kept in a clean sanitary condition((~~:~~

~~(2) Embalming and preparation room.~~)), and every embalming and preparation room shall be constructed, equipped, and maintained as follows:

(a) The surfaces of the floor, walls, and ceiling shall be covered with tile or other hard, smooth, impervious washable material.

(b) The room shall be adequately lighted and adequately ventilated. The ventilation shall be provided by an exhaust fan or by an appropriate air-conditioning unit which will completely remove objectionable fumes.

(c) The room shall be equipped and provided with hot and cold running water, a utility sink, and cabinets, closets or shelves for instruments and supplies.

(d) The room shall be equipped with adequate sewage and waste disposal and drainage facilities and systems.

(e) The doors shall be tight closing and rigid and any windows of the room shall be so maintained as to obstruct any view into such room. The room's entry door(s) must be labeled "Private" or "Authorized Entry Only."

(f) The embalming or preparation table shall be nonporous.

(g) The room shall be equipped with proper and convenient covered receptacles for refuse, bandages, cotton, and other waste materials.

## WSR 97-16-064
### PROPOSED RULES
### DEPARTMENT OF LICENSING
(Board of Funeral Directors and Embalmers)
[Filed August 1, 1997, 11:00 a.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 95-22-005.

Title of Rule: Care of human remains.

Purpose: To amend WAC 308-48-030 to address the minimum standards that are necessary for the proper care of human remains.

Statutory Authority for Adoption: RCW 18.39.175(4).

Statute Being Implemented: Chapter 18.39 RCW.

Reasons Supporting Proposal: This rule will better protect the public health and the health of funeral personnel by providing more complete guidelines for the identification and respectful care of human remains.

Name of Agency Personnel Responsible for Drafting, Implementation and Enforcement: Jon Donnellan, Administrator, Department of Licensing, 405 Black Lake Boulevard, Olympia, (360) 586-4905.

Name of Proponent: Board of Funeral Directors and Embalmers, governmental.

PROPOSED

PROPOSED

Rule is not necessitated by federal law, federal or state court decision.

Explanation of Rule, its Purpose, and Anticipated Effects: This rule will clarify procedures to be used by funeral service personnel in identifying and caring for human remains by:

- Requiring them to establish identity of the remains;
- Record and maintain information relating to the human remains;
- Requiring them to place an identification bracelet on the ankle of the remains;
- Follow OSHA, WSHA, and health regulations when handling human remains;
- Determine who has the right to control disposition of the remains;
- Not separate any organs, viscera or appendages of human remains from other portions of the remains;
- Provide refrigerated holding of unembalmed human remains;
- Maintain the separateness and integrity of each human remain.

This rule will reduce the possibility of misidentification of human remains and will provide funeral service personnel with more definitive guidelines to follow while handling human remains.

Proposal Changes the Following Existing Rules: This rule will provide further guidelines in the areas specified in Explanation of Rule above where existing rules are deficient.

No small business economic impact statement has been prepared under chapter 19.85 RCW. The Board of Funeral Directors and Embalmers gave serious consideration to the economic impacts of this rule and were unanimous that the rule has no economic impact because **all existing funeral homes** are already fully in compliance with the new sections of the rule except for the identification bracelet requirement and determined there are no new costs except the minor costs associated with the identification bracelet. The rule reflects the current standards that exist in the profession that needed to be placed in rule so that these standards will continue to exist for the benefit of the public.

Section 201, chapter 403, Laws of 1995, does not apply to this rule adoption. Department of Licensing is exempt from this statute.

Hearing Location: Holiday Inn (Ballroom "C"), 800 Rainier Avenue South, Renton, WA 98055, (425) 226-7700, on September 18, 1997, at 9:30 a.m.

Assistance for Persons with Disabilities: Contact Jon Donnellan by telephone, TDD (360) 586-2788, or (360) 586-4905.

Submit Written Comments to: Jon Donnellan, Administrator, Funeral and Cemetery Unit, P.O. Box 9012, Olympia, WA 98507-9012, (360) 586-4905, FAX (360) 664-2550, by September 11, 1997.

Date of Intended Adoption: September 18, 1997.

August 1, 1997
Jon Donnellan
Administrator

AMENDATORY SECTION (Amending Order PM 716, filed 3/28/88)

**WAC 308-48-030 ((~~Restrictions.~~)) Care of human remains.** (1) ((~~Licensees in all their licensed activities, shall~~)) Funeral establishments, funeral directors, embalmers, apprentices, employees or agents while providing for the care and handling of human remains shall:

(a) Comply with all applicable Washington state laws, rules and regulations related to health or the handling ((~~or disposal~~)), transportation or disposition of human remains.

((~~(2) No licensee, apprentice, employee or agent of the licensee, in handling a dead body, shall perform any unnecessary act which will tend to affect adversely the dignity or the respectful and reverential handling and burial or other customary disposal of the dead.~~

~~(3)~~)) (b) Not perform any act which will tend to affect adversely the dignity, individual integrity or the respectful and reverential handling and burial or other customary disposition of human remains.

(c) Establish the identity of the human remains.

(d) Place an identification bracelet on the ankle of the remains. If it is not possible to place the identification bracelet on the ankle, it should be placed on the arm of the remains or in the case of a remains that must be placed in a heavy duty pouch due to the condition of the remains, an identification bracelet should be placed inside the pouch and a second bracelet attached to the exterior of the pouch.

(e) Determine who is the individual or individuals that has/have the right to control the disposition of the human remains and follow the directions of that/those individual(s).

(f) Record and maintain the following information:

(i) Name of deceased;

(ii) Date of death;

(iii) Place of death;

(iv) Name and relationship of person(s) having the right to control the disposition;

(v) Date and time of receipt of remains;

(vi) Date and time of refrigeration and/or embalming;

(vii) Method, date and location of disposition.

(g) Not separate any organs, viscera or appendages of a human remains from any other portion of the remains for a separate or different disposition. The entire human remains that the funeral establishment has received and has possession of must be maintained and disposed of as one entity.

(h) Provide refrigerated holding of a human remains for which embalming has not been authorized.

(2) The care and preparation for burial or other disposition of all human ((~~dead bodies~~)) remains shall be private. No one shall be allowed in the embalming or preparation rooms while a ((~~dead body~~)) human remains is being embalmed or during the course of an autopsy except the licensee, his authorized employees, and public officials in the discharge of their duties. This rule shall not apply to duly authorized ((~~doctors and nurses~~)) medical personnel employed in a case, nor to members of the immediate family of the deceased or those authorized to be present by the decedent's next of kin.

((~~(4)~~)) (3) Every licensee shall provide a written itemization of any property, money, jewelry, possessions or other items of significant value found on a ((~~body~~)) human

remains in the licensee's care, custody or control to the decedent's next of kin or the proper authorities.

## WSR 97-16-071
PROPOSED RULES
## STATE BOARD OF EDUCATION
[Filed August 4, 1997, 10:47 a.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 97-09-032.

Title of Rule: Remote and necessary small school plants, chapter 180-24 WAC.

Purpose: Further clarify policies and procedures for the designation of small school plants as remote and necessary.

Statutory Authority for Adoption: Section 501 (1)(e), chapter 6, Laws of 1994 1st sp. sess., WAC 180-24-400 through 180-24-415.

Summary: Establish further guidelines, policies, and procedures to base decisions of granting designation of small school plants as remote and necessary.

Name of Agency Personnel Responsible for Drafting, Implementation and Enforcement: Larry Davis, State Board of Education, Olympia, (360) 753-6715.

Name of Proponent: State Board of Education, governmental.

Rule is not necessitated by federal law, federal or state court decision.

Explanation of Rule, its Purpose, and Anticipated Effects: The purpose of this rule is to further establish policies and procedures to govern the classification of small school plants as remote and necessary and to further define criteria for such designation.

Proposal Changes the Following Existing Rules: To further identify more objective criteria for granting remote and necessary status for small school plants.

No small business economic impact statement has been prepared under chapter 19.85 RCW. Not applicable.

Section 201, chapter 403, Laws of 1995, does not apply to this rule adoption. Not applicable.

Hearing Location: Educational Service District 105, 33 South 2nd Avenue, Yakima, WA 98902, on September 24, 1997, at 1:30 p.m.

Assistance for Persons with Disabilities: Contact Patty Martin by September 10, 1997, TDD (360) 664-3631, or (360) 753-6715.

Submit Written Comments to: Rules Coordinator, State Board of Education, P.O. Box 47206, Olympia, WA 98504-7206, FAX (360) 586-2357, by September 22, 1997.

Date of Intended Adoption: September 26, 1997.

July 31, 1997
Larry Davis
Executive Director

AMENDATORY SECTION (Amending WSR 95-20-055, filed 10/2/95, effective 11/2/95)

**WAC 180-24-410 Remote and necessary small school plants—Criteria.** (1) Decisions of the state board of education on granting remote and necessary status to small school plants within school districts shall be based on a finding that granting remote and necessary status is necessary to assure reasonable provision of a basic education program to students, including related services, equipment, materials and supplies.

(2) In making the finding under subsection (1) of this section, the state board of education shall consider, including but not limited to, the factors ((~~including but not limited to the following:~~

~~(a) Existence of an intact, permanent community which is defined as a geographically site-specific, nonmobile group of people;~~

~~(b)~~)) under (a) through (g) of this subsection. No single factor or combination of factors necessarily warrants granting or denying remote and necessary status. However, it shall be the policy of the state board of education to favor those requests which, in the board's judgment, meet the provisions of this section. "Favor" does not mean that the listed factors are necessarily exclusive. Additional factors and considerations may be included in a particular request. If there is a factual situation that falls outside the scope of all or a portion of the listed factors, the state board may consider the facts and reasons the additional factors or considerations support the request.

(a) The student population to be served((~~;~~

~~(c) Resources required to meet student needs, including but not limited to staffing, specialized personnel, and technology;~~)) at the small school site, must meet the small school funding formula for remote and necessary school plants as provided in the Operating Appropriations Act. The grade span served at the small school site shall include at least kindergarten through fifth grade.

(b) Existence of an intact, permanent community which is defined as a geographically site-specific, nonmobile group of people. This factor must be met.

(c) Transportation: Travel time to another school in the district, or school in another district, is not less than sixty minutes one way.

(d) Transportation((~~, including~~)): Student safety from a small school site in the school district to another school in the district, or school in another district, may be at risk due to the condition of roads or waterways, seasonal weather conditions, or topography((~~, distance and travel time to another school in the district or in another district, and student safety related to transportation;~~)).

(e) ((~~Operational efficiency, including but not limited to:~~

~~(i) Adequacy and availability of facilities in the community, the district, or in the next nearest district or districts;~~

~~(ii) Adequacy and~~)) Operational efficiency: Nonavailability of ((~~other~~)) age appropriate grade level or cooperative programs in ((~~adjacent~~)) other school facilities in the district, or in the next nearest district or districts, ((~~or through the educational service district; and~~)) or other educational organizations approved or recognized by the state board of education or the superintendent of public instruction.

(((~~(f) A safe and healthful environment for students.~~)))

(3) At its discretion, the state board of education may use as guidance the applicable provisions of WAC 180-24-013, 180-24-016, and 180-24-017.

PROPOSED

AMENDATORY SECTION (Amending WSR 95-20-055, filed 10/2/95, effective 11/2/95)

**WAC 180-24-415 Remote and necessary small school plants—Review committee.** (1) There is hereby established by the state board of education a remote and necessary review committee comprised of at least the following five members:

(a) One member of the state board of education selected by the president of the board;

(b) Two staff members from the office of the superintendent of public instruction, one who is knowledgeable about finance issues and one who is knowledgeable about curriculum issues, both selected by the state superintendent;

(c) One school director selected by the Washington State School Directors' Association;

(d) One school district administrator selected by the Washington Association of School Administrators;

(2) Vacancies on the review committee shall be filled by the person or organization responsible for appointments.

((~~(2)~~)) (3) At the state board of education's discretion, other members may be added to the review committee.

(4) It is the responsibility of the review committee to receive and review all applications from school districts requesting the state board of education to grant remote and necessary status to a small school plant located in the district. Following the review of applications, the review committee shall recommend to the state board whether such designation should be granted. Recommendations of the review committee shall be advisory only. The final determination rests solely with the state board of education.

((~~(3)~~)) (5) Every small school plant with remote and necessary status beginning 1996, shall be reviewed every four years by the review committee and the state board. The review committee shall submit its findings and recommendations to the state board. The review committee may conduct the review on-site, with the number of members participating determined by the committee, or may conduct the review by other means as determined by the committee and with state board approval. The state board shall provide to the fiscal committees of the legislature in January of odd-numbered years a list of remote and necessary small school plants. ((~~The first report shall be provided in January 1997. All currently designated remote and necessary small school plants shall be reviewed prior to January 1997.~~

~~(4)~~)) (6) A small school plant shall lose its remote and necessary status if the number of students exceeds the enrollment requirements set forth in the state Operating Appropriations Act for three consecutive years. The loss of remote and necessary status shall take effect the immediate ensuing school year. If a small school site should lose its remote and necessary status, the local serving school district may continue to maintain and operate the school site. When the enrollment of such small school plant again meets the requirements of the state Operating Appropriations Act, the school district may apply to the state board of education for redesignation as a remote and necessary plant. The small school site's annual average full-time equivalent enrollment, pursuant to the Operating Appropriations Act requirements, shall be met for one full year prior to reapplication.

## WSR 97-16-072
### PROPOSED RULES
### WASHINGTON STATE UNIVERSITY
[Filed August 4, 1997, 1:30 p.m.]

Continuance of WSR 97-10-086.

Title of Rule: WAC 504-36-030 regarding safety rules at spectator events.

Purpose: Continuance of date of adoption of amended rule.

Date of Intended Adoption: September 5, 1997.

July 29, 1997
Richard L. Hutchinson
Assistant to the Vice-President
for Business Affairs

## WSR 97-16-074
### PROPOSED RULES
### DEPARTMENT OF ECOLOGY
[Order 97-03—Filed August 4, 1997, 3:42 p.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 97-04-062.

Title of Rule: Dangerous waste regulations, chapter 173-303 WAC.

Purpose: To incorporate federal hazardous waste requirements and amend some state-only requirements.

Statutory Authority for Adoption: Chapters 70.105 and 70.105D RCW.

Statute Being Implemented: Chapter 70.105 RCW.

Summary: The main purpose of this rule making is to update federal hazardous waste requirements. The universal waste rule for batteries and thermostats will be adopted, as will other federal rules including listed carbamate wastes, modifications to permit-by-rule, and three counting exemptions. The rule making will result in greater consistency with federal rules. Key state rule changes are a conditional exclusion for antifreeze that is recycled, and changes that correspond to the recent revision to chemical testing methods.

Reasons Supporting Proposal: Ecology implements the federal hazardous waste program in lieu of EPA and must periodically incorporate federal requirements. Also, certain state-only provisions need to be updated.

Name of Agency Personnel Responsible for Drafting: Patricia Hervieux, Lacey, Washington, (360) 407-6756; Implementation and Enforcement: Greg Sorlie, Lacey, Washington, (360) 407-6218.

Name of Proponent: Department of Ecology, Hazardous Waste and Toxics Reduction Program, governmental.

Rule is necessary because of federal law, **3005 (j)(1) and (6) of the Resource Conservation and Recovery Act (RCRA) of 1976, as amended**; **40 CFR Sections Adopted/Amended in 1985**, 261.4 (b)(1), 264.18(c), 265.18, 266.23, 266.23(b), 270.10 (f)(1), 270.32(b), 270.30 (j)(2); **40 CFR Sections Adopted/Amended in 1986**, 261.5 (f)(3), 262.60(c), 262.50; **40 CFR Sections Adopted/Amended in 1987**, 270.41 (a)(3), 270.10(k), 270.1(c), 264.1(h); **40 CFR Sections Adopted/Amended in 1988**, 124.10 (c)(i)(iii), 124.5 (c)(1) and (3); **40 CFR Sections Adopted/Amended in 1989**, 261.31 F024 and F025, 264.13 (b)(1); **40 CFR Sections Adopted/Amended in 1990**, 260.10 Designated

Facility, 261.33(c); **40 CFR Sections Adopted/Amended in 1992**, 261.4 (a)(10), 261.32, 261 Appendix VII K141 - K145 and K147 and K148; **40 CFR Sections Adopted/Amended in 1993**, 260.11(a), 260.22 (d)(1)(i), 261.22 (a)(1), 261.22 (a)(2), 261.24(a), 261 Appendix II, 261 Appendix III, 264.190(a), 264.314(c), 265.190(a), 265.314(d), 268.7(a), 268.40(a), 268.41(a), 268 Appendix I, 268 Appendix IX, 270.6(a), 270.19 (c)(1)(iii) and (iv), 270.62 (b)(2)(i)(C), 270.62 (b)(2)(i)(D), 260.11(a), 261 Appendix VIII; **40 CFR Sections Adopted/Amended in 1994**, 260.31(a), 260.33(b), 264 Appendix 1 Table 1, 264 Appendix 1 Table 2, 265 Appendix 1 Table 1, 265 Appendix 1 Table 2, 264.151(d), 264.151(k), 261.33(e), 261 Appendix VIII, 268.42(a) Table 2, 261.3 (c)(2)(ii)(B), 261.4 (a)(12), 261.6 (a)(3)(iv)-(vi), 266.20(c), 268.41(a)/Table CCWE; and **40 CFR Sections Adopted/Amended in 1995**, 260.11(a), 261.3 (c)(2)(ii)(D), 261.32 K156-161, 261.33(e), 261.33(f), 261 Appendix VII, 261 Appendix VIII, 260.10, 261.5(c), 261.5 (f)(3), 261.5(g), 261.9 intro, 262.10 (b)-(g), 262.11(d), 264.1 (g)(11) intro, 265.1 (c)(14) intro, 268.1(f) intro, 270.1 (c)(2)(viii) intro, 273, 264.314 (e)(2)(ii), 264.314 (e)(2)(iii), 265.314 (f)(2)(ii), 265.314 (f)(2)(iii), 261.4 (a)(12).

Explanation of Rule, its Purpose, and Anticipated Effects: The dangerous waste regulations set forth the requirements for determining whether or not solid wastes are dangerous wastes, establish a system for tracking dangerous waste from generation to treatment or disposal, and establish requirements for facilities that manage dangerous waste so that all dangerous wastes are managed safely and responsibly in Washington state.

Proposal Changes the Following Existing Rules: Most of the proposed rule changes are for the purpose of incorporating federal hazardous waste requirements into the dangerous waste regulations. Many of the changes are technical corrections and modifications of existing requirements that will result in consistency with the federal hazardous waste regulations. For instance, some definitions are being updated. The information presented below covers the main federal rules that are being incorporated and the key changes to state-only requirements. The summary paragraphs for the federal rules appear first, as printed in the Federal Register, followed by the state citations. Next, is a brief summary of other federal changes followed by a discussion of the main state-only changes. **Coke-By-Products Listings** (HSWA) 57 FR 37284 August 18, 1992. SUMMARY: The Environmental Protection Agency is today amending its regulations under the Resource Conservation and Recovery Act (RCRA) by listing as hazardous seven wastes generated during the production, recovery, and refining of coke by-products produced from coal. EPA is adding seven wastes to the list of hazardous wastes from specific sources. EPA is also amending Appendix VII of 40 CFR part 261 to add the constituents for which these wastes are being listed. In addition, the agency is finalizing the proposed determination not to list as hazardous wastes wastewaters from coking and tar refining operations. The effect of listing K141 through K145, K147 and K148 will be to subject these materials to the hazardous waste regulations of 40 CFR parts 124, 262 through 266, 268, 270 and 271, the notification requirements of RCRA 3010, and the notification requirements under section 103 of CERCLA. In addition to the listings, the agency is today amending and clarifying an exclusion from the definition of solid waste for wastes from the coke by-products process that exhibit the TC and are recycled by being returned to coke ovens or mixed with coal tar. (57 FR 27880). WAC 173-303-071 (3)(dd), WAC 173-303-9904 Coking K141, K142, K143, K144, K145, K147, K148.

**Testing and Monitoring Activities** (non-HSWA) 58 FR 46040 August 31, 1993 and 59 FR 47980 September 19, 1984. SUMMARY: The Environmental Protection Agency (EPA or agency) is amending its hazardous waste regulations under Subtitle C of the Resource Conservation and Recovery Act (RCRA) of 1976, as amended, for testing and monitoring activities. These amendments replace the current Second Edition, including Updates I and II, of the EPA approved test methods manual "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, by incorporating by reference the Third Edition (and its first update) into the RCRA regulations. These amendments also revise Appendices II-Method 1311 Toxicity Characteristic Leaching Procedure (TCLP) and III-Chemical Analysis Test Methods to 40 CFR part 261, delete Appendix X-Method of Analysis for Chlorinated Dibenzo-p-dioxins and Dibenzofurans, Method 8280, to 40 CFR part 261, and revise Appendices I-Toxicity Characteristic Leaching Procedure (TCLP) and IX-Extraction Procedure (EP) Toxicity Test, to 40 CFR part 268. This action is necessary to provide better and more complete analytical test methods for RCRA-related testing. The intent of this amendment is to provide up-to-date technologies in order to promote cost effectiveness and flexibility in choosing analytical test methods (cl-126). The September 19th (59 FR 47980) rule corrects the unintended removal of text from 40 CFR 268.7(a) by August rule. Paragraph 268.7(a) sets out the generator waste analysis and record-keeping requirements of the land disposal restrictions under Subtitle C of RCRA. The August rule revised the reference to Appendix IX of Part 268 to refer to SW-846 Methods 1311 and 1310, instead. The agency had intended to revise only the introductory text of 268.7(a) and to retain without changing the subparagraphs following the introductory text. Due to an inadvertent administrative error the subparagraphs following the introduction were removed. The September rule makes clear that it was not the agency's intention to remove these paragraphs and that they remain in effect, and are regarded by the agency, to have been in effect continuously in the form published in the CFR revised as of July 1, 1993; and

**Testing and Monitoring Activities Amendment I** (non-HSWA) 60 FR 3089-3095 January 13, 1995. SUMMARY: The Environmental Protection Agency (EPA or agency) is amending its hazardous waste regulations under Subtitle C of the Resource Conservation and Recovery Act (RCRA) of 1976, as amended, for testing and monitoring activities. This amendment adds new and revised methods as Update II to the Third Edition of the EPA-approved test methods manual "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846. It also incorporates the SW-846 Third Edition, as amended by Updates I (promulgated August 31, 1993), II, and IIA (promulgated January 4, 1994, as part of the wood surface protection rule), into 40 CFR 260.11(a) for use in complying with the requirements of Subtitle C of RCRA. The intent of this amendment is to provide better and more complete analytical technologies for RCRA-related testing and thus

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promote cost effectiveness and flexibility in choosing analytical test methods; and

**Testing and Monitoring Activities Amendment II** 60 FR 17001-17004 (non-HSWA) April 4, 1995. SUMMARY: The Environmental Protection Agency (EPA or agency) is amending its hazardous waste regulations under Subtitle C of the Resource Conservation and Recovery Act (RCRA) for testing and monitoring activities. This amendment clarifies the temperature requirement for pH measurements of highly alkaline wastes and adds Method 9040B (pH Electrometric Measurement) and Method 9045C (Soil and Waste pH) to "Test Methods for Evaluating Solid Waste, Physical/ Chemical Methods," EPA Publication SW-846. This amendment will provide a better and more complete analytical technology for RCRA testing in support of hazardous waste identification under the corrosivity characteristic (40 CFR 261.22). WAC 173-303-090 (6)(a)(i)(ii) and (8)(a); 173-303-110 (1), (3)(d), (f) and (h); 173-303-140 (4)(b)(i) and (iii); 173-303-807 (2)(a)(iii) and (iv); and 173-303-806 (4)(f)(iii)(A)(III) and (IV).

**Wastes From the Use of Chlorophenolic Formulations in Wood Surface Protection** (non-HSWA) 59 FR 458 January 4, 1994. SUMMARY: The United States Environmental Protection Agency (EPA) is issuing a final hazardous waste listing determination for wastes generated from the use of chlorophenolic formulations in wood surface protection processes. Upon reviewing the public comments received on its proposal of April 27, 1993, the agency has decided not to list wastes from the use of chlorophenolic formulations in wood surface protection processes. As a result of this determination, EPA is not mandating in this rule any specific operating or information collection requirements for owners/ operators of wood surface protection plants. If, however, use of chlorophenolic formulations resumes in the future, the agency would very likely reevaluate this decision not to list. This rule also finalizes the proposed amendment of SW-846 ("Test Methods for Evaluating Solid Waste, Physical/ Chemical Methods") to include Method 4010 (Immunoassay Test for the Presence of Pentachlorophenol). In addition, the agency is adding the following four chemicals to 40 CFR part 261, Appendix VIII: Sodium and potassium salts of pentachlorophenol and tetrachlorophenol. WAC 173-303-9905.

**Record-keeping Instructions; Technical Amendment** (non-HSWA) 59 FR 13891 March 24, 1994. SUMMARY: EPA is amending record-keeping instructions in order to match those unit of measurement codes and handling codes used by hazardous waste treatment, storage and disposal facilities to report to EPA on the Part A Permit Application Form with the codes used to maintain records on-site by these facilities. This technical amendment also adds additional handling codes to allow for the proper recording of those processes relating to Boilers and Industrial Furnaces and Miscellaneous Units (subpart X) facilities. This amendment will encourage the consistent record keeping and reporting of information by hazardous waste treatment, storage and disposal facilities. WAC 173-303-380.

**Letter of Credit Revision** (non-HSWA) 59 FR 29958 June 10, 1994. SUMMARY: EPA is amending the regulations related to financial assurance promulgated under Subtitles C and I of the Resource Conservation and Recovery Act (RCRA). Those regulations cite the "Uniform Customs and Practice for Documentary Credits," published by the International Chamber of Commerce. This notice inserts the words "and copyrighted" into the letter of credit instrument to clarify that the International Chamber of Commerce publication is copyrighted material. As a result of this notice, owners and operators using the letter of credit instrument to demonstrate financial assurance must include this additional language. Note: The state rules incorporate this provision by reference. The rule language is being changed to clearly incorporate financial assurance requirements by reference. An additional change modifies a change that took place during the previous rule making. The intention during the previous rule making was to clarify that operators of state or federally owned facilities do not have to comply with this entire section except for the closure and post-closure cost estimates. The previous change inadvertently subjected all state and federal facilities to the cost estimate requirements. WAC 173-303-620.

**Correction of Beryllium Powder (P015)** Listing (non-HSWA) 59 FR 31551 June 20, 1994. SUMMARY: The Environmental Protection Agency today is correcting the listing for "beryllium" in the list of commercial chemical products that are hazardous wastes when discarded or intended to be discarded. The listing description is corrected to read "Beryllium powder." Conforming changes also are being made to the RCRA list of hazardous constituents, the RCRA land disposal restrictions technology-based treatment standards, and to the CERCLA list of hazardous substances. WAC 173-303-9903, 173-303-9905.

**Recovered Oil Exclusion** (non-HSWA) 59 FR 38536-38545 July 28, 1994. SUMMARY: The Environmental Protection Agency is today excluding from the RCRA regulatory definition of solid waste certain in-process recycled secondary materials utilized by the petroleum refining industry. Specifically, today's rule states that oil recovered from petroleum refinery wastewaters and from other sources, both on-site and off-site, is excluded from the regulatory definition of solid waste if it is subsequently inserted (along with normal process streams) into the petroleum refining process prior to crude distillation or catalytic cracking; and

**Identification and Listing of Hazardous Waste; Amendments to Definition of Solid Waste Recovered Oil Exclusion, Correction** (non-HSWA) 61 FR 13103-13106 March 26, 1996. SUMMARY: In this rule, EPA is correcting a significant error in the text of a regulatory exclusion, from the definition of solid waste, for recovered oil that is inserted into the petroleum refining process. This exclusion, at 40 CFR 261.4 (a)(12) as introduced to the federal code by the July 28, 1994, Federal Register (59 FR 38536; Revision checklist 135), relates to the recycling of recovered oil - oil that has been recovered from secondary materials such as wastewater generated from normal petroleum exploration, refining, and transport activities - back into the petroleum refining process. The error in the July 28, 1994, rule resulted in inappropriate restrictions on legitimate recycling of recovered oil. The March 26, 1996, rule reflects the result EPA initially intended, which was to condition the exclusion of recovered oil on that oil being reinserted into the petroleum refining process at a point where that process removes or will remove at least some contaminants. WAC 173-303-071 (3)(cc) and (p); and 173-303-120(2).

**Removal of Conditional Exemption for Certain Slag Residues** (HSWA) 59 FR 43496-43500 August 24, 1994. SUMMARY: The Environmental Protection Agency (EPA or agency) is today amending section 266.20, which contains provisions for conditionally exempting hazardous waste-derived products used in a manner constituting disposal (i.e., applied to or placed on land) from the Resource Conservation and Recovery Act (RCRA) Subtitle C regulations. The proposed amendment to section 266.20 was published on February 23, 1994, (59 FR 8583). As specified in the proposal, EPA is amending section 266.20 so that certain uses of slag residues produced from the high temperature metal recovery (HTMR) treatment of electric arc furnace dust (EPA Hazardous Waste No. K061), steel finishing pickle liquor (K062), and electroplating sludges (F006) are not exempt from RCRA Subtitle C regulations. EPA's proposal also contained a definition for "nonencapsulated" uses of HTMR slags. Following a review of the public comments, EPA is clarifying the definition of nonencapsulated uses of HTMR slags by specifying these uses to be the anti-skid/deicing uses.

This action partially implements a settlement agreement entered into by EPA on August 13, 1993, with the Natural Resources Defense Council (NRDC) and Hazardous Waste Treatment Council (HWTC). This action will effectively prohibit anti-skid/deicing uses of HTMR slags derived from K061, K062, and F006, as waste-derived products placed on the land, since such uses will be allowed only if there is compliance with all Subtitle C standards applicable to land disposal. This rule does not prohibit other uses of these slags that meet section 266.20(b) requirements. The rule also does not prevent the disposal of HTMR slags in a Subtitle D unit if the residuals can meet the risk-based exclusion levels specified in section 261.3 (c)(2). EPA plans to propose a regulatory determination on the remaining uses of HTMR slags by December 1994. WAC 173-303-505 (1)(b).

**Carbamate Production Identification and Listing of Hazardous Waste** (HSWA) 60 FR 7824-7859 February 9, 1995, as amended at 60 FR 19165, April 17, 1995, and at 60 FR 25619, May 12, 1995. SUMMARY: The United States Environmental Protection Agency (EPA) is amending the regulations for hazardous waste management under the Resource Conservation and Recovery Act (RCRA) to reduce hazards to human health and the environment from the ongoing manufacture of carbamate chemicals, which are formulated for use as pesticides and in the production of synthetic rubber. EPA is listing as hazardous six wastes generated during the production of carbamate chemicals. EPA is providing an exemption from the definition of hazardous waste for certain wastes, if the generator demonstrates that hazardous air pollutants are not being discharged or volatilized during waste treatment. EPA is also exempting from the definition of hazardous wastes biological treatment sludges generated from the treatment of certain wastes provided the sludges do not display any of the characteristics of a hazardous waste (i.e., ignitability, corrosivity, reactivity, or toxicity). The agency is also adding fifty-eight specific chemicals to the list of commercial chemical products that are hazardous wastes when discarded and to the list of hazardous constituents upon which listing determinations are based. EPA is deferring action on twelve specific chemicals and four generic categories.

This action is taken under the authority of sections 3001 (e)(2) and 3001 (b)(1) of the Hazardous and Solid Waste Amendments of 1984 (HSWA), which direct EPA to make a hazardous waste listing determination for carbamate wastes. The effect of listing these wastes will be to subject them to regulation as hazardous wastes under Subtitle C of RCRA; and the notification requirements of section 103 under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). EPA is not taking action at this time to adjust the one-pound statutory reportable quantities (RQs) for these substances; and

**60FR73 Monday, April 17, 1995, p. 19165.** SUMMARY: The United States Environmental Protection Agency (EPA) is correcting minor errors in the amendments to the regulations which appeared in the Federal Register on February 9, 1995, (60 FR 7824); and

**60FR92 Friday, May 12, 1995, p. 25619.** SUMMARY: The United States Environmental Protection Agency (EPA) is correcting minor errors in the amendments to the regulations which appeared in the Federal Register on April 17, 1995, (60 FR 19165); and

**Hazardous Waste Management System: Carbamate Production, Identification and Listing of Hazardous Waste; Land Disposal Restrictions**; 62 FR 116 June 17, 1997. SUMMARY: The Environmental Protection Agency (EPA) is amending its regulations to conform with the federal appeals court ruling in Dithiocarbamate Task Force v. EPA, 98 F.3d 1394 (D.C.Cir. 1996), that invalidated, in part, agency regulations listing certain carbamate wastes as hazardous wastes under the Resource Conservation and Recovery Act (RCRA). These regulations pertain to hazardous waste management of carbamate industry wastes under RCRA, related rules affecting the list of hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and regulations issued under state programs approved by the administrator. Under the court's decision, and amended in today's rule, the vacated federal hazardous waste listings and regulatory requirements based on those listings are to be treated as though they have never been in effect. State regulations, which may be more stringent than federal rules, were not necessarily affected by the court's ruling. This final rule takes effect on May 29, 1997. WAC 173-303-071 (3)(dd), 173-303-9904 Organic chemicals, 173-303-9903 P and U wastes, 173-303-9905.

**Hazardous Waste Management; Liquids in Landfills III** (HSWA) 60 FR 35703-35706 July 11, 1995. SUMMARY: This rule adds a third test to the two already allowed under existing federal regulations that were promulgated on November 18, 1992. The November 18, 1992, rule satisfied a statutory requirement in RCRA, as amended by HSWA, which required EPA to issue a rule that prohibited the disposal in hazardous waste landfills, liquids that have been absorbed in materials that biodegrade. The November 18, 1992, rule included two tests that could be used to demonstrate nonbiodegradability. The July 11, 1995, rule provides increased flexibility to the regulated community by adding OECD 301B (Modified Sturm Test) to demonstrate that a sorbent is nonbiodegradable. WAC 173-303-140 (b)(iv) (A) (III).

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**Universal Waste Rule: General Provisions, Specific Provisions for Batteries, Specific Provisions for Thermostats, and Petition Provisions to Add a New Universal Waste** (non-HSWA) 60 FR 25492-25551 May 11, 1995. SUMMARY: On February 11, 1993, the Environmental Protection Agency proposed new streamlined hazardous waste management regulations governing the collection and management of certain widely generated wastes (batteries, pesticides and thermostats) known as universal wastes (58 FR 9346). Additional information was noticed for comment on June 20, 1994, (59 FR 31568). Today's final rule promulgates streamlined universal waste management regulations which are very similar to the February 11, 1993, proposal.

The new streamlined hazardous waste management regulations promulgated today govern the collection and management of certain widely generated wastes identified as universal wastes. This final rule will greatly facilitate the environmentally-sound collection and increase the proper recycling or treatment of hazardous waste nickel cadmium and other batteries, certain hazardous waste pesticides, and mercury-containing thermostats. The current RCRA regulations have been a major impediment to national collection and recycling campaigns for these wastes. This rule will greatly ease the regulatory burden on retail stores and others that wish to collect or generate these wastes. It should greatly facilitate programs developed to reduce the quantity of these wastes going to municipal solid waste landfills or combustors. It will, also, assure that the wastes subject to this system will go to appropriate treatment or recycling facilities pursuant to the full hazardous waste regulatory controls. It also will serve as a prototype system to which EPA may add other similar wastes in the future. A petition process is also included through which additional wastes could be added to the universal waste regulations in the future. These regulations are set forth in 40 CFR part 273.

**Additional Information on Universal Waste.** The proposed rule language includes the changes to counting that were included as part of the universal waste rule. Two counting "exemptions" were included with the universal waste rule. EPA promulgated two changes, proposed at WAC 173-303-070 (c)(ii) and (iii), when the universal waste rule was adopted; a third counting change, at WAC 173-303-070 (d)(ii), was promulgated by EPA at an earlier time. With these additions, some wastes that are treated or recycled immediately on-site will not have to be counted.

Ecology's rule will differ from the federal universal waste rule in that the pesticide provisions will not be adopted. There are a few reasons for this. One criteria used by EPA to determine whether or not a waste is appropriate to be managed under the reduced universal waste management standards is that the waste should be less hazardous than other wastes that require full RCRA regulation. Pesticides are often very toxic wastes and the reduced waste management standards of universal waste were not deemed sufficiently protective of human health and the environment, particularly the higher accumulation limits and longer time frames at collection areas. Not only are pesticide wastes often very toxic, they may also be more easily spilled than batteries and thermostats. Both the toxicity and the form of the waste were concerns. Batteries and thermostats can be more easily identified and handled with less risk than pesticide wastes.

Another factor ecology considered, in addition to the concern that pesticide wastes do not meet the criteria to be a universal waste, is that the state of Washington already has a system in place to collect pesticide wastes. One of EPA's goals with this rule was to help create a system for getting universal wastes into better waste management. This was assuming that no such system existed. After much consideration, ecology decided that the existing waste pesticide collection program that the state Department of Agriculture conducts throughout the state remains the most appropriate way to manage pesticide wastes. The state Department of Agriculture's waste pesticide collection program has been in operation for many years. Ecology met with representative[s] from the Department of Agriculture to discuss ways in which some of the concepts of the universal waste rule that make sense may be incorporated into the Department of Agriculture's waste pesticide collection program.

One often asked question in regard to universal waste concerns satellite accumulation. If waste is managed as universal waste, the generator must note the first date of accumulation and the waste must not be accumulated for more than one year. This differs from satellite accumulation that applies to nonuniversal wastes because these generators do not have to use an accumulation start date. Some people who commented on the preproposal draft version of the rules pointed this out. However, ecology does not have any discretion with regard to the use of a start date for universal waste accumulation. EPA was very clear in the preamble to the universal waste rule: "... (EPA) has decided not to add a provision analogous to the satellite accumulation provision to the universal waste regulations for several reasons. First, under the universal waste final rule, handlers may already manage their wastes very similarly to management under the satellite accumulation provision. For example, the proposed and final universal waste regulations do not limit the location, or number of locations, at which a handler of universal waste may accumulate universal wastes. Thus a handler may continue to accumulate universal wastes at points of generation. A handler may accumulate these wastes for up to one year (which is two or four times longer than the ninety or one hundred eighty days allowed under the existing hazardous waste generator regulations), and under the revised final regulation a handler may accumulate universal waste for longer than one year if certain conditions are met. Further, the quantity of universal waste that can be accumulated at a point of generation is not limited to fifty-five gallons (a handler of universal waste must notify, however, if the total quantity of universal waste accumulated on-site equals or exceeds the 5,000 kilogram notification limit). The only substantive additional requirement under the universal waste rule will be to mark or label the container (or use an alternate method) to document the earliest date any universal waste accumulated at the location became a waste." WAC 173-303-070 (7)(c), 173-303-160(3), 173-303-070 (8)(b)(iii)(G), 173-303-077, 173-303-120 (2)(ii), 173-303-520, 173-303-600 (3)(o), 173-303-400 (2)(xi), 173-303-800 (7)(c)(iii), 173-303-910(7), 173-303-573, and 173-303-040.

**Additional Changes for Federal Consistency.** The information contained in this paragraph describes a few of

the changes made for federal consistency. **WAC 173-303-017 (2)(b)(i)**, the change from "that is" to "for example" clarifies EPA's intention at 50 FR 14218 that all spent pulping liquors that are reclaimed in a pulping liquor recovery furnace are to be included in the exclusion. **WAC 173-303-070 (8)(b)(iii)**, the purpose of this change is to make it clear that these options apply only if/when the waste is to be managed in the United States. If the waste is to be exported, EPA's export requirements must be followed. **WAC 173-303-160 (2)(b)**, this change which allows for additional methods of rendering a container or inner liner empty will help solve problems ecology has encountered by allowing the use of alternative cleaning methods when appropriate. **WAC 173-303-180 (1)(d)**, the federal rule does not require that the waste code be written in block I. Some generators have had trouble fitting all of the waste codes in this block. With this change, the waste code does not have to be written in Item I if it is already written in the DOT block. P102, as part of the example, is being deleted to reflect the fact that mixing of wastes for disposal is discouraged. **WAC 173-303-230(1)**, the words "and transporters" were added for clarity since the export requirements incorporated by reference apply to both generators and transporters. **WAC 173-303-505 (2)(d)**, this is a federal prohibition from 1985 that is being adopted at this time. It is important to note that there is a separate statewide prohibition on the use of oil for dust suppression also in effect. **WAC 173-303-830 (3)(a)(iii)**, the struck out language in this section is information that was deleted by EPA in 1988 when the permit modification requirements were moved and expanded. Ecology adopted the new permit modification information in 1991, but did not delete this superseded information. "Department" is changed to "director" to conform with federal rules. **WAC 173-303-840 (6)(b)**, this change, from thirty to forty-five days, provides consistency with WAC 173-303-840(3) which gives a comment period time frame of forty-five days. This is consistent with the federal rule.

**Changes to state requirements.** The remainder of this explanation addresses changes to state-only requirements.

**WAC 173-303-040 Asbestos and 173-303-071 (3)(m).** The asbestos definition and exclusion are being deleted. These references are no longer needed because of the removal of the carcinogenicity criteria during the last rule-making cycle. Asbestos is regulated under 40 CFR Part 61, National Emissions Standards for Hazardous Air Pollutants (NESHAPS). The exclusion was necessary under the earlier version of the dangerous waste regulations so that a person designating their wastes would know that their asbestos waste (that could have designated as a respiratory carcinogen) was not a dangerous waste since it is already regulated under NESHAPS.

**WAC 173-303-040 Halogenated organic compounds.** (1) The term is changed from halogenated hydrocarbons (HH) to halogenated organic compounds (HOC). HOC is a well known chemical term that is more appropriate and descriptive for this type of waste stream. (2) Astatine is a very rare element and is not used for anything likely to be found, (i.e. not in any waste streams). This is because astatine's most stable natural isotope has a half life of 0.9 minutes. The most stable artificially produced isotope of astatine has a half life of 8.3 hours. Therefore, astatine fails the definition of persistence, "retains more than half of its initial activity after one year (365 days)." (3) With the removal of astatine from this definition, it will no longer be necessary to qualify the definition with "The requirements of this chapter . . ." The four remaining halogens specified are detectable.

**WAC 173-303-040 Persistence.** The original definition implied that ecology has an actual test method for determining whether a waste is "persistent." This definition is clarified by referring to the two proponents of "persistence" as defined by the rules, HOC and PAH, which have actual test methods for determining these parameters.

**WAC 173-303-040 Polycyclic aromatic hydrocarbons.** (1) All of the compounds identified in this definition consist of fused benzene rings. This change will simply make this definition analytically correct. (2) The additional compounds are PAHs that are well documented toxins from the California list. They are not captured by other sections of the rule and present a significant hazard to the environment. These PAHs have been documented to exist in Puget Sound as persistent toxins in sediments.

**WAC 173-303-070(6).** The change of "halogenated hydrocarbons" and "WP01" to "contains 5mg/l leachable lead" and "D008" is more in line with the intent of designation under WAC 173-303-070. As it is stated under WAC 173-303-070 (3)(b), "A person must check each section, in the order set forth, until they determine whether the waste is designated as a dangerous waste. Once the waste is determined to be a dangerous waste, further designation is not required . . ." Therefore, if a waste has already designated for D001, it should not be further designated under the dangerous waste criteria, such as halogenated hydrocarbons, unless further designation is required under WAC 173-303-070(5). On the other hand, a generator must determine applicable characteristics (waste codes D001 - D043) based upon WAC 173-303-070(3) and 40 CFR 268.9 (a) and (b), and not just stop at the first characteristic waste code.

**WAC 173-303-070 (7)(b).** The addition of the note clarifies when a person remains a small quantity generator. The note already appears in the small quantity generator requirements at WAC 173-303-070(8). The addition at this location will help people when they are determining their generator status. The provision is consistent with the federal rules.

**WAC 173-303-070(8).** The addition of this citation is to provide more information about accumulation limits and is consistent with the federal rules.

**WAC 173-303-071 (3)(e).** This change clarifies that the exclusion for asphaltic materials applies only to materials that have already been used. This clarification is consistent with ecology's historical interpretation of this exclusion.

**WAC 173-303-073(3).** The requirements for ecology to maintain a list of landfills and transfer stations for generators with special waste will be deleted because of the difficulty of maintaining an accurate list, however, information on landfills that may take special waste is available from the department.

**WAC 173-303-090 (5)(a)(iii), (iv), and (7)(a).** These changes are being made to correspond to the federal Department of Transportation citations. They are consistent with the federal categories.

**WAC 173-303-090 (6)(a)(iii).** This change is made because Method 9045 is a well documented test method for

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testing solids for pH. The back reference to (a)(i) was eliminated because the liquid portion is not then back tested by 9040 or 9041. Method 9045 is a complete method, not an extraction.

**WAC 173-303-110 (3)(a) and (c).** Referencing SW-846 first (before the chemical testing methods) will help clear up confusion people often experience when they try to designate their waste. Many people have looked first to chemical testing methods without realizing that SW-846 should be looked at.

**WAC 173-303-145 (3)(b).** This change clarifies ecology's authority to direct actions necessary to protect human health and the environment when emergency response personnel encounter dangerous wastes or hazardous substances, and no responsible party is identified (e.g., abandoned containers) or available (e.g., illegal drug manufacturer under police arrest).

Transport without a manifest and temporary storage are included in the existing regulation. While temporary storage is allowed in the current rule, this amendment clarifies the authority to store wastes, under ecology's direction, at locations that are protective of persons and the environment, and are secure from public access. In the process of responding to and controlling such incidents, ecology is able to obtain information regarding the hazards posed by the wastes/substances (e.g., hazcat field identification method), control any leaks, repackage wastes into secure containers with appropriate overpacking, place warning and identification labels on containers, and share information with appropriate fire, police and medical responders. Generally, the situations encountered involve small quantities of materials, i.e., less than one fifty-five gallon drum, or two or three buckets.

Given these circumstances, ecology could direct the transport and temporary storage of wastes/substances to sites removed from direct threat of exposure to the public or the environment (e.g., stream banks, residential neighborhood), reduced or restricted access by the public, and with the knowledge or control of public officials or cooperative private parties. Secure sites may include "hazo houses," public works facilities, fire stations, police stations, and military bases.

"Temporary" is left undefined, but is intended to be of sufficient duration to allow ecology to arrange for pick-up and transport by hazardous waste contractors in a timely and cost-effective manner.

This amendment also clarifies ecology's ability to conduct on-site treatment using current provisions of the dangerous waste regulations. Under WAC 173-303-170 (3)(b), generators may treat dangerous waste on-site. In emergency response situations involving abandoned containers and drug lab cleanups, ecology becomes the generator of the waste. Simple treatment measures such as neutralization, solidification, and filtration, conducted at the direction of ecology, could be employed to protect human health and the environment.

**WAC 173-303-201(1).** This amendment clarifies that generators may not use the special accumulation standards of this section (for medium quantity generators) if they are generating 2.2 pounds or more of Toxic EHW per month or if they have accumulated 2.2 pounds or more of Toxic EHW.

WAC 173-303-522. Spent antifreeze recycled on-site or sent off-site for recycling will be conditionally excluded from the dangerous waste regulations. It will not have to be counted toward generator status if it is recycled, nor will it have to be manifested when shipped off-site provided it is recycled. This exclusion was piloted on a trial basis beginning in 1993 for eighteen months during which time ecology worked with an industry work group. Antifreeze did not have to be counted, but it did have to be manifested when transported off site. During evaluation of the trial, the industry work group expressed interest in simplifying the exclusion due to confusion on the part of generators who had to manifest the waste, but were not required to report the waste. After further discussion and evaluation, it was determined that the manifesting requirement was causing confusion without providing any additional environmental benefit.

Ecology contracted to have a survey conducted to determine what was occurring in the market place to evaluate the effect of the trial exclusion, and to determine whether or not antifreeze recycling had increased. The survey indicated that nearly all of the generators were recycling and properly managing their spent antifreeze. After determining that the pilot project was a success, ecology issued a policy letter on January 31, 1996, to conditionally exclude antifreeze provided it was recycled. As long as generators recycled their antifreeze either on-site or off-site they would not have to count or manifest the waste. However, ecology specified that (1) generators had to prove that the antifreeze was recycled, and (2) the antifreeze had to be managed properly prior to recycling. This included using proper containers, labeling drums, placing drums into an accumulation area, and maintaining documentation of the recycling. Based on the success of the pilot project, the requirements contained in the policy letter were written as rule language for a conditional antifreeze exclusion that will be adopted into the dangerous waste regulations.

**WAC 173-303-802(5).** These changes are being made to conform to the federal hazardous waste requirements. The dangerous waste regulations include three additional units beyond what the federal hazardous waste regulations allow under permit by rule. These are: Totally enclosed treatment units (TETU), elementary neutralization units (ENU), and wastewater treatment units (WTU). This change clarifies that facilities with these particular units are limited to treating "state-only dangerous wastes" (as defined in WAC 173-303-040) that are generated either on- or off-site, and federally regulated hazardous wastes that are generated on-site.

The change in WAC 173-303-802 (5)(b) allows a facility with a wastewater treatment unit operated under the permit by rule conditions of WAC 173-303-802 (5)(a)(i)-(iii) to treat federally regulated hazardous wastewaters received from off-site in that unit. It is important to note that this provision applies only to wastewater treatment units. A facility that has (1) a dangerous waste part B permit, (2) interim status, or (3) a storage permit and recycles hazardous waste, is considered a designated facility for the purposes of this subsection, and may receive federally regulated hazardous waste from off-site. The permit, or interim status, does not have to specifically address the wastewater treatment

unit. Once on-site, the hazardous wastewaters can be treated in a wastewater treatment unit operated under the conditions of WAC 173-303-802 (5)(a)(i)-(iii).

No small business economic impact statement has been prepared under chapter 19.85 RCW. A small business economic impact statement was not required under this proposal since there is no cost impact from any of the changes. Most of the proposed changes are required federal rules, and the technical changes, clarifications, and other modifications do not create an economic impact. The rule changes create consistency with federal law, reduce costs, or create clarity. Although not required, a small business economic impact statement was prepared and may be obtained by calling Dave Zink at (360) 407-6752.

The dangerous waste rule, chapter 173-303 WAC, is being amended to incorporate new federal requirements, typographic corrections, clarifications, corrections, and improvements.

The proposed rule amendments have been reviewed. There is no cost impact from any of the changes. Federal law must be followed regardless of ecology's rule. The typographic changes create no cost impact. No small business economic impact statement is required.

Some changes reduce costs without hurting the environment. Clear and usable rules save time for the regulated community. An exclusion for antifreeze that is recycled can reduce costs for generators and reduce environmental damages from waste.

Only one typographic change was identified that might have had an impact, WAC 173-303-070 (5)(b). During 1995, the dangerous waste regulations were amended during a regulatory reform process which improved and updated the regulations. WAC 173-303-070(5) was modified considerably to limit and clearly identify the situations under which the regulated community needs to designate their waste as EHW[1] after it has already been identified as dangerous waste. The citation contains three situations where a generator must determine if their waste is EHW. Due to an editorial error, the introductory paragraph omitted the reference to (5)(b), which addresses waste that is to be discharged to a POTW[2] operating under WAC 173-303-802(4), Permits by rule. This part of the rule would only be used by a POTW on a voluntary basis. The POTWs are not currently using this provision nor have they ever used it. The option is only provided in the event that a POTW would like to use it. Changing the reference in the introductory paragraph may, at some future date, create an impact. In order for this to occur a POTW would have to opt for a permit by rule and one of the private sector dischargers would have to be discharging dangerous waste to the POTW. That dangerous waste would have to be a substance that required evaluation to decide if it is EHW. No impact is currently created and the future impacts are unlikely.[3]

The rule changes only create consistency with federal law, reduce costs or create clarity. There is no cost impact to evaluate. Ecology has made several changes for purposes of making the rule more clear and usable. Staff do not believe that the meaning was changed by this. However, ecology will consider comments on this small business economic impact statement and may opt to revise the content. Send comments to Cathy Carruthers at (360) 407-6938, Department of Ecology, Economic and Regulatory Research, P.O. Box 47600, Olympia, WA 98504-7600, or at carr461@ecy.wa.gov. Ecology is particularly interested in any unanticipated impacts that may be identified by the regulated community.

1 EHW is extremely hazardous waste.
2 POTW is a publicly owned treatment works that treats waste water.
3 It is especially unlikely because the domestic sewage exclusion, WAC 173-303-071 (3)(a), disallows most discharges of dangerous waste to POTWs from private sector dischargers under the existing rule.

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Section 201, chapter 403, Laws of 1995, does not apply to this rule adoption. Most of this proposal is required by federal rule and is not considered a significant legislative rule. However, a very small part of the proposal is subject to the requirements of RCW 34.05.328 and those requirements are being followed as appropriate.

Hearing Location: On September 10, at 7:00 p.m., at the Public Health Center, 1101 West College Avenue, Spokane; on September 11, at 7:00 p.m., at the Pasco City Library, 1320 West Hopkins, Pasco; and on September 17, at 7:00 p.m., at the City Council Chamber, 600 4th Avenue, Seattle. For a map or directions, call Dave Zink at (360) 407-6752.

Assistance for Persons with Disabilities: Contact Julie Carrasco by September 1, 1997, TDD (360) 407-6006, or (360) 407-6472.

Submit Written Comments to: Patricia Hervieux, HWTR, P.O. Box 47600, Olympia, WA 98504-7600, FAX (360) 407-6715, by October 2, 1997.

Date of Intended Adoption: January 8, 1998.

August 1, 1997
Dan Silver
Deputy Director

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-017 Recycling processes involving solid waste.** (1) The purpose of this section is to identify those materials that are and are not solid wastes when recycled. Certain materials, as described in subsection (2) of this section, would not typically be considered to involve waste management and are exempt from the requirements of this chapter. All recycling processes not exempted by subsection (2) of this section are subject to the recycling requirements of WAC 173-303-120.

(2) General categories of materials that are not solid waste when recycled.

(a) Except as provided in subsection (3) of this section, materials are not solid wastes when they can be shown to be recycled by being:

(i) Used or reused as ingredients in an industrial process to make a product provided the materials are not being reclaimed; or

(ii) Used or reused as effective substitutes for commercial products; or

(iii) Returned to the original process from which they are generated, without first being reclaimed or land disposed. The material must be returned as a substitute for feedstock materials. In cases where the original process to which the material is returned is a secondary process, the materials

must be managed such that there is no placement on the land.

(b) Except as provided in subsection (3) of this section, the department has determined that the following materials when used as described are not solid wastes:

(i) Pulping liquors (((~~i.e.~~)) e.g., black liquor) that are reclaimed in a pulping liquor recovery furnace and then reused in the pulping process;

(ii) Spent pickle liquor which is reused in wastewater treatment at a facility holding a national pollutant discharge elimination system (NPDES) permit, or which is being accumulated, stored, or treated before such reuse;

(iii) Spent sulfuric acid used to produce virgin sulfuric acid.

(3) The following materials are solid wastes, even if the recycling involves use, reuse, or return to the original process (as described in subsection (2)(a) of this section):

(a) Materials used in a manner constituting disposal, or used to produce products that are applied to the land; or

(b) Materials burned for energy recovery, used to produce a fuel, or contained in fuels; or

(c) Materials accumulated speculatively as defined in WAC 173-303-016 (5)(d)(ii); or

(d) Materials listed in WAC 173-303-016(6); or

(e) Any materials that the department determines are being accumulated, used, reused or handled in a manner that poses a threat to public health or the environment.

(4) Documentation of claims that materials are not solid wastes or are conditionally exempt from regulation. Respondents in actions to enforce regulations implementing chapter 70.105 RCW who raise a claim that a certain material is not a solid waste, or is conditionally exempt from regulation, must demonstrate that there is a known market or disposition for the material, and that they meet the terms of the exclusion or exemption. In doing so, they must provide appropriate documentation (such as contracts showing that a second person uses the material as an ingredient in a production process) to demonstrate that the material is not a waste, or is exempt from regulation. In addition, owners or operators of facilities claiming that they actually are recycling materials must show that they have the necessary equipment to do so.

(5) Variances from classification as a solid waste.

(a) In accordance with the standards and criteria in (b) of this subsection and the procedures in subsection (7) of this section, the department may determine on a case-by-case basis that the following recycled materials are not solid wastes:

(i) Materials that are accumulated speculatively without sufficient amounts being recycled (as defined in WAC 173-303-016 (5)(d)(ii));

(ii) Materials that are reclaimed and then reused within the original production process in which they were generated;

(iii) Materials that have been reclaimed but must be reclaimed further before the materials are completely recovered;

(iv) State-only dangerous materials (not regulated as hazardous wastes (defined in WAC 173-303-040) by EPA) which serve as an effective substitute for a commercial product or raw material.

(b) Standards and criteria for variances from classification as a solid waste.

(i) The department may grant requests for a variance from classifying as a solid waste those materials that are accumulated speculatively without sufficient amounts being recycled if the applicant demonstrates that sufficient amounts of the material will be recycled or transferred for recycling in the following year. If a variance is granted, it is valid only for the following year, but can be renewed, on an annual basis, by filing a new application. The department's decision will be based on the following ((~~standards and~~)) criteria:

(A) The manner in which the material is expected to be recycled, when the material is expected to be recycled, and whether this expected disposition is likely to occur (for example, because of past practice, market factors, the nature of the material, or contractual arrangements for recycling);

(B) The reason that the applicant has accumulated the material for one or more years without recycling seventy-five percent of the volume accumulated at the beginning of the year;

(C) The quantity of material already accumulated and the quantity expected to be generated and accumulated before the material is recycled;

(D) The extent to which the material is handled to minimize loss;

(E) Other relevant factors.

(ii) The department may grant requests for a variance from classifying as a solid waste those materials that are reclaimed and then reused as feedstock within the original production process in which the materials were generated if the reclamation operation is an essential part of the production process. This determination will be based on the following criteria:

(A) How economically viable the production process would be if it were to use virgin materials, rather than reclaimed materials;

(B) The prevalence of the practice on an industry-wide basis;

(C) The extent to which the material is handled before reclamation to minimize loss;

(D) The time periods between generating the material and its reclamation, and between reclamation and return to the original primary production process;

(E) The location of the reclamation operation in relation to the production process;

(F) Whether the reclaimed material is used for the purpose for which it was originally produced when it is returned to the original process, and whether it is returned to the process in substantially its original form;

(G) Whether the person who generates the material also reclaims it;

(H) Other relevant factors.

(iii) The department may grant requests for a variance from classifying as a solid waste those materials that have been reclaimed but must be reclaimed further before recovery is completed if, after initial reclamation, the resulting material is commodity-like (even though it is not yet a commercial product, and has to be reclaimed further). This determination will be based on the following factors:

(A) The degree of processing the material has undergone and the degree of further processing that is required;

(B) The value of the material after it has been reclaimed;

(C) The degree to which the reclaimed material is like an analogous raw material;

(D) The extent to which an end market for the reclaimed material is guaranteed;

(E) The extent to which the reclaimed material is handled to minimize loss;

(F) Other relevant factors.

(iv) The department may grant requests for a variance from classifying as a solid waste those materials that serve as an effective substitute for a commercial product or raw material, when such material is not regulated as hazardous waste (defined in WAC 173-303-040) by EPA, if the materials are recycled in a manner such that they more closely resemble products or raw materials rather than wastes. This determination will be based on the following factors:

(A) The effectiveness of the material for the claimed use;

(B) The degree to which the material is like an analogous raw material or product;

(C) The extent to which the material is handled to minimize loss or escape to the environment;

(D) The extent to which an end market for the reclaimed material is guaranteed;

(E) The time period between generating the material and its recycling;

(F) Other factors as appropriate.

(6) Variance to be classified as a boiler.

In accordance with the standards and criteria in WAC 173-303-040 (definition of "boiler"), and the procedures in subsection (7) of this section, the department may determine on a case-by-case basis that certain enclosed devices using controlled flame combustion are boilers, even though they do not otherwise meet the definition of boiler contained in WAC 173-303-040, after considering the following criteria:

(a) The extent to which the unit has provisions for recovering and exporting thermal energy in the form of steam, heated fluids, or heated gases; and

(b) The extent to which the combustion chamber and energy recovery equipment are of integral design; and

(c) The efficiency of energy recovery, calculated in terms of the recovered energy compared with the thermal value of the fuel; and

(d) The extent to which exported energy is utilized; and

(e) The extent to which the device is in common and customary use as a "boiler" functioning primarily to produce steam, heated fluids, or heated gases; and

(f) Other factors, as appropriate.

(7) Procedures for variances from classification as a solid waste or to be classified as a boiler.

The department will use the following procedures in evaluating applications for variances from classification as a solid waste or applications to classify particular enclosed controlled flame combustion devices as boilers:

(a) The applicant must apply to the department for the variance. The application must address the relevant criteria contained in subsections (5)(b) or (6) of this section.

(b) The department will evaluate the application and issue a draft public notice tentatively granting or denying the application. Notification of this tentative decision will be provided by newspaper advertisement and radio broadcast in the locality where the recycler is located. The department will accept comment on the tentative decision for thirty days, and may also hold a public hearing upon request or at its discretion. The department will issue a final decision after receipt of comments and after the hearing (if any)((~~, and this decision may not be appealed to the department~~)).

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-040 Definitions.** When used in this chapter, the following terms have the meanings given below.

"Aboveground tank" means a device meeting the definition of "tank" in this section and that is situated in such a way that the entire surface area of the tank is completely above the plane of the adjacent surrounding surface and the entire surface area of the tank (including the tank bottom) is able to be visually inspected.

"Active life" of a facility means the period from the initial receipt of dangerous waste at the facility until the department receives certification of final closure.

"Active portion" means that portion of a facility which is not a closed portion, and where dangerous waste recycling, reuse, reclamation, transfer, treatment, storage or disposal operations are being or have been conducted after:

The effective date of the waste's designation by 40 CFR Part 261; and

March 10, 1982, for wastes designated only by this chapter and not designated by 40 CFR Part 261. (See also "closed portion" and "inactive portion.")

"Acute hazardous waste" means dangerous waste sources (listed in WAC 173-303-9904) F020, F021, F022, F023, F026, or F027, and discarded chemical products (listed in WAC 173-303-9903) that are identified with a dangerous waste number beginning with a "P", including those wastes mixed with source, special nuclear, or by-product material subject to the Atomic Energy Act of 1954. The abbreviation "AHW" will be used in this chapter to refer to those dangerous and mixed wastes which are acute hazardous wastes. Note - the terms acute and acutely are used interchangeably.

"Ancillary equipment" means any device including, but not limited to, such devices as piping, fittings, flanges, valves, and pumps, that is used to distribute, meter, or control the flow of dangerous waste from its point of generation to a storage or treatment tank(s), between dangerous waste storage and treatment tanks to a point of disposal on-site, or to a point of shipment for disposal off-site.

"Aquifer" means a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of ground water to wells or springs.

((~~"Asbestos-containing waste material" means any waste that contains more than one percent asbestos by weight and that can be crumbled, pulverized, or reduced to powder when dry, by hand pressure.~~))

"Batch" means any waste which is generated less frequently than once a month.

"Battery" means a device consisting of one or more electrically connected electrochemical cells which is designed to receive, store, and deliver electric energy. An electrochemical cell is a system consisting of an anode, cathode, and an electrolyte, plus such connections (electrical

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and mechanical) as may be needed to allow the cell to deliver or receive electrical energy. The term battery also includes an intact, unbroken battery from which the electrolyte has been removed.

"Berm" means the shoulder of a dike.

"Boiler" means an enclosed device using controlled flame combustion and having the following characteristics:

The unit must have physical provisions for recovering and exporting thermal energy in the form of steam, heated fluids, or heated gases; and

The unit's combustion chamber and primary energy recovery section(s) must be of integral design. To be of integral design, the combustion chamber and the primary energy recovery section(s) (such as waterwalls and superheaters) must be physically formed into one manufactured or assembled unit. A unit in which the combustion chamber and the primary energy recovery section(s) are joined only by ducts or connections carrying flue gas is not integrally designed; however, secondary energy recovery equipment (such as economizers or air preheaters) need not be physically formed into the same unit as the combustion chamber and the primary energy recovery section. The following units are not precluded from being boilers solely because they are not of integral design: Process heaters (units that transfer energy directly to a process stream), and fluidized bed combustion units; and

While in operation, the unit must maintain a thermal energy recovery efficiency of at least sixty percent, calculated in terms of the recovered energy compared with the thermal value of the fuel; and

The unit must export and utilize at least seventy-five percent of the recovered energy, calculated on an annual basis. In this calculation, no credit will be given for recovered heat used internally in the same unit. (Examples of internal use are the preheating of fuel or combustion air, and the driving of induced or forced draft fans or feedwater pumps); or

The unit is one which the department has determined, on a case-by-case basis, to be a boiler, after considering the standards in WAC 173-303-017(6).

"By-product" means a material that is not one of the primary products of a production process and is not solely or separately produced by the production process. Examples are process residues such as slags or distillation column bottoms. The term does not include a co-product that is produced for the general public's use and is ordinarily used in the form it is produced by the process.

"Carbon regeneration unit" means any enclosed thermal treatment device used to regenerate spent activated carbon.

"Carcinogenic" means a material known to contain a substance which has sufficient or limited evidence as a human or animal carcinogen as listed in both IARC and either IRIS or HEAST.

"Closed portion" means that portion of a facility which an owner or operator has closed, in accordance with the approved facility closure plan and all applicable closure requirements.

"Closure" means the requirements placed upon all TSD facilities to ensure that all such facilities are closed in an acceptable manner (see also "post-closure").

"Commercial chemical product or manufacturing chemical intermediate" refers to a chemical substance which is manufactured or formulated for commercial or manufacturing use which consists of the commercially pure grade of the chemical, any technical grades of the chemical that are produced or marketed, and all formulations in which the chemical is the sole active ingredient.

"Commercial fertilizer" means any substance containing one or more recognized plant nutrients and which is used for its plant nutrient content and/or which is designated for use or claimed to have value in promoting plant growth, and includes, but is not limited to, limes, gypsum, and manipulated animal manures and vegetable compost. The commercial fertilizer must be registered with the state or local agency regulating the fertilizer in the locale in which the fertilizer is being sold or applied.

"Compliance procedure" means any proceedings instituted pursuant to the Hazardous Waste Management Act as amended in 1980 and 1983, and chapter 70.105A RCW, or regulations issued under authority of state law, which seeks to require compliance, or which is in the nature of an enforcement action or an action to cure a violation. A compliance procedure includes a notice of intention to terminate a permit pursuant to WAC 173-303-830(5), or an application in the state superior court for appropriate relief under the Hazardous Waste Management Act. A compliance procedure is considered to be pending from the time a notice of violation or of intent to terminate a permit is issued or judicial proceedings are begun, until the department notifies the owner or operator in writing that the violation has been corrected or that the procedure has been withdrawn or discontinued.

"Component" means either the tank or ancillary equipment of a tank system.

"Constituent" or "dangerous waste constituent" means a chemically distinct component of a dangerous waste stream or mixture.

"Container" means any portable device in which a material is stored, transported, treated, disposed of, or otherwise handled.

"Containment building" means a hazardous waste management unit that is used to store or treat hazardous waste under the provisions of WAC 173-303-695.

"Contingency plan" means a document setting out an organized, planned, and coordinated course of action to be followed in case of a fire, explosion, or release of dangerous waste or dangerous waste constituents which could threaten ((~~the public~~)) human health or environment.

"Contract" means the written agreement signed by the department and the state operator.

"Corrective action management unit" or "CAMU" means an area within a facility that is designated by the director pursuant to WAC 173-303-646 (4), (5), and (6) for the purpose of implementing the corrective action requirements of WAC 173-303-646(2). A CAMU may be used only for the management of remediation wastes pursuant to implementing such corrective action requirements at the facility.

"Corrosion expert" means a person who, by reason of his knowledge of the physical sciences and the principles of engineering and mathematics, acquired by a professional education and related practical experience, is qualified to engage in the practice of corrosion control on buried or submerged metal piping systems and metal tanks. Such a person must be certified as being qualified by the National

Association of Corrosion Engineers (NACE) or be a registered professional engineer who has certification or licensing that includes education and experience in corrosion control on buried or submerged metal piping systems and metal tanks.

"Dangerous waste constituents" means those constituents listed in WAC 173-303-9905 and any other constituents that have caused a waste to be a dangerous waste under this chapter.

"Dangerous waste management unit" is a contiguous area of land on or in which dangerous waste is placed, or the largest area in which there is a significant likelihood of mixing dangerous waste constituents in the same area. Examples of dangerous waste management units include a surface impoundment, a waste pile, a land treatment area, a landfill cell, an incinerator, a tank and its associated piping and underlying containment system and a container storage area. A container alone does not constitute a unit; the unit includes containers and the land or pad upon which they are placed.

"Dangerous wastes" means those solid wastes designated in WAC 173-303-070 through 173-303-100 as dangerous, or extremely hazardous or mixed waste. As used in this chapter, the words "dangerous waste" will refer to the full universe of wastes regulated by this chapter. The abbreviation "DW" will refer only to that part of the regulated universe which is not extremely hazardous waste. (See also "extremely hazardous waste," "hazardous waste," and "mixed waste" definitions.)

"Debris" means solid material exceeding a 60 mm particle size that is intended for disposal and that is: A manufactured object; or plant or animal matter; or natural geologic material. However, the following materials are not debris: Any material for which a specific treatment standard is provided in 40 CFR Part 268 Subpart D (incorporated by reference in WAC 173-303-140 (2)(a)); process residuals such as smelter slag and residues from the treatment of waste, wastewater, sludges, or air emission residues; and intact containers of hazardous waste that are not ruptured and that retain at least seventy-five percent of their original volume. A mixture of debris that has not been treated to the standards provided by 40 CFR 268.45 and other material is subject to regulation as debris if the mixture is comprised primarily of debris, by volume, based on visual inspection.

"Department" means the department of ecology.

"Dermal $LD_{50}$" means the single dosage in milligrams per kilogram (mg/kg) body weight which, when dermally (skin) applied for 24 hours, within 14 days kills half of a group of ten rabbits each weighing between 2.0 and 3.0 kilograms.

"Designated facility" means ((~~the facility designated by the generator on the manifest to receive a dangerous waste shipment and which is authorized pursuant to this chapter or RCRA to recycle or manage dangerous waste~~)) a dangerous waste treatment, storage, or disposal facility that has received a permit (or interim status) in accordance with the requirements of this chapter, has received a permit (or interim status) from another state authorized in accordance with 40 CFR Part 271, has received a permit (or interim status from EPA in accordance with 40 CFR Part 270, or is regulated under WAC 173-303-120 (4)(c) or 173-303-525 when the dangerous waste is to be recycled, and that has been designated on the manifest pursuant to WAC 173-303-180(1). If a waste is destined to a facility in an authorized state that has not yet obtained authorization to regulate that particular waste as dangerous, then the designated facility must be a facility allowed by the receiving state to accept such waste. The following are designated facilities only for receipt of state-only waste; they cannot receive federal hazardous waste from off-site: Facilities with permit-by-rule under WAC 173-303-802 (5)(a) and facilities operating under WAC 173-303-500 (2)(c).

"Designation" is the process of determining whether a waste is regulated under the dangerous waste lists, WAC 173-303-080 through 173-303-082; or characteristics, WAC 173-303-090; or criteria, WAC 173-303-100. A waste that has been designated as a dangerous waste may be either DW or EHW.

"Destination facility" means a facility that treats, disposes of, or recycles a particular category of universal waste, except those management activities described in WAC 173-303-573 (9)(a) and (b) and 173-303-573 (20)(a) and (b). A facility at which a particular category of universal waste is only accumulated, is not a destination facility for purposes of managing that category of universal waste.

"Dike" means an embankment or ridge of natural or man-made materials used to prevent the movement of liquids, sludges, solids, or other substances.

"Director" means the director of the department of ecology or his designee.

"Discharge" or "dangerous waste discharge" means the accidental or intentional release of hazardous substances, dangerous waste or dangerous waste constituents such that the substance, waste or a waste constituent may enter or be emitted into the environment.

"Disposal" means the discharging, discarding, or abandoning of dangerous wastes or the treatment, decontamination, or recycling of such wastes once they have been discarded or abandoned. This includes the discharge of any dangerous wastes into or on any land, air, or water.

"Domestic sewage" means untreated sanitary wastes that pass through a sewer system to a publicly owned treatment works (POTW) for treatment.

"Draft permit" means a document prepared under WAC 173-303-840 indicating the department's tentative decision to issue or deny, modify, revoke and reissue, or terminate a permit. A notice of intent to terminate or deny a permit are types of draft permits. A denial of a request for modification, revocation and reissuance, or termination as discussed in WAC 173-303-830 is not a draft permit.

"Drip pad" is an engineered structure consisting of a curbed, free-draining base, constructed of nonearthen materials and designed to convey preservative kick-back or drippage from treated wood, precipitation, and surface water run-on to an associated collection system at wood preserving plants.

"Elementary neutralization unit" means a device which:

Is used for neutralizing wastes which are dangerous wastes only because they exhibit the corrosivity characteristics defined in WAC 173-303-090 or are listed in WAC 173-303-081, or in 173-303-082 only for this reason; and

Meets the definition of tank, tank system, container, transport vehicle, or vessel.

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"Environment" means any air, land, water, or ground water.

"EPA/state identification number" or "EPA/state ID#" means the number assigned by EPA or by the department of ecology to each generator, transporter, and TSD facility.

"Existing tank system" or "existing component" means a tank system or component that is used for the storage or treatment of dangerous waste and that is in operation, or for which installation has commenced on or prior to February 3, 1989. Installation will be considered to have commenced if the owner or operator has obtained all federal, state, and local approvals or permits necessary to begin physical construction of the site or installation of the tank system and if either:

A continuous on-site physical construction or installation program has begun; or

The owner or operator has entered into contractual obligations, which cannot be cancelled or modified without substantial loss, for physical construction of the site or installation of the tank system to be completed within a reasonable time.

"Existing TSD facility" means a facility which was in operation or for which construction commenced on or before November 19, 1980, for wastes designated by 40 CFR Part 261, or August 9, 1982, for wastes designated only by this chapter and not designated by 40 CFR Part 261. A facility has commenced construction if the owner or operator has obtained permits and approvals necessary under federal, state, and local statutes, regulations, and ordinances and either:

A continuous on-site, physical construction program has begun; or

The owner or operator has entered into contractual obligation, which cannot be cancelled or modified without substantial loss, for physical construction of the facility to be completed within a reasonable time.

"Extremely hazardous waste" means those dangerous and mixed wastes designated in WAC 173-303-100 as extremely hazardous. The abbreviation "EHW" will be used in this chapter to refer to those dangerous and mixed wastes which are extremely hazardous. (See also "dangerous waste" and "hazardous waste" definitions.)

"Facility" means all contiguous land, and structures, other appurtenances, and improvements on the land used for recycling, reusing, reclaiming, transferring, storing, treating, or disposing of dangerous waste. A facility may consist of several treatment, storage, or disposal operational units (e.g., one or more landfills, surface impoundments, or combination of them). Unless otherwise specified in this chapter, the terms "facility," "treatment, storage, disposal facility," "TSD facility," "dangerous waste facility" or "waste management facility" are used interchangeably. For the purposes of implementing corrective action imposed pursuant to WAC 173-303-646 (2) or (3), the term facility has the following meaning: All contiguous property under the control of an owner or operator seeking or required to have a permit under the provisions of chapter 70.105 RCW or chapter 173-303 WAC, including the definition of facility at RCW 70.105D.020(3).

"Final closure" means the closure of all dangerous waste management units at the facility in accordance with all applicable closure requirements so that dangerous waste management activities under WAC 173-303-400 and 173-303-600 through 173-303-670 are no longer conducted at the facility. Areas only subject to generator standards WAC 173-303-170 through 173-303-230 need not be included in final closure.

"Fish LC50" means the concentration that will kill fifty percent of the exposed fish in a specified time period. For book designation, LC50 data must be derived from an exposure period greater than or equal to twenty-four hours. A hierarchy of species LC50 data should be used that includes (in decreasing order of preference) salmonids, fathead minnows (Pimephales promelas), and other fish species. For the ninety-six-hour static acute fish toxicity test, described in WAC 173-303-110 (3)(b)(i), coho salmon (Oncorhynchus kisutch), rainbow trout (Oncorhynchus mykiss), ((~~and~~)) or brook trout (Salvelinus fontinalis) must be used.

"Food chain crops" means tobacco, crops grown for human consumption, and crops grown to feed animals whose products are consumed by humans.

"Freeboard" means the vertical distance between the top of a tank or surface impoundment dike, and the surface of the waste contained therein.

"Fugitive emissions" means the emission of contaminants from sources other than the control system exit point. Material handling, storage piles, doors, windows and vents are typical sources of fugitive emissions.

"Generator" means any person, by site, whose act or process produces dangerous waste or whose act first causes a dangerous waste to become subject to regulation.

"Genetic properties" means those properties which cause or significantly contribute to mutagenic, teratogenic, or carcinogenic effects in man or wildlife.

"Ground water" means water which fills voids below the land surface and in the earth's crust.

"Halogenated ((~~hydrocarbons" (HH)~~)) organic compounds" (HOC) means any organic compounds which, as part of their composition, include one or more atoms of fluorine, chlorine, bromine, or iodine((~~, or astatine. The requirements of this chapter apply to only those halogenated hydrocarbons which can be obtained using the testing method described in WAC 173-303-110, testing methods, and which are persistent dangerous wastes.~~)) which is/are bonded directly to a carbon atom. This definition does not apply to the federal land disposal restrictions of 40 CFR Part 268 which are incorporated by reference at WAC 173-303-140 (2)(a).

"Hazardous debris" means debris that contains a hazardous waste listed in WAC 173-303-9903 or 173-303-9904, or that exhibits a characteristic of hazardous waste identified in WAC 173-303-090.

"Hazardous substances" means any liquid, solid, gas, or sludge, including any material, substance, product, commodity, or waste, regardless of quantity, that exhibits any of the physical, chemical or biological properties described in WAC 173-303-090 or 173-303-100.

"Hazardous wastes" means those solid wastes designated by 40 CFR Part 261, and regulated as hazardous and/or mixed waste by the United States EPA. This term will never be abbreviated in this chapter to avoid confusion with the abbreviations "DW" and "EHW." (See also "dangerous waste" and "extremely hazardous waste" definitions.)

"Ignitable waste" means a dangerous waste that exhibits the characteristic of ignitability described in WAC 173-303-090(5).

"Inactive portion" means that portion of a facility which has not recycled, treated, stored, or disposed dangerous waste after:

The effective date of the waste's designation, for wastes designated under 40 CFR Part 261; and

March 10, 1982, for wastes designated only by this chapter and not designated by 40 CFR Part 261.

"Incinerator" means any enclosed device that:

Uses controlled flame combustion and neither meets the criteria for classification as a boiler, sludge dryer, or carbon regeneration unit, nor is listed as an industrial furnace; or

Meets the definition of infrared incinerator or plasma arc incinerator.

"Incompatible waste" means a dangerous waste which is unsuitable for placement in a particular device or facility because it may corrode or decay the containment materials, or is unsuitable for mixing with another waste or material because the mixture might produce heat or pressure, fire or explosion, violent reaction, toxic dusts, fumes, mists, or gases, or flammable fumes or gases.

"Independent qualified registered professional engineer" means a person who is licensed by the state of Washington, or a state which has reciprocity with the state of Washington as defined in RCW 18.43.100, and who is not an employee of the owner or operator of the facility for which construction or modification certification is required. A qualified professional engineer is an engineer with expertise in the specific area for which a certification is given.

"Industrial-furnace" means any of the following enclosed devices that are integral components of manufacturing processes and that use thermal treatment to accomplish recovery of materials or energy: Cement kilns; lime kilns; aggregate kilns; phosphate kilns; blast furnaces; smelting, melting, and refining furnaces (including pyrometallurgical devices such as cupolas, reverberator furnaces, sintering machines, roasters and foundry furnaces); titanium dioxide chloride process oxidation reactors; coke ovens; methane reforming furnaces; combustion devices used in the recovery of sulfur values from spent sulfuric acid; pulping liquor recovery furnaces; combustion devices used in the recovery of sulfur values from spent sulfuric acid; and halogen acid furnaces (HAFs) for the production of acid from halogenated dangerous waste generated by chemical production facilities where the furnace is located on the site of a chemical production facility, the acid product has a halogen acid content of at least 3%, the acid product is used in a manufacturing process, and, except for dangerous waste burned as fuel, dangerous waste fed to the furnace has a minimum halogen content of 20% as-generated. The department may decide to add devices to this list on the basis of one or more of the following factors:

The device is designed and used primarily to accomplish recovery of material products;

The device burns or reduces secondary materials as ingredients in an industrial process to make a material product;

The device burns or reduces secondary materials as effective substitutes for raw materials in processes using raw materials as principal feedstocks;

The device burns or reduces raw materials to make a material product;

The device is in common industrial use to produce a material product; and

Other factors, as appropriate.

"Infrared incinerator" means any enclosed device that uses electric powered resistance heaters as a source of radiant heat followed by an afterburner using controlled flame combustion and which is not listed as an industrial furnace.

"Inground tank" means a device meeting the definition of "tank" in this section whereby a portion of the tank wall is situated to any degree within the ground, thereby preventing visual inspection of that external surface area of the tank that is in the ground.

"Inner liner" means a continuous layer of material placed inside a tank or container which protects the construction materials of the tank or container from the waste or reagents used to treat the waste.

"Installation inspector" means a person who, by reason of his knowledge of the physical sciences and the principles of engineering, acquired by a professional education and related practical experience, is qualified to supervise the installation of tank systems.

"Interim status permit" means a temporary permit given to TSD facilities which qualify under WAC 173-303-805.

"Land disposal" means placement on the land, except in a corrective action management unit, and includes, but is not limited to, placement in a: Landfill; surface impoundment; waste pile; injection well; land treatment facility; salt dome or salt bed formation; underground mine or cave; concrete vault; bunker; or miscellaneous unit.

"Landfill" means a disposal facility, or part of a facility, where dangerous waste is placed in or on land and which is not a pile, a land treatment facility, a surface impoundment, or an underground injection well, a salt dome formation, a salt bed formation, an underground mine, a cave, or a corrective action management unit.

"Land treatment" means the practice of applying dangerous waste onto or incorporating dangerous waste into the soil surface so that it will degrade or decompose. If the waste will remain after the facility is closed, this practice is disposal.

"Large quantity handler of universal waste" means a universal waste handler (as defined in this section) who accumulates 11,000 pounds or more total of universal waste (batteries or thermostats, calculated collectively) at any time. This designation as a large quantity handler of universal waste is retained through the end of the calendar year in which 5,000 kilograms or more total of universal waste is accumulated.

"Leachable inorganic waste" means solid dangerous waste (i.e., passes paint filter test) that is not an organic/carbonaceous waste and exhibits the toxicity characteristic (dangerous waste numbers D004 to D011, only) under WAC 173-303-090(8).

"Leachate" means any liquid, including any components suspended in the liquid, that has percolated through or drained from dangerous waste.

"Leak-detection system" means a system capable of detecting the failure of either the primary or secondary containment structure or the presence of a release of danger-

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ous waste or accumulated liquid in the secondary containment structure. Such a system must employ operational controls (e.g., daily visual inspections for releases into the secondary containment system of aboveground tanks) or consist of an interstitial monitoring device designed to detect continuously and automatically the failure of the primary or secondary containment structure or the presence of a release of dangerous waste into the secondary containment structure.

"Legal defense costs" means any expenses that an insurer incurs in defending against claims of third parties brought under the terms and conditions of an insurance policy.

"Liner" means a continuous layer of man-made or natural materials which restrict the escape of dangerous waste, dangerous waste constituents, or leachate through the sides, bottom, or berms of a surface impoundment, waste pile, or landfill.

"Major facility" means a facility or activity classified by the department as major.

"Manifest" means the shipping document, prepared in accordance with the requirements of WAC 173-303-180, which is used to identify the quantity, composition, origin, routing, and destination of a dangerous waste while it is being transported to a point of transfer, disposal, treatment, or storage.

"Manufacturing process unit" means a unit which is an integral and inseparable portion of a manufacturing operation, processing a raw material into a manufacturing intermediate or finished product, reclaiming spent materials or reconditioning components.

"Miscellaneous unit" means a dangerous waste management unit where dangerous waste is treated, stored, or disposed of and that is not a container, tank, surface impoundment, pile, land treatment unit, landfill, incinerator, boiler, industrial furnace, containment building, corrective action management unit, temporary unit, underground injection well with appropriate technical standards under 40 CFR Part 146, or unit eligible for a research, development, and demonstration permit under WAC 173-303-809.

"Mixed waste" means a dangerous, extremely hazardous, or acutely hazardous waste that contains both a nonradioactive hazardous component and, as defined by 10 CFR 20.1003, source, special nuclear, or by-product material subject to the Atomic Energy Act of 1954 (42 U.S.C. 2011 et seq.).

"New tank system" or "new tank component" means a tank system or component that will be used for the storage or treatment of dangerous waste and for which installation has commenced after February 3, 1989; except, however, for purposes of WAC 173-303-640 (4)(g)(ii) and 40 CFR 265.193 (g)(2) as adopted by reference in WAC 173-303-400(3), a new tank system is one for which construction commences after February 3, 1989. (See also "existing tank system.")

"New TSD facility" means a facility which began operation or for which construction commenced after November 19, 1980, for wastes designated by 40 CFR Part 261, or August 9, 1982, for wastes designated only by this chapter and not designated by 40 CFR Part 261.

"NIOSH registry" means the registry of toxic effects of chemical substances which is published by the National Institute for Occupational Safety and Health.

"Nonsudden accident" or "nonsudden accidental occurrence" means an unforeseen and unexpected occurrence which takes place over time and involves continuous or repeated exposure.

"Occurrence" means an accident, including continuous or repeated exposure to conditions, which results in bodily injury or property damage which the owner or operator neither expected nor intended to occur.

"Off-specification used oil fuel" means used oil fuel that exceeds any specification level described in Table 1 in WAC 173-303-515.

"Onground tank" means a device meeting the definition of "tank" in this section and that is situated in such a way that the bottom of the tank is on the same level as the adjacent surrounding surface so that the external tank bottom cannot be visually inspected.

"On-site" means the same((~~, geographically contiguous, or bordering property. Travel between two properties divided by a public right-of-way and owned, operated, or controlled by the same person, will be considered on-site travel if: The travel crosses the right-of-way at a perpendicular intersection; or, the right-of-way is controlled by the property owner and is inaccessible to the public~~)) or geographically contiguous property which may be divided by public or private right of way, provided that the entrance and exit between the properties is at a cross-roads intersection, and access is by crossing as opposed to going along the right of way. Noncontiguous properties owned by the same person but connected by a right of way which they control and to which the public does not have access, are also considered on-site property.

"Operator" means the person responsible for the overall operation of a facility. (See also "state operator.")

"Oral $LD_{50}$" means the single dosage in milligrams per kilogram (mg/kg) body weight, when orally administered, which, within 14 days, kills half a group of ten or more white rats each weighing between 200 and 300 grams.

"Organic/carbonaceous waste" means a dangerous waste that contains combined concentrations of greater than ten percent organic/carbonaceous constituents in the waste; organic/carbonaceous constituents are those substances that contain carbon-hydrogen, carbon-halogen, or carbon-carbon chemical bonding.

"Partial closure" means the closure of a dangerous waste management unit in accordance with the applicable closure requirements of WAC 173-303-400 and 173-303-600 through 173-303-670 at a facility that contains other active dangerous waste management units. For example, partial closure may include the closure of a tank (including its associated piping and underlying containment systems), landfill cell, surface impoundment, waste pile, or other dangerous waste management unit, while other units of the same facility continue to operate.

"Permit" means an authorization which allows a person to perform dangerous waste transfer, storage, treatment, or disposal operations, and which typically will include specific conditions for such facility operations. Permits must be issued by one of the following:

The department, pursuant to this chapter;

United States EPA, pursuant to 40 CFR Part 270; or

Another state authorized by EPA, pursuant to 40 CFR Part 271.

"Permit-by-rule" means a provision of this chapter stating that a facility or activity is deemed to have a dangerous waste permit if it meets the requirements of the provision.

"Persistence" means the quality of a material which retains more than half of its initial activity after one year (365 days) in either a dark anaerobic or dark aerobic environment at ambient conditions. Persistence compounds are either halogenated organic compounds (HOC) or polycyclic aromatic hydrocarbons (PAH) as defined in this section.

"Person" means any person, firm, association, county, public or municipal or private corporation, agency, or other entity whatsoever.

"Pesticide" means but is not limited to: Any substance or mixture of substances intended to prevent, destroy, control, repel, or mitigate any insect, rodent, nematode, mollusk, fungus, weed, and any other form of plant or animal life, or virus (except virus on or in living man or other animal) which is normally considered to be a pest or which the department of agriculture may declare to be a pest; any substance or mixture of substances intended to be used as a plant regulator, defoliant, or desiccant; any substance or mixture of substances intended to be used as spray adjuvant; and, any other substance intended for such use as may be named by the department of agriculture by regulation. Herbicides, fungicides, insecticides, and rodenticides are pesticides for the purposes of this chapter.

"Pile" means any noncontainerized accumulation of solid, nonflowing dangerous waste that is used for treatment or storage.

"Plasma arc incinerator" means any enclosed device using a high intensity electrical discharge or arc as a source of heat followed by an afterburner using controlled flame combustion and which is not listed as an industrial furnace.

"Point source" means any confined and discrete conveyance from which pollutants are or may be discharged. This term includes, but is not limited to, pipes, ditches, channels, tunnels, wells, cracks, containers, rolling stock, concentrated animal feeding operations, or watercraft, but does not include return flows from irrigated agriculture.

"Polycyclic aromatic hydrocarbons" (PAH) means those hydrocarbon molecules composed of two or more fused benzene rings. For purposes of this chapter, the PAHs of concern for designation are: ((~~Acenapthene~~)) Acenaphthene, ((~~acenapthylene~~)) acenaphthylene, fluorene, anthracene, fluoranthene, phenanthrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, pyrene, chrysene, benzo(a)pyrene, dibenz(a,h)anthracene, indeno(1,2,3-c,d)pyrene, benzo(g,h,i)perylene, dibenzo [(a,e), (a,h), (a,i), and (a,l)] pyrenes, and dibenzo(a,j) acridine.

"Post-closure" means the requirements placed upon disposal facilities (e.g., landfills, impoundments closed as disposal facilities, etc.) after closure to ensure their environmental safety for a number of years after closure. (See also "closure.")

"Publicly owned treatment works" or "POTW" means any device or system, owned by the state or a municipality, which is used in the treatment, recycling, or reclamation of municipal sewage or liquid industrial wastes. This term includes sewers, pipes, or other conveyances only if they convey wastewater to a POTW.

"Qualified ground water scientist" means a scientist or engineer who has received a baccalaureate or post-graduate degree in the natural sciences or engineering, and has sufficient training and experience in ground water hydrology and related fields to make sound professional judgments regarding ground water monitoring and contaminant fate and transport. Sufficient training and experience may be demonstrated by state registration, professional certifications, or completion of accredited university courses.

"Reactive waste" means a dangerous waste that exhibits the characteristic of reactivity described in WAC 173-303-090(7).

"Reclaim" means to process a material in order to recover useable products, or to regenerate the material. Reclamation is the process of reclaiming.

"Recover" means extract a useable material from a solid or dangerous waste through a physical, chemical, biological, or thermal process. Recovery is the process of recovering.

"Recycle" means to use, reuse, or reclaim a material.

"Regulated unit" means any new or existing surface impoundment, landfill, land treatment area or waste pile that receives any dangerous waste after:

July 26, 1982, for wastes regulated by 40 CFR Part 261;

October 31, 1984 for wastes designated only by this chapter and not regulated by 40 CFR Part 261; or

The date six months after a waste is newly identified by amendments to 40 CFR Part 261 or this chapter which cause the waste to be regulated.

"Release" means any intentional or unintentional spilling, leaking, pouring, emitting, emptying, discharging, injecting, pumping, escaping, leaching, dumping, or disposing of dangerous wastes, or dangerous constituents as defined at WAC 173-303-646 (1)(c), into the environment and includes the abandonment or discarding of barrels, containers, and other receptacles containing dangerous wastes or dangerous constituents and includes the definition of release at RCW 70.105D.020(10).

"Remediation waste" means all solid or dangerous wastes, and all media (including ground water, surface water, soils, and sediments) and debris, which contain listed dangerous wastes, or which themselves exhibit a dangerous waste characteristic or criteria, that are managed for the purpose of implementing corrective action requirements imposed pursuant to WAC 173-303-646 (2) or (3). For a given facility, remediation wastes may originate only from within the facility boundary, except that remediation waste may include wastes managed in implementing corrective action in accordance with WAC 173-303-646 (2)(b) for releases extending beyond the facility boundary.

"Replacement unit" means a landfill, surface impoundment, or waste pile unit from which all or substantially all of the waste is removed, and that is subsequently reused to treat, store, or dispose of dangerous waste. "Replacement unit" does not apply to a unit from which waste is removed during closure, if the subsequent reuse solely involves the disposal of waste from that unit and other closing units or corrective action areas at the facility, in accordance with an approved closure plan or EPA or state approved corrective action.

"Representative sample" means a sample which can be expected to exhibit the average properties of the sample source.

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"Reuse or use" means to employ a material either:

As an ingredient (including use as an intermediate) in an industrial process to make a product (for example, distillation bottoms from one process used as feedstock in another process). However, a material will not satisfy this condition if distinct components of the material are recovered as separate end products (as when metals are recovered from metal-containing secondary materials); or

In a particular function or application as an effective substitute for a commercial product (for example, spent pickle liquor used as phosphorous precipitant and sludge conditioner in wastewater treatment).

"Run-off" means any rainwater, leachate, or other liquid which drains over land from any part of a facility.

"Run-on" means any rainwater, leachate, or other liquid which drains over land onto any part of a facility.

"Satellite accumulation area" means a location at or near any point of generation where hazardous waste is initially accumulated in containers (during routine operations) prior to consolidation at a designated ninety-day accumulation area or storage area. The area must be under the control of the operator of the process generating the waste or secured at all times to prevent improper additions of wastes into the satellite containers.

"Schedule of compliance" means a schedule of remedial measures in a permit including an enforceable sequence of interim requirements leading to compliance with this chapter.

"Scrap metal" means bits and pieces of metal parts (e.g., bars, turnings, rods, sheets, wire) or metal pieces that may be combined together with bolts or soldering (e.g., radiators, scrap automobiles, railroad box cars), which when worn or superfluous can be recycled.

"Sludge" means any solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility. This term does not include the treated effluent from a wastewater treatment plant.

"Sludge dryer" means any enclosed thermal treatment device that is used to dehydrate sludge and that has a maximum total thermal input, excluding the heating value of the sludge itself, of 2,500 Btu/lb of sludge treated on a wet-weight basis.

"Small quantity handler of universal waste" means a universal waste handler (as defined in this section) who does not accumulate more than 11,000 pounds total of universal waste (batteries or thermostats, calculated collectively) at any time.

"Solid acid waste" means a dangerous waste that exhibits the characteristic of low pH under the corrosivity tests of ((~~either~~)) WAC 173-303-090 (6)(a)((~~(ii) or (b)~~)) (iii).

"Solid waste management unit" or "SWMU" means any discernible location at a facility, as defined for the purposes of corrective action, where solid wastes have been placed at any time, irrespective of whether the location was intended for the management of solid or dangerous waste. Such locations include any area at a facility at which solid wastes, including spills, have been routinely and systematically released. Such units include regulated units as defined by chapter 173-303 WAC.

"Sorbent" means a material that is used to soak up free liquids by either adsorption or absorption, or both. *Sorb* means to either adsorb or absorb, or both.

"Special incinerator ash" means ash residues resulting from the operation of incineration or energy recovery facilities managing municipal solid waste from residential, commercial and industrial establishments, if the ash residues are designated as dangerous waste only by this chapter and not designated as hazardous waste by 40 CFR Part 261.

"Special waste" means any state-only dangerous waste that is solid only (nonliquid, nonaqueous, nongaseous), that is: Corrosive waste (WAC 173-303-090 (6)(b)(ii)), toxic waste that has Category D toxicity (WAC 173-303-100(5)), PCB waste (WAC 173-303-9904 under State Sources), or persistent waste that is not EHW (WAC 173-303-100(6)). Any solid waste that is regulated by the United States EPA as hazardous waste cannot be a special waste.

"Spent material" means any material that has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing.

"Stabilization" and "solidification" means a technique that limits the solubility and mobility of dangerous waste constituents. Solidification immobilizes a waste through physical means and stabilization immobilizes the waste by bonding or chemically reacting with the stabilizing material.

"State-only dangerous waste" means a waste designated only by this chapter, chapter 173-303 WAC, and is not regulated as a hazardous waste under 40 CFR Part 261.

"State operator" means the person responsible for the overall operation of the state's extremely hazardous waste facility on the Hanford Reservation.

"Storage" means the holding of dangerous waste for a temporary period. "Accumulation" of dangerous waste, by the generator on the site of generation, is not storage as long as the generator complies with the applicable requirements of WAC 173-303-200 and 173-303-201.

"Sudden accident" means an unforeseen and unexpected occurrence which is not continuous or repeated in nature.

"Sump" means any pit or reservoir that meets the definition of tank and those troughs/trenches connected to it that serves to collect dangerous waste for transport to dangerous waste storage, treatment, or disposal facilities; except that as used in the landfill, surface impoundment, and waste pile rules, "sump" means any lined pit or reservoir that serves to collect liquids drained from a leachate collection and removal system or leak detection system for subsequent removal from the system.

"Surface impoundment" means a facility or part of a facility which is a natural topographic depression, man-made excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials), and which is designed to hold an accumulation of liquid dangerous wastes or dangerous wastes containing free liquids. The term includes holding, storage, settling, and aeration pits, ponds, or lagoons, but does not include injection wells.

"Tank" means a stationary device designed to contain an accumulation of dangerous waste, and which is constructed primarily of nonearthen materials to provide structural support.

"Tank system" means a dangerous waste storage or treatment tank and its associated ancillary equipment and containment system.

"Temporary unit" or "TU" means a tank or container unit used temporarily for the treatment or storage of

remediation waste, that is designated by the director pursuant to WAC 173-303-646(7) for the purpose of implementing the corrective action requirements of WAC 173-303-646 (2) or (3).

"Thermal treatment" means the treatment of dangerous waste in a device which uses elevated temperatures as the primary means to change the chemical, physical, or biological character or composition of the dangerous waste. Examples of thermal treatment processes are incineration, molten salt, pyrolysis, calcination, wet air oxidation, and microwave discharge.

"Thermostat" means a temperature control device that contains metallic mercury in an ampule attached to a bimetal sensing element, and mercury-containing ampules that have been removed from these temperature control devices in compliance with the requirements of WAC 173-303-573 (9)(b)(ii) or (20)(b)(ii).

"$TLm_{96}$" means the same as "Aquatic $LC_{50}$."

"Totally enclosed treatment facility" means a facility for treating dangerous waste which is directly connected to a production process and which prevents the release of dangerous waste or dangerous waste constituents into the environment during treatment.

"Toxic" means having the properties to cause or to significantly contribute to death, injury, or illness of man or wildlife.

"Transfer facility" means any transportation related facility including loading docks, parking areas, storage areas, and other similar areas where shipments of hazardous waste are held for ten days or less during the normal course of transportation.

"Transport vehicle" means a motor vehicle or rail car used for the transportation of cargo by any mode. Each cargo-carrying body (trailer, railroad freight car, etc.) is a separate transport vehicle.

"Transportation" means the movement of dangerous waste by air, rail, highway, or water.

"Transporter" means a person engaged in the off-site transportation of dangerous waste.

"Travel time" means the period of time necessary for a dangerous waste constituent released to the soil (either by accident or intent) to enter any on-site or off-site aquifer or water supply system.

"Treatability study" means a study in which a dangerous waste is subjected to a treatment process to determine: Whether the waste is amenable to the treatment process; what pretreatment (if any) is required; the optimal process conditions needed to achieve the desired treatment; the efficiency of a treatment process for a specific waste or wastes; or the characteristics and volumes of residuals from a particular treatment process. Also included in this definition for the purpose of the exemptions contained in WAC 173-303-071 (3)(r) and (s), are liner compatibility, corrosion, and other material compatibility studies and toxicological and health effects studies. A "treatability study" is not a means to commercially treat or dispose of dangerous waste.

"Treatment" means the physical, chemical, or biological processing of dangerous waste to make such wastes nondangerous or less dangerous, safer for transport, amenable for energy or material resource recovery, amenable for storage, or reduced in volume, with the exception of compacting, repackaging, and sorting as allowed under WAC 173-303-400(2) and 173-303-600(3).

"Treatment zone" means a soil area of the unsaturated zone of a land treatment unit within which dangerous wastes are degraded, transformed or immobilized.

"Triple rinsing" means the cleaning of containers in accordance with the requirements of WAC 173-303-160 (2)(b), containers.

"Underground injection" means the subsurface emplacement of fluids through a bored, drilled, or driven well, or through a dug well, where the depth of the dug well is greater than the largest surface dimension.

"Underground tank" means a device meeting the definition of "tank" in this section whose entire surface area is totally below the surface of and covered by the ground.

"Unfit-for-use tank system" means a tank system that has been determined through an integrity assessment or other inspection to be no longer capable of storing or treating dangerous waste without posing a threat of release of dangerous waste to the environment.

"Universal waste" means any of the following dangerous wastes that are subject to the universal waste requirements of WAC 173-303-573:

Batteries as described in WAC 173-303-573(2); and

Thermostats as described in WAC 173-303-573(3).

"Universal waste handler":

Means:

A generator (as defined in this section) of universal waste; or

The owner or operator of a facility, including all contiguous property, that receives universal waste from other universal waste handlers, accumulates universal waste, and sends universal waste to another universal waste handler, to a destination facility, or to a foreign destination.

Does not mean:

A person who treats (except under the provisions of WAC 173-303-573 (9)(a) or (b) or (20)(a) or (b)) disposes of, or recycles universal waste; or

A person engaged in the off-site transportation of universal waste by air, rail, highway, or water, including a universal waste transfer facility.

"Universal waste transfer facility" means any transportation-related facility including loading docks, parking areas, storage areas and other similar areas where shipments of universal waste are held during the normal course of transportation for ten days or less.

"Universal waste transporter" means a person engaged in the off-site transportation of universal waste by air, rail, highway, or water.

"Unsaturated zone" means the zone between the land surface and the water table.

"Uppermost aquifer" means the geological formation nearest the natural ground surface that is capable of yielding ground water to wells or springs. It includes lower aquifers that are hydraulically interconnected with this aquifer within the facility property boundary.

"Used oil" means any oil that has been refined from crude oil, or any synthetic oil, that has been used((,)) and((,)) as a result of such use((,)) is contaminated by physical or chemical impurities.

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"Vessel" includes every description of watercraft, used or capable of being used as a means of transportation on the water.

"Wastewater treatment unit" means a device that:

Is part of a wastewater treatment facility which is subject to regulation under either:

Section 402 or section 307(b) of the Federal Clean Water Act; or

Chapter 90.48 RCW, State Water Pollution Control Act, provided that the waste treated at the facility is a state-only dangerous waste; and

Handles dangerous waste in the following manner:

Receives and treats or stores an influent wastewater; or

Generates and accumulates or treats or stores a wastewater treatment sludge; and

Meets the definition of tank or tank system in this section.

"Water or rail (bulk shipment)" means the bulk transportation of dangerous waste which is loaded or carried on board a vessel or railcar without containers or labels.

"Zone of engineering control" means an area under the control of the owner/operator that, upon detection of a dangerous waste release, can be readily cleaned up prior to the release of dangerous waste or dangerous constituents to ground water or surface water.

Any terms used in this chapter which have not been defined in this section have either the same meaning as set forth in Title 40 CFR Parts 260, 264, 270, and 124 or else have their standard, technical meaning.

As used in this chapter, words in the masculine gender also include the feminine and neuter genders, words in the singular include the plural, and words in the plural include the singular.

**Reviser's note:** The brackets and enclosed material in the text of the above section occurred in the copy filed by the agency and appear in the Register pursuant to the requirements of RCW 34.08.040.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-045 References to EPA's hazardous waste and permit regulations.** (1) Any references in this chapter to any parts, subparts, or sections from EPA's hazardous waste regulations, including 40 CFR Parts 260 through 280 and Part 124, are in reference to those rules as they existed on July 1, ((~~1995~~)) 1996. Copies of the appropriate referenced federal requirements are available upon request from the department.

(2) The following sections and any cross-reference to these sections are not incorporated or adopted by reference:

(a) 40 CFR Parts 260.1 (b)(4)-(6) and 260.20-22.

(b) 40 CFR Parts 264.1 (d) and (f); 265.1 (c)(4); 264.149-150 and 265.149-150; 264.301(k); and 265.430.

(c) 40 CFR Parts 268.5 and 6; 268 Subpart B; and 268.42(b).

(d) 40 CFR Parts 270.1 (c)(1)(i); 270.60(b); and 270.64.

(e) 40 CFR Parts 124.1 (b)-(e); 124.4; 124.5(e); 124.9; 124.10 (a)(1)(iv); 124.12(e); 124.14(d); 124.15 (b)(2); 124.16; 124.17(b); 124.18; 124.19; and 124.21.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-070 Designation of dangerous waste.** (1) Purpose and applicability.

(a) This section describes the procedures for determining whether or not a solid waste is DW or EHW.

(b) The procedures in this section are applicable to any person who generates a solid waste (including recyclable materials) that is not exempted or excluded by this chapter or by the department. Any person who must determine whether or not their solid waste is designated must follow the procedures set forth in subsection (3) of this section. Any person who determines by these procedures that their waste is designated DW or EHW is subject to all applicable requirements of this chapter.

(c) The requirements for the small quantity generator exemption are found in subsection (8) of this section.

(2)(a) Once a material has been determined to be a dangerous waste, then any solid waste generated from the recycling, treatment, storage, or disposal of that dangerous waste is a dangerous waste unless and until:

(i) The generator has been able to accurately describe the variability or uniformity of the waste over time, and has been able to obtain demonstration samples which are representative of the waste's variability or uniformity; and

(ii)(A) It does not exhibit any of the characteristics of WAC 173-303-090; however, wastes that exhibit a characteristic at the point of generation may still be subject to the requirements of WAC 173-303-140 (2)(a), even if they no longer exhibit a characteristic at the point of land disposal; and

(B) If it was a listed waste under WAC 173-303-080 through 173-303-083, it also has been exempted pursuant to WAC 173-303-910(3); or

(iii) If originally designated only through WAC 173-303-100, it does not meet any of the criteria of WAC 173-303-100.

Such solid waste will include but not be limited to any sludge, spill residue, ash emission control dust, leachate, or precipitation run-off. Precipitation run-off will not be considered a dangerous waste if it can be shown that the run-off has not been contaminated with the dangerous waste, or that the run-off is adequately addressed under existing state laws (e.g. chapter 90.48 RCW), or that the run-off does not exhibit any of the criteria or characteristics described in WAC 173-303-100.

(b) Materials that are reclaimed from solid wastes and that are used beneficially (as provided in WAC 173-303-016 and 173-303-017) are not solid wastes and hence are not dangerous wastes under this section unless the reclaimed material is burned for energy recovery or used in a manner constituting disposal.

(c) Notwithstanding subsections (1) and (2) of this section and provided the debris does not exhibit a characteristic identified in WAC 173-303-090, the following materials are not subject to regulation under this chapter:

(i) Hazardous debris that has been treated using one of the required extraction or destruction technologies specified in Table 1 of 40 CFR section 268.45; persons claiming this exclusion in an enforcement action will have the burden of

proving by clear and convincing evidence that the material meets all of the exclusion requirements; or

(ii) Debris that the department, considering the extent of contamination, has determined is no longer contaminated with hazardous waste.

(3) Designation procedures.

(a) To determine whether or not a solid waste is designated as a dangerous waste a person must:

(i) First, determine if the waste is a listed discarded chemical product, WAC 173-303-081;

(ii) Second, determine if the waste is a listed dangerous waste source, WAC 173-303-082;

(iii) Third, if the waste is not listed in WAC 173-303-081 or 173-303-082, or for the purposes of compliance with the federal land disposal restrictions as adopted by reference in WAC 173-303-140, determine if the waste exhibits any dangerous waste characteristics, WAC 173-303-090; and

(iv) Fourth, if the waste is not listed in WAC 173-303-081 or 173-303-082, and does not exhibit a characteristic in WAC 173-303-090, determine if the waste meets any dangerous waste criteria, WAC 173-303-100.

(b) A person must check each section, in the order set forth, until they determine whether the waste is designated as a dangerous waste. Once the waste is determined to be a dangerous waste, further designation is not required except as required by subsection (4) or (5) of this section. If a person has checked the waste against each section and the waste is not designated, then the waste is not subject to the requirements of chapter 173-303 WAC.

Any person who wishes to seek an exemption for a waste which has been designated DW or EHW must comply with the requirements of WAC 173-303-072.

(c) For the purpose of determining if a solid waste is a dangerous waste as identified in WAC 173-303-080 through 173-303-100, a person must either:

(i) Test the waste according to the methods, or an approved equivalent method, set forth in WAC 173-303-110; or

(ii) Apply knowledge of the waste in light of the materials or the process used, when:

(A) Such knowledge can be demonstrated to be sufficient for determining whether or not it designated and/or designated properly; and

(B) All data and records supporting this determination in accordance with WAC 173-303-210(3) are retained on-site.

(4) Testing required. Notwithstanding any other provisions of this chapter, the department may require any person to test a waste according to the methods, or an approved equivalent method, set forth in WAC 173-303-110 to determine whether or not the waste is designated under the dangerous waste lists, characteristics, or criteria, WAC 173-303-080 through 173-303-100. Such testing may be required if the department has reason to believe that the waste would be designated DW or EHW by the dangerous waste lists, characteristics, or criteria, or if the department has reason to believe that the waste is designated improperly (e.g., the waste has been designated DW but should actually be designated EHW). If a person, pursuant to the requirements of this subsection, determines that the waste is a dangerous waste or that its designation must be changed, then they are subject to the applicable requirements of this chapter 173-303 WAC. The department will base a requirement to test a waste on evidence that includes, but is not limited to:

(a) Test information indicating that the person's waste may be DW or EHW;

(b) Evidence that the person's waste is very similar to another persons' already designated DW or EHW;

(c) Evidence that the persons' waste has historically been a DW or EHW;

(d) Evidence or information about a person's manufacturing materials or processes which indicate that the wastes may be DW or EHW; or

(e) Evidence that the knowledge or test results a person has regarding a waste is not sufficient for determining whether or not it designated and/or designated properly.

(5) Additional designation required. A generator must manage dangerous waste under the most stringent management standards that apply. Subsections (5)(a) ((~~and~~)) through (c) of this section describe how waste that has been designated as DW under the dangerous waste lists, WAC 173-303-080 through 173-303-082, or characteristics, WAC 173-303-090, must also be designated under the dangerous waste criteria, WAC 173-303-100, because designation under the criteria may change how the waste must be managed. Additional designation is required when:

(a) The waste is designated as DW with a QEL of 220 pounds and the generator otherwise qualifies as a small quantity generator. In this case, a generator must determine if their DW is also designated as a toxic EHW, WAC 173-303-100, with a QEL of 2.2 pounds; or

(b) The waste is designated as DW and the waste is to be discharged to a POTW operating under WAC 173-303-802(4) (Permits by rule). In this case, a generator must determine if the waste is also an EHW under WAC 173-303-100; or

(c) The waste is designated as a state-only DW and the waste is to be:

(i) Burned for energy recovery, as used oil, under the provisions of WAC 173-303-515; or

(ii) Land disposed within the state. In this case, a generator must determine if the waste is also an EHW under WAC 173-303-100.

(6) Dangerous waste numbers. When a person is reporting or keeping records on a dangerous waste, they must use all the dangerous waste numbers which they know are assignable to the waste from the dangerous waste lists, characteristics, or criteria. For example, if the waste is ignitable *and* contains ((~~extremely hazardous concentrations of halogenated hydrocarbons~~)) more than 5 mg/l leachable lead when tested for the toxicity characteristic, they must use the dangerous waste numbers of D001 and ((~~WP01~~)) D008. This will not be construed as requiring a person to designate their waste beyond those designation requirements set forth in subsections (2), (3), (4), and (5) of this section.

(7) Quantity exclusion limits; aggregated waste quantities.

(a) Quantity exclusion limits. In each of the designation sections describing the lists, characteristics, and criteria, quantity exclusion limits (QEL) are identified. The QEL are used to distinguish when a dangerous waste is only subject to the small quantity generator provisions, and when a dangerous waste is subject to the full requirements of this

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chapter. Any solid waste which is not excluded or exempted and which is listed by or exhibits the characteristics or meets the criteria of this chapter is a dangerous waste. Small quantity generators who produce dangerous waste below the QEL are subject to the requirements described in subsection (8) of this section.

(b) Aggregated waste quantities. A person may be generating, accumulating, or storing more than one kind of dangerous waste. In such cases, they must consider the aggregate quantity of their wastes when determining whether or not their waste amounts exceed the specific limits for waste accumulation or the specific quantity exclusion limits (QEL) for waste generation. Waste quantities must be aggregated for all wastes with common QEL's. Example: If a person generates 100 pounds of an ignitable waste and 130 pounds of a persistent waste, then both wastes are regulated because their aggregate waste quantity (230 pounds) exceeds their common QEL of 220 pounds. On the other hand, if a person generates one pound of a toxic EHW and 218 pounds of a corrosive waste, their quantities would not be aggregated because they do not share a common QEL (2.2 pounds and 220 pounds, respective QEL's). (Note: In order to remain a small quantity generator, the total quantity of dangerous waste generated in one month, all DW and EHW regardless of their QELs, must not equal or exceed 220 pounds. Not more than 2.2 pounds of a waste with a 2.2 pound QEL may be part of that total.)

(c) ((~~For the purposes of this subsection, when aggregating waste quantities, generators must include in their calculation, dangerous wastes produced by on-site treatment or recycling of dangerous wastes and dangerous wastes being accumulated or stored except for the following categories of waste that are excluded from the quantity determinations.~~

~~(i) Dangerous waste that is recycled and that is excluded from regulation under WAC 173-303-120 (2)(a), (3)(c), (e), or (f) is not included in the quantity determinations of this section and is not subject to any requirements of this subsection.~~

~~(ii) Spent materials that are generated, reclaimed, and subsequently reused on-site, so long as such spent materials have been counted once.~~

~~(iii) Dangerous waste that is removed from on-site storage.~~)) When making the quantity determinations of this subsection and WAC 173-303-170 through 173-303-230, generators must include all dangerous wastes they generate, except dangerous waste that:

(i) Is exempt from regulation under WAC 173-303-071; or

(ii) Is recycled under WAC 173-303-120 (2)(a), (3)(c), (e), or (h); or

(iii) Is managed immediately upon generation only in on-site elementary neutralization units, wastewater treatment units, or totally enclosed treatment facilities as defined in WAC 173-303-040; or

(iv) Is recycled, without prior storage or accumulation, only in an on-site process subject to regulation under WAC 173-303-120 (4)(a); or

(v) Is spent lead-acid batteries managed under the requirements of WAC 173-303-120 (3)(f) and 173-303-520; or

(vi) Is universal waste managed under WAC 173-303-077 and 173-303-573.

(d) In determining the quantity of dangerous waste generated, a generator need not include:

(i) Dangerous waste when it is removed from on-site storage; or

(ii) Dangerous waste produced by on-site treatment (including reclamation) of their dangerous waste, as long as the dangerous waste that is treated was counted once (Note: If after treatment or reclamation a residue is generated with a different waste code(s), that residue is counted); or

(iii) Spent materials that are generated, reclaimed, and subsequently reused on-site, as long as such spent materials have been counted once (Note: If after treatment or reclamation a residue is generated with a different waste code(s), that residue must be counted); or

(iv) The container holding/containing the dangerous waste as described under WAC 173-303-160(1).

(8) Small quantity generators.

(a) A person is a small quantity generator and subject to the requirements of this subsection if:

(i) Their waste is dangerous waste under subsection (3) of this section, and the quantity of waste generated per month (or the aggregated quantity if more than one kind of waste is generated) does not equal or exceed the quantity exclusion limit (QEL) for such waste (or wastes) as described in WAC 173-303-070(7); and

(ii) The quantity accumulated or stored does not exceed 2200 pounds for wastes with a 220 pound QEL and 2.2 pounds for waste with a 2.2 pound QEL. (Exception: The accumulation limit for the acute hazardous wastes described in WAC 173-303-081 (2)(iv) and 173-303-082 (2)(b) is 220 lbs); and

(iii) The total quantity of dangerous waste generated in one month, all DW and EHW regardless of their QELs, does not equal or exceed 220 pounds. If a person generates any dangerous wastes that exceed the QEL or accumulates or stores waste that exceeds the accumulation limits, then all dangerous waste generated, accumulated, or stored by that person is subject to the requirements of this chapter. A small quantity generator who generates in excess of the quantity exclusion limits or, accumulates, or stores waste in excess of the accumulation limits becomes subject to the full requirements of this chapter and cannot again be a small quantity generator until after all dangerous waste on-site at the time he or she became fully regulated have been removed, treated, or disposed.

Example. If a person generates four pounds of an acute hazardous waste discarded chemical product (QEL is 2.2 pounds) and 200 pounds of an ignitable waste (QEL is 220 pounds), then both wastes are fully regulated, and the person is not a small quantity generator for either waste.

(Comment: If a generator generates acute hazardous waste in a calendar month in quantities greater than the QELs, all quantities of that acute hazardous waste are subject to full regulation under this chapter. "Full regulation" means the regulations applicable to generators of greater than 2200 pounds of dangerous wastes in a calendar month.)

(b) Small quantity generators will not be subject to the requirements of this chapter if they:

(i) Designate their waste in accordance with WAC 173-303-070; and

(ii) Manage their waste in a way that does not pose a potential threat to human health or the environment; and

(iii) Either treat or dispose of their dangerous waste in an on-site facility, or ensure delivery to an off-site facility, either of which, if located in the U.S., is:

(A) Permitted (including permit-by-rule, interim status, or final status) under WAC 173-303-800 through 173-303-840;

(B) Authorized to manage dangerous waste by another state with a hazardous waste program approved under 40 CFR Part 271, or by EPA under 40 CFR Part 270;

(C) Permitted to manage moderate-risk waste under chapter 173-304 WAC (Minimum functional standards for solid waste handling), operated in accordance with state and local regulations, and consistent with the applicable local hazardous waste plan that has been approved by the department;

(D) A facility that beneficially uses or reuses, or legitimately recycles or reclaims the dangerous waste, or that treats the waste prior to such recycling activities;

(E) Permitted to manage municipal or industrial solid waste in accordance with state or local regulations, or in accordance with another state's solid waste laws if the waste is sent out-of-state; ((~~or~~))

(F) A publicly owned treatment works (POTW) provided that small quantity generator(s) comply with the provisions of the domestic sewage exclusion found in WAC 173-303-071 (3)(a); or

(G) For universal waste managed under WAC 173-303-573, a universal waste handler or destination facility subject to the requirements of WAC 173-303-573; and

(iv) Submit an annual report in accordance with WAC 173-303-220 if they have obtained an EPA/state identification number pursuant to WAC 173-303-060.

(c) If a small quantity generator's wastes are mixed with used oil, the mixture is subject to WAC 173-303-510 if it is destined to be burned for energy recovery. Any material produced from such a mixture by processing, blending, or other treatment is also regulated if it is destined to be burned for energy recovery.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-071 Excluded categories of waste.** (1) Purpose. Certain categories of waste have been excluded from the requirements of chapter 173-303 WAC, except for WAC 173-303-050, because they generally are not dangerous waste, are regulated under other state and federal programs, or are recycled in ways which do not threaten public health or the environment. WAC 173-303-071 describes these excluded categories of waste.

(2) Excluding wastes. Any persons who generate a common class of wastes and who seek to categorically exclude such class of wastes from the requirements of this chapter must comply with the applicable requirements of WAC 173-303-072. No waste class will be excluded if any of the wastes in the class are regulated as hazardous waste under 40 CFR Part 261.

(3) Exclusions. The following categories of waste are excluded from the requirements of chapter 173-303 WAC, except for WAC 173-303-050, 173-303-145, and 173-303-960, and as otherwise specified:

(a)(i) Domestic sewage; and

(ii) Any mixture of domestic sewage and other wastes that passes through a sewer system to a publicly owned treatment works (POTW) for treatment provided:

(A) The generator or owner/operator has obtained a state waste discharge permit issued by the department, a temporary permit obtained pursuant to RCW 90.48.200, or pretreatment permit (or written discharge authorization) from a local sewage utility delegated pretreatment program responsibilities pursuant to RCW 90.48.165;

(B) The waste discharge is specifically authorized in a state waste discharge permit, pretreatment permit or written discharge authorization, or in the case of a temporary permit the waste is accurately described in the permit application;

(C) The waste discharge is not prohibited under 40 CFR Part 403.5; and

(D) The waste prior to mixing with domestic sewage must not exhibit dangerous waste characteristics for ignitability, corrosivity, reactivity, or toxicity as defined in WAC 173-303-090, and must not meet the dangerous waste criteria for toxic dangerous waste or persistent dangerous waste under WAC 173-303-100, unless the waste is treatable in the publicly owned treatment works (POTW) where it will be received. This exclusion does not apply to the generation, treatment, storage, recycling, or other management of dangerous wastes prior to discharge into the sanitary sewage system;

(b) Industrial wastewater discharges that are point-source discharges subject to regulation under Section 402 of the Clean Water Act. This exclusion does not apply to the collection, storage, or treatment of industrial waste-waters prior to discharge, nor to sludges that are generated during industrial wastewater treatment. Owners or operators of certain wastewater treatment facilities managing dangerous wastes may qualify for a permit-by-rule pursuant to WAC 173-303-802(5);

(c) Household wastes, including household waste that has been collected, transported, stored, or disposed. Wastes which are residues from or are generated by the management of household wastes (e.g., leachate, ash from burning of refuse-derived fuel) are not excluded by this provision. "Household wastes" means any waste material (including, but not limited to, garbage, trash, and sanitary wastes in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas). A resource recovery facility managing municipal solid waste will not be deemed to be treating, storing, disposing of, or otherwise managing hazardous wastes for the purposes of regulation under this chapter, if such facility:

(i) Receives and burns only:

(A) Household waste (from single and multiple dwellings, hotels, motels, and other residential sources); and

(B) Solid waste from commercial or industrial sources that does not contain dangerous waste; and

(ii) Such facility does not accept dangerous wastes and the owner or operator of such facility has established contractual requirements or other appropriate notification or

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inspection procedures to assure that dangerous wastes are not received at or burned in such facility;

(d) Agricultural crops and animal manures which are returned to the soil as fertilizers;

(e) Asphaltic materials designated only for the presence of PAHs by WAC 173-303-100(6). For the purposes of this exclusion, asphaltic materials means materials ((~~intended and~~)) that have been used for structural and construction purposes (e.g., roads, dikes, paving) ((~~which are~~)) that were produced from mixtures of oil and sand, gravel, ash or similar substances;

(f) Roofing tars and shingles, except that these wastes are not excluded if mixed with wastes listed in WAC 173-303-081 or 173-303-082, or if they exhibit any of the characteristics specified in WAC 173-303-090;

(g) Treated wood waste and wood products including:

(i) Arsenical-treated wood that fails the test for the toxicity characteristic of WAC 173-303-090(8) (dangerous waste numbers D004 through D017 only), or which fails any state criteria, if the waste is generated by persons who utilize the arsenical-treated wood for the materials' intended end use.

(ii) Wood treated with other preservatives provided such treated wood is, within one hundred eighty days after becoming waste:

(A) Disposed of at a landfill that is permitted in accordance with WAC 173-304-460, minimum functional standards for solid waste handling, or chapter 173-351 WAC, criteria for municipal solid waste landfills, and provided that such wood is neither a listed waste under WAC 173-303-9903 and 173-303-9904 nor a TCLP waste under WAC 173-303-090(8); or

(B) Sent to a facility that will legitimately treat or recycle the treated wood waste, and manage any residue in accordance with that state's dangerous waste regulations; or

(C) Sent off-site to a permitted TSD facility or placed in an on-site facility which is permitted by the department under WAC 173-303-800 through WAC 173-303-845. In addition, creosote-treated wood is excluded when burned for energy recovery in an industrial furnace or boiler that has an order of approval issued pursuant to RCW 70.94.152 by ecology or a local air pollution control authority to burn creosote treated wood.

(h) Irrigation return flows;

(i) Materials subjected to in-situ mining techniques which are not removed from the ground during extraction;

(j) Mining overburden returned to the mining site;

(k) Polychlorinated biphenyl (PCB) wastes:

(i) PCB wastes whose disposal is regulated by EPA under 40 CFR 761.60 (Toxic Substances Control Act) and that are dangerous either because:

(A) They fail the test for toxicity characteristic (WAC 173-303-090(8), Dangerous waste codes D018 through D043 only); or

(B) Because they are designated only by this chapter and not designated by 40 CFR Part 261, are exempt from regulation under this chapter except for WAC 173-303-505 through 173-303-525, 173-303-960, those sections specified in subsection (3) of this section, and 40 CFR Part 266;

(ii) Wastes that would be designated as dangerous waste under this chapter solely because they are listed as W001 under WAC 173-303-9904 when such wastes are stored and disposed in a manner equivalent to the requirements of 40 CFR Part 761 Subpart D for PCB concentrations of 50 ppm or greater.

(l) Samples:

(i) Except as provided in (l)(ii) of this subsection, a sample of solid waste or a sample of water, soil, or air, which is collected for the sole purpose of testing to determine its characteristics or composition, is not subject to any requirements of this chapter, when:

(A) The sample is being transported to a lab for testing or being transported to the sample collector after testing; or

(B) The sample is being stored by the sample collector before transport, by the laboratory before testing, or by the laboratory after testing prior to return to the sample collector; or

(C) The sample is being stored temporarily in the laboratory after testing for a specific purpose (for example, until conclusion of a court case or enforcement action).

(ii) In order to qualify for the exemptions in (l)(i) of this subsection, a sample collector shipping samples to a laboratory and a laboratory returning samples to a sample collector must:

(A) Comply with United States Department of Transportation (DOT), United States Postal Service (USPS), or any other applicable shipping requirements; or

(B) Comply with the following requirements if the sample collector determines that DOT or USPS, or other shipping requirements do not apply:

(I) Assure that the following information accompanies the sample:

(AA) The sample collector's name, mailing address, and telephone number;

(BB) The laboratory's name, mailing address, and telephone number;

(CC) The quantity of the sample;

(DD) The date of shipment;

(EE) A description of the sample; and

(II) Package the sample so that it does not leak, spill, or vaporize from its packaging.

(iii) This exemption does not apply if the laboratory determines that the waste is dangerous but the laboratory is no longer meeting any of the conditions stated in (l)(i) of this subsection;

(m) ((~~Asbestos wastes or asbestos containing wastes which would be designated only as respiratory carcinogens by WAC 173-303-100, and any other inorganic wastes which are designated only under WAC 173-303-100 because they are respiratory carcinogens, if these wastes are managed in compliance with or in a manner equivalent to the asbestos management procedures of 40 CFR Part 61~~)) Reserve;

(n) Dangerous waste generated in a product or raw material storage tank, a product or raw material transport vehicle or vessel, a product or raw material pipeline, or in a manufacturing process unit or an associated nonwaste-treatment-manufacturing unit until it exits the unit in which it was generated. This exclusion does not apply to surface impoundments, nor does it apply if the dangerous waste remains in the unit more than ninety days after the unit ceases to be operated for manufacturing, or for storage or transportation of product or raw materials;

(o) Waste pickle liquor sludge generated by lime stabilization of spent pickle liquor from the iron and steel

industry (SIC codes 331 and 332), except that these wastes are not excluded if they exhibit one or more of the dangerous waste criteria (WAC 173-303-100) or characteristics (WAC 173-303-090);

(p) Wastes from burning any of the materials exempted from regulation by WAC 173-303-120 (2)(a)(v), (((~~(vi),~~)) (vii), (viii), or (ix). These wastes are not excluded if they exhibit one or more of the dangerous waste characteristics or criteria;

(q) As of January 1, 1987, secondary materials that are reclaimed and returned to the original process or processes in which they were generated where they are reused in the production process provided:

(i) Only tank storage is involved, and the entire process through completion of reclamation is closed by being entirely connected with pipes or other comparable enclosed means of conveyance;

(ii) Reclamation does not involve controlled flame combustion (such as occurs in boilers, industrial furnaces, or incinerators);

(iii) The secondary materials are never accumulated in such tanks for over twelve months without being reclaimed;

(iv) The reclaimed material is not used to produce a fuel, or used to produce products that are used in a manner constituting disposal; and

(v) A generator complies with the requirements of chapter 173-303 WAC for any residues (e.g., sludges, filters, etc.) produced from the collection, reclamation, and reuse of the secondary materials.

(r) Treatability study samples.

(i) Except as provided in (r)(ii) of this subsection, persons who generate or collect samples for the purpose of conducting treatability studies as defined in WAC 173-303-040 are not subject to the requirements of WAC 173-303-180, 173-303-190, and 173-303-200 (1)(a), nor are such samples included in the quantity determinations of WAC 173-303-070 (7) and (8) and 173-303-201 when:

(A) The sample is being collected and prepared for transportation by the generator or sample collector; or

(B) The sample is being accumulated or stored by the generator or sample collector prior to transportation to a laboratory or testing facility; or

(C) The sample is being transported to the laboratory or testing facility for the purpose of conducting a treatability study; or

(D) The sample or waste residue is being transported back to the original generator from the laboratory or testing facility.

(ii) The exemption in (r)(i) of this subsection is applicable to samples of dangerous waste being collected and shipped for the purpose of conducting treatability studies provided that:

(A) The generator or sample collector uses (in "treatability studies") no more than 10,000 kg of media contaminated with nonacute dangerous waste, 1000 kg of nonacute dangerous waste other than contaminated media, 1 kg of acutely hazardous waste, 2500 kg of media contaminated with acutely hazardous waste for each process being evaluated for each generated waste stream; and

(B) The mass of each sample shipment does not exceed 10,000 kg; the 10,000 kg quantity may be all media contaminated with nonacute dangerous waste or may include 2500 kg of media contaminated with acute hazardous waste, 1000 kg of dangerous waste, and 1 kg of acutely hazardous waste; and

(C) The sample must be packaged so that it will not leak, spill, or vaporize from its packaging during shipment and the requirements of (r)(ii)(C)(I) or (II) of this subsection are met.

(I) The transportation of each sample shipment complies with United States Department of Transportation (DOT), United States Postal Service (USPS), or any other applicable shipping requirements; or

(II) If the DOT, USPS, or other shipping requirements do not apply to the shipment of the sample, the following information must accompany the sample:

(AA) The name, mailing address, and telephone number of the originator of the sample;

(BB) The name, address, and telephone number of the laboratory or testing facility that will perform the treatability study;

(CC) The quantity of the sample;

(DD) The date of shipment; and

(EE) A description of the sample, including its dangerous waste number.

(D) The sample is shipped, within ninety days of being generated or of being taken from a stream of previously generated waste, to a laboratory or testing facility which is exempt under (s) of this subsection or has an appropriate final facility permit or interim status; and

(E) The generator or sample collector maintains the following records for a period ending three years after completion of the treatability study:

(I) Copies of the shipping documents;

(II) A copy of the contract with the facility conducting the treatability study;

(III) Documentation showing:

(AA) The amount of waste shipped under this exemption;

(BB) The name, address, and EPA/state identification number of the laboratory or testing facility that received the waste;

(CC) The date the shipment was made; and

(DD) Whether or not unused samples and residues were returned to the generator.

(F) The generator reports the information required under (r)(ii)(E)(III) of this subsection in its annual report.

(iii) The department may grant requests, on a case-by-case basis, for up to an additional two years for treatability studies involving bioremediation. The department may grant requests on a case-by-case basis for quantity limits in excess of those specified in (r)(ii)(A) and (B) of this subsection and (s)(iv) of this subsection, for up to an additional 5000 kg of media contaminated with nonacute dangerous waste, 500 kg of nonacute dangerous waste, 1 kg of acute hazardous waste, and 2500 kg of media contaminated with acute hazardous waste or for up to an additional 10,000 kg of wastes regulated only by this chapter and not regulated by 40 CFR Part 261, to conduct further treatability study evaluation:

(A) In response to requests for authorization to ship, store and conduct treatability studies on additional quantities in advance of commencing treatability studies. Factors to be considered in reviewing such requests include the nature of the technology, the type of process, (e.g., batch versus

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continuous), size of the unit undergoing testing (particularly in relation to scale-up considerations), the time/quantity of material required to reach steady state operating conditions, or test design considerations such as mass balance calculations.

(B) In response to requests for authorization to ship, store, and conduct treatability studies on additional quantities after initiation or completion of initial treatability studies, when:

There has been an equipment or mechanical failure during the conduct of a treatability study; there is a need to verify the results of previously conducted treatability study; there is a need to study and analyze alternative techniques within a previously evaluated treatment process; or there is a need to do further evaluation of an ongoing treatability study to determine final specifications for treatment.

(C) The additional quantities and time frames allowed in (r)(iii)(A) and (B) of this subsection are subject to all the provisions in (r)(i) and (r)(ii)(C) through (F) of this subsection. The generator or sample collector must apply to the department where the sample is collected and provide in writing the following information:

(I) The reason the generator or sample collector requires additional time or quantity of sample for the treatability study evaluation and the additional time or quantity needed;

(II) Documentation accounting for all samples of dangerous waste from the waste stream which have been sent for or undergone treatability studies including the date each previous sample from the waste stream was shipped, the quantity of each previous shipment, the laboratory or testing facility to which it was shipped, what treatability study processes were conducted on each sample shipped, and the available results of each treatability study;

(III) A description of the technical modifications or change in specifications which will be evaluated and the expected results;

(IV) If such further study is being required due to equipment or mechanical failure, the applicant must include information regarding the reason for the failure or breakdown and also include what procedures or equipment improvements have been made to protect against further breakdowns; and

(V) Such other information that the department considers necessary.

(s) Samples undergoing treatability studies at laboratories and testing facilities. Samples undergoing treatability studies and the laboratory or testing facility conducting such treatability studies (to the extent such facilities are not otherwise subject to chapter 70.105 RCW) are not subject to the requirements of this chapter, except WAC 173-303-050, 173-303-145, and 173-303-960 provided that the conditions of (s)(i) through (xiii) of this subsection are met. A mobile treatment unit (MTU) may qualify as a testing facility subject to (s)(i) through (xiii) of this subsection. Where a group of MTUs are located at the same site, the limitations specified in (s)(i) through (xiii) of this subsection apply to the entire group of MTUs collectively as if the group were one MTU.

(i) No less than forty-five days before conducting treatability studies the laboratory or testing facility notifies the department in writing that it intends to conduct treatability studies under this subsection.

(ii) The laboratory or testing facility conducting the treatability study has an EPA/state identification number.

(iii) No more than a total of 10,000 kg of "as received" media contaminated with nonacute dangerous waste, 2500 kg of media contaminated with acute hazardous waste or 250 kg of other "as received" dangerous waste is subject to initiation of treatment in all treatability studies in any single day. "As received" waste refers to the waste as received in the shipment from the generator or sample collector.

(iv) The quantity of "as received" dangerous waste stored at the facility for the purpose of evaluation in treatability studies does not exceed 10,000 kg, the total of which can include 10,000 kg of media contaminated with nonacute dangerous waste, 2500 kg of media contaminated with acute hazardous waste, 1000 kg of nonacute dangerous wastes other than contaminated media, and 1 kg of acutely hazardous waste. This quantity limitation does not include treatment materials (including nondangerous solid waste) added to "as received" dangerous waste.

(v) No more than ninety days have elapsed since the treatability study for the sample was completed, or no more than one year (two years for treatability studies involving bioremediation) has elapsed since the generator or sample collector shipped the sample to the laboratory or testing facility, whichever date first occurs. Up to 500 kg of treated material from a particular waste stream from treatability studies may be archived for future evaluation up to five years from the date of initial receipt. Quantities of materials archived are counted against the total storage limit for the facility.

(vi) The treatability study does not involve the placement of dangerous waste on the land or open burning of dangerous waste.

(vii) The laboratory or testing facility maintains records for three years following completion of each study that show compliance with the treatment rate limits and the storage time and quantity limits. The following specific information must be included for each treatability study conducted:

(A) The name, address, and EPA/state identification number of the generator or sample collector of each waste sample;

(B) The date the shipment was received;

(C) The quantity of waste accepted;

(D) The quantity of "as received" waste in storage each day;

(E) The date the treatment study was initiated and the amount of "as received" waste introduced to treatment each day;

(F) The date the treatability study was concluded;

(G) The date any unused sample or residues generated from the treatability study were returned to the generator or sample collector or, if sent to a designated TSD facility, the name of the TSD facility and its EPA/state identification number.

(viii) The laboratory or testing facility keeps, on-site, a copy of the treatability study contract and all shipping paper associated with the transport of treatability study samples to and from the facility for a period ending three years from the completion date of each treatability study.

(ix) The laboratory or testing facility prepares and submits a report to the department by March 15 of each year that estimates the number of studies and the amount of waste

expected to be used in treatability studies during the current year, and includes the following information for the previous calendar year:

(A) The name, address, and EPA/state identification number of the laboratory or testing facility conducting the treatability studies;

(B) The types (by process) of treatability studies conducted;

(C) The names and addresses of persons for whom studies have been conducted (including their EPA/state identification numbers);

(D) The total quantity of waste in storage each day;

(E) The quantity and types of waste subjected to treatability studies;

(F) When each treatability study was conducted;

(G) The final disposition of residues and unused sample from each treatability study.

(x) The laboratory or testing facility determines whether any unused sample or residues generated by the treatability study are dangerous waste under WAC 173-303-070 and if so, are subject to the requirements of this chapter, unless the residues and unused samples are returned to the sample originator under the exemption in (r) of this subsection.

(xi) The laboratory or testing facility notifies the department by letter when it is no longer planning to conduct any treatability studies at the site.

(xii) The date the sample was received, or if the treatability study has been completed, the date of the treatability study, is marked and clearly visible for inspection on each container.

(xiii) While being held on site, each container and tank is labeled or marked clearly with the words "dangerous waste" or "hazardous waste." Each container or tank must also be marked with a label or sign which identifies the major risk(s) associated with the waste in the container or tank for employees, emergency response personnel and the public.

Note: If there is already a system in use that performs this function in accordance with local, state, or federal regulations, then such system will be adequate.

(t) Petroleum-contaminated media and debris that fail the test for the toxicity characteristic of WAC 173-303-090(8) (dangerous waste numbers D018 through D043 only) and are subject to the corrective action regulations under 40 CFR Part 280.

(u) Special incinerator ash (as defined in WAC 173-303-040).

(v) Wood ash that would designate solely for corrosivity by WAC 173-303-090 (6)(a)(iii). For the purpose of this exclusion, wood ash means ash residue and emission control dust generated from the combustion of untreated wood, wood treated solely with creosote, and untreated wood fiber materials including, but not limited to, wood chips, saw dust, tree stumps, paper, cardboard, residuals from waste fiber recycling, deinking rejects, and associated wastewater treatment solids. This exclusion allows for the use of auxiliary fuels including, but not limited to, oils, gas, coal, and other fossil fuels in the combustion process.

(w)(i) Spent wood preserving solutions that have been reclaimed and are reused for their original intended purpose; and

(ii) Wastewaters from the wood preserving process that have been reclaimed and are reused to treat wood.

(x) Nonwastewater splash condenser dross residue from the treatment of K061 in high temperature metals recovery units, provided it is shipped in drums (if shipped) and not land disposed before recovery.

(y) Used oil filters that are recycled in accordance with WAC 173-303-120, as used oil and scrap metal.

(z) Used oil re-refining distillation bottoms that are used as feedstock to manufacture asphalt products.

(aa) Wastes that fail the test for the toxicity characteristic in WAC 173-303-090 because chromium is present or are listed in WAC 173-303-081 or 173-303-082 due to the presence of chromium. The waste must not designate for any other characteristic under WAC 173-303-090, for any of the criteria specified in WAC 173-303-100, and must not be listed in WAC 173-303-081 or 173-303-082 due to the presence of any constituent from WAC 173-303-9905 other than chromium. The waste generator must be able to demonstrate that:

(i) The chromium in the waste is exclusively (or nearly exclusively) trivalent chromium; and

(ii) The waste is generated from an industrial process that uses trivalent chromium exclusively (or nearly exclusively) and the process does not generate hexavalent chromium; and

(iii) The waste is typically and frequently managed in nonoxidizing environments.

(bb)(i) Nonwastewater residues, such as slag, resulting from high temperature metals recovery (HTMR) processing of K061, K062 or F006 waste, in units identified as rotary kilns, flame reactors, electric furnaces, plasma arc furnaces, slag reactors, rotary hearth furnace/electric furnace combinations or industrial furnaces (as defined in WAC 173-303-040 - blast furnaces, smelting, melting and refining furnaces, and other devices the department may add to the list - of the definition for "industrial furnace"), that are disposed in subtitle D units, provided that these residues meet the generic exclusion levels identified in the tables in this paragraph for all constituents, and exhibit no characteristics of dangerous waste. Testing requirements must be incorporated in a facility's waste analysis plan or a generator's self-implementing waste analysis plan; at a minimum, composite samples of residues must be collected and analyzed quarterly and/or when the process or operation generating the waste changes. Persons claiming this exclusion in an enforcement action will have the burden of proving by clear and convincing evidence that the material meets all of the exclusion requirements.

| Constituent | Maximum for any single composite sample-TCLP (mg/l) |
|---|---|
| Generic exclusion levels for K061 and K062 nonwastewater HTMR residues | |
| Antimony | 0.10 |
| Arsenic | 0.50 |
| Barium | 7.6 |
| Beryllium | 0.010 |
| Cadmium | 0.050 |
| Chromium (total) | 0.33 |
| (2)Lead | 0.15 |
| Mercury | 0.009 |
| Nickel | 1.0 |
| Selenium | 0.16 |

| | |
|---|---|
| Silver | 0.30 |
| Thallium | 0.020 |
| Zinc | 70 |

Generic exclusion levels for F006 nonwastewater HTMR residues

| | |
|---|---|
| Antimony | 0.10 |
| Arsenic | 0.50 |
| Barium | 7.6 |
| Beryllium | 0.010 |
| Cadmium | 0.050 |
| Chromium (total) | 0.33 |
| Cyanide (total) (mg/kg) | 1.8 |
| Lead | 0.15 |
| Mercury | 0.009 |
| Nickel | 1.0 |
| Selenium | 0.16 |
| Silver | 0.30 |
| Thallium | 0.020 |
| Zinc | 70 |

(ii) A one-time notification and certification must be placed in the facility's files and sent to the department for K061, K062 or F006 HTMR residues that meet the generic exclusion levels for all constituents and do not exhibit any characteristics that are sent to subtitle D units. The notification and certification that is placed in the generator's or treater's files must be updated if the process or operation generating the waste changes and/or if the subtitle D unit receiving the waste changes. However, the generator or treater need only notify the department on an annual basis if such changes occur. Such notification and certification should be sent to the department by the end of the calendar year, but no later than December 31. The notification must include the following information: The name and address of the subtitle D unit receiving the waste shipments; the dangerous waste number(s) and treatability group(s) at the initial point of generation; and, the treatment standards applicable to the waste at the initial point of generation. The certification must be signed by an authorized representative and must state as follows: "I certify under penalty of law that the generic exclusion levels for all constituents have been met without impermissible dilution and that no characteristic of dangerous waste is exhibited. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment." These wastes are not excluded if they exhibit one or more of the dangerous waste characteristics (WAC 173-303-090) or criteria (WAC 173-303-100).

(cc) Recovered oil from petroleum refining, exploration and production, and from transportation incident thereto, which is to be inserted into the petroleum refining process (SIC Code 2911) at or before a point (other than direct insertion into a coker) where contaminants are removed. This exclusion applies to recovered oil stored or transported prior to insertion, except that the oil must not be stored in a manner involving placement on the land, and must not be accumulated speculatively, before being so recycled. Recovered oil is oil that has been reclaimed from secondary materials (such as wastewater) generated from normal petroleum refining, exploration and production, and transportation practices. Recovered oil includes oil that is recovered from refinery wastewater collection and treatment systems, oil recovered from oil and gas drilling operations, and oil recovered from wastes removed from crude oil storage tanks. Recovered oil does not include (among other things) oil-bearing dangerous waste listed in WAC 173-303-9904 (e.g., K048-K052, F037, F038). However, oil recovered from such wastes may be considered recovered oil. Recovered oil also does not include used oil as defined in WAC 173-303-040.

(dd) Dangerous waste Nos. K060, K087, K141, K142, K143, K144, K145, K147, and K148, and any wastes from the coke by-products processes that are dangerous only because they exhibit the Toxicity Characteristic (TC) specified in WAC 173-303-090(8) when, subsequent to generation, these materials are recycled to coke ovens, to the tar recovery process as a feedstock to produce coal tar, or mixed with coal tar prior to the tar's sale or refining. This exclusion is conditioned on there being no land disposal of the wastes from the point they are generated to the point they are recycled to coke ovens or tar recovery or refining processes, or mixed with coal tar.

(ee) Biological treatment sludge from the treatment of one of the following wastes listed in WAC 173-303-9904 - organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes (Dangerous Waste No. K156), and wastewaters from the production of carbamates and carbamoyl oximes (Dangerous Waste No. K157) unless it exhibits one or more of the characteristics or criteria of dangerous waste.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-073 Conditional exclusion of special wastes.** (1) Purpose. Special wastes pose a relatively low hazard to human health and the environment. The department believes that special wastes can be safely managed with a level of protection that is intermediate between dangerous and nondangerous solid wastes. This section establishes a conditional exclusion for the management of special wastes.

(2) Exclusion. Special wastes are excluded from the requirements of chapter 173-303 WAC, except for WAC 173-303-050; 173-303-060; 173-303-145; 173-303-960; and 173-303-510 excluding subsections (4)(a), (4)(b)(iii), (5), (6)(c), and (6)(d). In addition, special waste must be treated as dangerous waste for purposes of pollution prevention planning as required in chapters 173-307 and 173-305 WAC. Special wastes will not be considered as dangerous waste, provided they are managed in accordance with the standards in this subsection and provided they are disposed, legitimately recycled, or treated on-site consistent with the requirements of WAC 173-303-170 (3)(c).

(a) Generators may not accumulate special waste on-site for more than one hundred eighty days from the date the quantity of waste exceeds two thousand two hundred pounds. The generator must keep a written record showing the dates when accumulation of the wastes began;

(b) During accumulation, special waste must be stored in a manner to prevent releases to the environment. This includes, but is not limited to, storing wastes in compatible containers, on impermeable surfaces, or in secondary containment structures, etc.;

(c) Facilities that receive special waste for recycling must meet the requirements of (b) of this subsection and

store special wastes for no more than one hundred eighty days.

(d) All workers handling special wastes must be informed of the waste's potential hazard, either through worker training, health and safety plans, or notification of workers on a case-by-case basis;

(e) Special wastes must be transported directly from their site of generation to any off-site recycling, treatment, or disposal destination. The wastes must not pass through any intermediate solid waste processing facility, such as a transfer station, unless:

(i) The transfer station operator has made specific provisions for managing special waste by physical segregation, packing, or other means to ensure that workers and the public are not exposed to the waste stream at the transfer station;

(ii) The provisions are reflected in the facilities operating plans;

(iii) The plans have been approved by the transfer station's solid waste permitting authority; and

(iv) The transfer station operator has informed workers of the wastes' potential hazard according to (d) of this subsection;

(f) A document must accompany special waste during transit which identifies the type and amount of special waste, its place of origin, the identity of the generator, and the facility to which it is directed. An example form is provided in WAC 173-303-9906. The generator and the receiving facility must maintain a record of the facilities receipt of the special waste for at least five years;

(g) Disposal of special waste must be in landfill units which:

(i) Are permitted in accordance with chapter 173-351 WAC, provided that an engineered liner is used to meet the requirements of arid landfill design requirements, WAC 173-351-300 (2)(b), or are permitted under WAC 173-303-800 through 173-303-840 or if out-of-state under 40 CFR Part 258 or Part 270; and

(ii) Are not currently undergoing corrective action under WAC 173-351-440(6), 40 CFR 258.56, or a similar requirement in state regulations approved by the United States EPA pursuant to 42 USC 6945 (c)(1)(B).

(3) ((~~Approved facilities. Ecology will issue a list of landfills and transfer stations that meet the preceding qualifying criteria to aid generators who wish to dispose of their waste under the exclusion provided by this section~~)) Reserve.

NEW SECTION

**WAC 173-303-077 Requirements for universal waste.** The wastes listed in this section are exempt from regulation under WAC 173-303-140, 173-303-170 through 173-303-9907 (except for WAC 173-303-960), and except as specified in WAC 173-303-573, and therefore are not fully regulated as dangerous waste. The wastes listed in this section are subject to regulation under WAC 173-303-573:

(1) Batteries as described in WAC 173-303-573(2); and

(2) Thermostats as described in WAC 173-303-573(3).

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-081 Discarded chemical products.** (1) A waste will be designated as a dangerous waste if it is handled in any of the manners described in (e) of this subsection, and if it is a residue from the management of:

(a) A commercial chemical product or manufacturing chemical intermediate which has the generic name listed in the discarded chemical products list, WAC 173-303-9903;

(b) An off-specification commercial chemical product or manufacturing chemical intermediate which if it had met specifications would have the generic name listed in the discarded chemical products list, WAC 173-303-9903;

(c) Any containers, inner liners, or residue remaining in a container or in an inner liner removed from a container that has held any commercial chemical product or manufacturing chemical intermediate that has, or any off-specification commercial chemical product or manufacturing chemical intermediate which if it had met specifications would have, the generic name listed on the "P" or "U" discarded chemical products list of WAC 173-303-9903, unless the containers or inner liners are empty as described in WAC 173-303-160(2);

(d) Any residue or contaminated soil, water, or other debris resulting from the cleanup of a spill of a commercial chemical product or manufacturing chemical intermediate which has, or of an off-specification commercial chemical product or manufacturing chemical intermediate which if it had met specifications would have, the generic name listed in the discarded chemical products list, WAC 173-303-9903;

(e) The materials or items described in (a), (b), (c), and (d) of this subsection are dangerous wastes when they are:

(i) Discarded or intended to be discarded as described in WAC 173-303-016 (3)(b)(i);

(ii) Burned for purposes of energy recovery in lieu of their original intended use;

(iii) Used to produce fuels in lieu of their original intended use;

(iv) Applied to the land in lieu of their original intended use; or

(v) Contained in products that are applied to the land in lieu of their original intended use.

(2) Quantity exclusion limits:

(a) A person with a waste or wastes (including residues from the management of wastes) identified in subsection (1) of this section, will be a dangerous waste generator (and may not be considered a small quantity generator as provided in WAC 173-303-070(8)) if the amount of his waste exceeds the following quantity exclusion limits:

(i) For chemicals designated on the "P" discarded chemical products list of WAC 173-303-9903 - 2.2 lbs. (1.0 kg) per month or per batch. Such wastes are designated DW and are identified as acute hazardous wastes;

(ii) For chemicals, and for residues from the cleanup of spills involving chemicals, designated on the "U" discarded chemical products list of WAC 173-303-9903 - 220 lbs. (100 kg) per month or per batch. Such wastes are designated DW;

(iii) For containers or inner liners which held any chemical designated on the "P" discarded chemical products list of WAC 173-303-9903 - 2.2 lbs. (1.0 kg) of residue remaining in the containers or inner liners per month or per

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batch unless the containers or inner liners meet the definition of empty and have been triple rinsed as described in WAC 173-303-160(2). Such wastes are designated DW and are identified as acute hazardous wastes;

(iv) For residues, contaminated soil, water, or other debris from the cleanup of a spill of any chemical designated on the "P" discarded chemical products list of WAC 173-303-9903 - 220 lbs. (100 kg) per month or per batch. Such wastes are designated DW and are identified as acute hazardous wastes.

(b) A person's total monthly waste quantity is the sum of all their wastes which share a common quantity exclusion limit (e.g., the total quantity of all discarded chemical products with a 2.2 pound QEL, the total quantity of all residues contaminated by discarded chemical products with a 2.2 pound QEL, etc.) which were generated during a month or a batch operation at each specific waste generation site.

(3) Dangerous waste numbers and mixtures. A waste which has been designated as a discarded chemical product dangerous waste must be assigned the dangerous waste number or numbers listed in WAC 173-303-9903 next to the generic chemical or chemicals which caused the waste to be designated. If a person mixes a solid waste with a waste that would be designated as a discarded chemical product under this section, then the entire mixture must be designated. The mixture designation is the same as the designation for the discarded chemical product which was mixed with the solid waste. For example, a mixture containing 2.2 lbs. (1 kg) of Aldrin (dangerous waste number P004, DW designation, QEL of 2.2 lbs.) and 22 lbs. (10 kg) of a solid waste, would be designated DW, and identified as acute hazardous waste. The mixture would have the dangerous waste number P004.

(4) Reserve.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-082 Dangerous waste sources.** (1) The dangerous waste sources list appears in WAC 173-303-9904. Any waste that is listed or is a residue from the management of a waste listed on the dangerous waste sources list must be designated a dangerous waste, and identified as DW.

(2) Quantity exclusion limit. A person whose waste is listed in WAC 173-303-9904 (including residues from the management of such wastes) is a dangerous waste generator (and may not be considered a small quantity generator as provided in WAC 173-303-070(8)) if the amount of his waste exceeds the following quantity exclusion limits:

(a) 2.2 lbs. (1 kg) per month or per batch for wastes listed with the dangerous waste numbers F020, F021, F022, F023, F026, or F027. These wastes are designated DW and identified as acute hazardous wastes;

(b) 220 lbs. (100 kg) per month or per batch of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water of a waste listed in (a) of this subsection, or of an acute hazardous waste listed in WAC 173-303-9904 under specific sources ("K" wastes). Note: Acute hazardous K listed wastes are followed by an "H". These wastes are designated DW and identified as acute hazardous wastes; or

(c) 220 lbs. (100 kg) per month or per batch for all other wastes.

(3) Care should be taken in the proper designation of these wastes and of mixtures of these wastes and solid wastes. If a person mixes a solid waste with a waste that would be designated as a dangerous waste source under this section, then the entire mixture is designated as a dangerous waste source. The mixture has the same designation (DW), and the same dangerous waste number as the dangerous waste source which was mixed with the solid waste.

(4) 40 CFR Part 261 Appendix VII *Basis for Listing Hazardous Waste* is adopted by reference.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-090 Dangerous waste characteristics.** (1) Purpose. The purpose of this section is to set forth characteristics which a solid waste might exhibit and which would cause that waste to be a dangerous waste.

(2) Representative samples. The department will consider a sample obtained using any of the applicable sampling methods described in WAC 173-303-110(2), sampling and testing methods, to be a representative sample.

(3) Equivalent test methods. The testing methods specified in this section are the only acceptable methods, unless the department approves an equivalent test method in accordance with WAC 173-303-910(2).

(4) Quantity exclusion limit. A solid waste is a dangerous waste if it exhibits one or more of the dangerous waste characteristics described in subsections (5), (6), (7), and (8) of this section. If a person's solid waste exhibits one or more of these characteristics, then he or she is a dangerous waste generator (and may not be considered a small quantity generator as provided in WAC 173-303-070(8)) if the quantity of their waste exceeds 220 lbs. (100 kg) per month or per batch.

(5) Characteristic of ignitability.

(a) A solid waste exhibits the characteristic of ignitability if a representative sample of the waste has any of the following properties:

(i) It is a liquid, other than an aqueous solution containing less than 24 percent alcohol by volume, and has a flash point less than 60 degrees C (140 degrees F), as determined by a Pensky-Martens Closed Cup Tester, using the test method specified in ASTM Standard D-93-79 or D-93-80, or a Setaflash Closed Cup Tester, using the test method specified in ASTM Standard D-3278-78;

(ii) It is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a hazard;

(iii) It is an ignitable compressed gas ((~~as~~)) that is defined in 49 CFR ((~~173.300~~)) 173.115 and ((~~as~~)) is determined to be flammable by the test methods described in that regulation; or,

(iv) It is an oxidizer ((~~as defined~~)), if it is defined as such in 49 CFR ((~~173.151~~)) 173.127 and 173.128.

(b) A solid waste that exhibits the characteristic of ignitability must be designated DW, and assigned the dangerous waste number of D001.

(6) Characteristic of corrosivity.

(a) A solid waste exhibits the characteristic of corrosivity if a representative sample of the waste has any one or more of the following properties:

(i) It is aqueous((,)) and has a pH less than or equal to 2, or greater than or equal to 12.5, as determined by a pH meter using Method 9040 ((~~or 9041~~)) in "*Test Methods for Evaluating Solid Waste ((~~SW-846~~)), Physical/Chemical Methods((, ~~available from the department~~))*," EPA publication SW-846 as incorporated by reference in WAC 173-303-110 (3)(a);

(ii) It is liquid((,)) and corrodes steel (SAE 1020) at a rate greater than 0.250 inch (6.35 mm) per year at a test temperature of 55 degrees C (130 degrees F) as determined by the test method specified in NACE (National Association of Corrosion Engineers) Standard TM-01-69 as standardized in "*Test Methods for ((~~the Evaluation of~~)) Evaluating Solid Waste, Physical/Chemical Methods((. ~~The NACE Standard is available from the department~~))*," EPA Publication SW-846, as incorporated by reference in WAC 173-303-110 (3)(a); or

(iii) It is solid or semi-solid((, ~~and when mixed with an equal weight of water results in a solution, the liquid portion of which has the property specified in (a)(i) of this subsection. Procedures for preparing and extracting the solution and liquid are described in the test procedures of WAC 173-303-110 (3)(a)~~)) which, upon testing using Method 9045 in "*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*" (SW 846), results is a pH less than or equal to 2, or greater than or equal to 12.5.

(b) A solid waste that exhibits the characteristic of corrosivity because:

(i) It has either of the properties described in (a)(i) or (ii) of this subsection will be designated DW, and assigned the dangerous waste number of D002;

(ii) It only has the property described in (a)(iii) of this subsection will be designated DW, and assigned the dangerous waste number of WSC2.

(7) Characteristic of reactivity.

(a) A solid waste exhibits the characteristic of reactivity if a representative sample of the waste has any of the following properties:

(i) It is normally unstable and readily undergoes violent change without detonating;

(ii) It reacts violently with water;

(iii) It forms potentially explosive mixtures with water;

(iv) When mixed with water, it generates toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment;

(v) It is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5 can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment;

(vi) It is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement;

(vii) It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure; or

(viii) It is a forbidden explosive as defined in 49 CFR ((~~173.51, or a Class A explosive as defined in 49 CFR 173.53, or a Class B explosive~~)) 173.54, or a Class 1 explosive, Division 1.1, Division 1.2, Division 1.3, and Division 1.5, as defined in 49 CFR ((~~173.88~~)) 173.50.

(b) A solid waste that exhibits the characteristic of reactivity must be designated DW, and assigned the dangerous waste number of D003.

(8) Toxicity characteristic.

(a) A solid waste exhibits the ((~~toxicity~~)) characteristic of toxicity if, using the *Toxicity Characteristic Leaching Procedure* (TCLP), ((~~found in Appendix II of 40 CFR Part 261, which is adopted by reference, or available upon request from the department) or equivalent methods approved by the department under WAC 173-303-110(5)~~)) test Method 1311 in "*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*," EPA Publication SW-846, as incorporated by reference in WAC 173-303-110 (3)(a), the extract from a representative sample of the waste contains any of the contaminants listed in the toxicity characteristic list in (c) of this subsection, at concentrations equal to or greater than the respective value given in the list. When the waste contains less than 0.5 percent filterable solids, the waste itself, after filtering using the methodology outlined in ((~~the TCLP~~)) Method 1311, is considered to be the extract for the purpose of this subsection.

(b) A solid waste that exhibits the toxicity characteristic has the dangerous waste number specified in the list which corresponds to the toxic contaminant causing it to be dangerous.

(c) Toxicity characteristic list. Any waste that contains contaminants which occur at concentrations at or above the DW threshold must be designated DW.

TOXICITY CHARACTERISTICS LIST:

Maximum Concentration of Contaminants for the Toxicity Characteristic

| Dangerous Waste Number | Contaminant | (Chemical Abstracts Services #) | DW (mg/L) |
|---|---|---|---|
| D004 | Arsenic | (7440-38-2) | 5.0 |
| D005 | Barium | (7440-39-3) | 100.0 |
| D018 | Benzene | (71-43-2) | 0.5 |
| D006 | Cadmium | (7440-43-9) | 1.0 |
| D019 | Carbon tetrachloride | (56-23-5) | 0.5 |
| D020 | Chlordane | (57-74-9) | 0.03 |
| D021 | Chlorobenzene | (108-90-7) | 100.0 |
| D022 | Chloroform | (67-66-3) | 6.0 |
| D007 | Chromium | (7440-47-3) | 5.0 |
| D023 | o-Cresol | (95-48-7) /1/ | 200.0 |
| D024 | m-Cresol | (108-39-4) /1/ | 200.0 |
| D025 | p-Cresol | (106-44-5) /1/ | 200.0 |
| D026 | Cresol | /1/ | 200.0 |
| D016 | 2,4-D | (94-75-7) | 10.0 |
| D027 | 1,4-Dichlorobenzene | (106-46-7) | 7.5 |
| D028 | 1,2-Dichloroethane | (107-06-2) | 0.5 |
| D029 | 1,1-Dichloroethylene | (75-35-4) | 0.7 |
| D030 | 2,4-Dinitrotoluene | (121-14-2) /2/ | 0.13 |
| D012 | Endrin | (72-20-8) | 0.02 |
| D031 | Heptachlor (and its epoxide) | (76-44-8) | 0.008 |

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| | | | |
|---|---|---|---|
| D032 | Hexachlorobenzene | (118-74-1) /2/ | 0.13 |
| D033 | Hexachlorobutadiene | (87-68-3) | 0.5 |
| D034 | Hexachloroethane | (67-72-1) | 3.0 |
| D008 | Lead | (7439-92-1) | 5.0 |
| D013 | Lindane | (58-89-9) | 0.4 |
| D009 | Mercury | (7439-97-6) | 0.2 |
| D014 | Methoxychlor | (72-43-5) | 10.0 |
| D035 | Methyl ethyl ketone | (78-93-3) | 200.0 |
| D036 | Nitrobenzene | (98-95-3) | 2.0 |
| D037 | Pentachlorophenol | (87-86-5) | 100.0 |
| D038 | Pyridine | (110-86-1) /2/ | 5.0 |
| D010 | Selenium | (7782-49-2) | 1.0 |
| D011 | Silver | (7440-22-4) | 5.0 |
| D039 | Tetrachloroethylene | (127-18-4) | 0.7 |
| D015 | Toxaphene | (8001-35-2) | 0.5 |
| D040 | Trichloroethylene | (79-01-6) | 0.5 |
| D041 | 2,4,5-Trichlorophenol | (95-95-4) | 400.0 |
| D042 | 2,4,6-Trichlorophenol | (88-06-2) | 2.0 |
| D017 | 2,4,5-TP (Silvex) | (93-72-1) | 1.0 |
| D043 | Vinyl chloride | (75-01-4) | 0.2 |

/1/ If 0-, m-, and p-Cresol concentrations cannot be differentiated, the total cresol (D026) concentration is used.

/2/ ((~~Quantitation limit is~~)) At the time the TC rule was promulgated, the quantitation limit was greater than the calculated regulatory level. The quantitation limit therefore ((~~becomes~~)) became the regulatory level.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-100 Dangerous waste criteria.** (1) Purpose. The purpose of this section is to describe methods for determining if a solid waste is a dangerous waste by the criteria set forth in this section. The dangerous waste criteria consist of:

(a) Toxic dangerous wastes; and

(b) Persistent dangerous wastes.

(2) References. The National Institute for Occupational Safety and Health's (NIOSH) Registry of Toxic Effects of Chemical Substances (RTECS), Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402 is adopted by reference.

(3) A person must use data which is available to him, and, when such data is inadequate for the purposes of this section, must refer to the NIOSH RTECS to determine:

(a) Toxicity data or toxic category for each known constituent in the waste;

(b) Whether or not each known constituent of the waste is a halogenated ((~~hydrocarbon~~)) organic compound or a polycyclic aromatic hydrocarbon as defined in WAC 173-303-040.

(4) Quantity exclusion limit. A solid waste is a dangerous waste if it meets one or more of the dangerous waste criteria described in subsections (5) and (6) of this section. If a person's solid waste meets one or more of these criteria then he or she is a dangerous waste generator (and may not be considered a small quantity generator as provided in WAC 173-303-070(8)) if the quantity of the waste exceeds the following quantity exclusion limits:

(a) For toxic dangerous wastes designated as EHW (WT01), the quantity exclusion limit is 2.2 lbs. per month.

(b) For all other wastes designating under this section the quantity exclusion limit is 220 lbs. (100 kg) per month or per batch.

(5) Toxicity criteria. Except as provided in WAC 173-303-070 (4) or (5), a person must determine if a solid waste meets the toxicity criteria under this section by following either the instructions for book designation, when his knowledge of the waste is sufficient, or by testing the waste using the biological testing methods adopted under WAC 173-303-110(3).

(a) Except as provided in WAC 173-303-070(4), if a person knows only some of the toxic constituents in the waste or only some of the constituent concentrations, and if the waste is undesignated for those known constituents or concentrations, then the waste is not designated for toxicity under this subsection.

(b) Book designation procedure. A person may determine if a waste meets the toxicity criteria by following the book designation instructions as follows:

(i) A person must determine the toxic category for each known constituent. The toxic category for each constituent may be determined from available data, or by obtaining data from the NIOSH RTECS and checking this data against the toxic category table, below. If data is available for more than one of the toxicity criteria (fish, oral, inhalation, or dermal), then the data indicating severest toxicity must be used, and the most acutely toxic category must be assigned to the constituent. If the NIOSH RTECS or other data sources do not agree on the same category, then the category arrived at using the NIOSH RTECS will be used to determine the toxic category. If toxicity data for a constituent cannot be found in the NIOSH RTECS, or other source reasonably available to a person, then the toxic category need not be determined for that constituent.

TOXIC CATEGORY TABLE

| Toxic Category | Fish $LC_{50}$(mg/L)* | Oral (Rat) $LD_{50}$(mg/kg) | Inhalation (Rat) $LC_{50}$(mg/L) | Dermal (Rabbit) $LD_{50}$(mg/kg) |
|---|---|---|---|---|
| X | <0.01 | <.5 | <.02 | < 2 |
| A | 0.01 - <0.1 | .5 - <5 | .02 - <.2 | 2 - <20 |
| B | 0.1 - <1 | 5 - <50 | .2 - <2 | 20 - <200 |
| C | 1 - <10 | 50 - <500 | 2 - <20 | 200 - <2000 |
| D | 10 - 100 | 500 - 5000 | 20 - 200 | 2000 - 20,000 |

* The $LC_{50}$ data must be from an exposure period greater than or equal to twenty-four hours. $LC_{50}$ data from any species is acceptable, however, if salmonid $LC_{50}$ data is available it will supersede all other fish data. If salmonid data is unavailable but fathead minnow data is available, it will supersede all other fish species data.

Note: "Inhalation $LC_{50}$" means a concentration in milligrams of substance per liter of air which, when administered to the respiratory tract for four hours or less, kills within fourteen days half of a group of ten rats each weighing between 200 and 300 grams.

(ii) A person whose waste contains one or more toxic constituents must determine the equivalent concentration for the waste from the following formula:

$$\text{Equivalent Concentration}(\%) = \Sigma X\% + \frac{\Sigma A\%}{10} + \frac{\Sigma B\%}{100} + \frac{\Sigma C\%}{1000} + \frac{\Sigma D\%}{10{,}000}$$

where $\Sigma$(X,A,B,C, or D)% is the sum of all the concentration percentages for a particular toxic category.

Example 1. A person's waste contains: Aldrin (((~~X~~)) A Category) - .01%; Endrin (((~~B~~)) A Category) - 1%; Benzene (((~~C~~)) D Category) - 4%; Phenol (C Category) -

2%; ((~~Cyclohexane~~)) Dinoseb (((~~C~~)) B Category) - 5%; Water (nontoxic) - 87%. The equivalent concentration (E.C.) would be:

$$\text{E.C. (\%)} = \frac{((\sim\!\!01\% + 0\% + 1\% + (4\% + 2\% + 5\%)))}{1.01\% + 5\% + 2\% + 4\% + 0\%}$$

$$\frac{}{10 \quad 100 \quad 1000 \quad 10{,}000}$$

$$= \frac{((\sim\!\!0.01\% + 0\% + 0.01\% + 0.011\% + 0\% = 0.031\%))}{0.101\% + 0.05\% + 0.002\% + 0.0004\% + 0\% = 0.1534\%}$$

So the equivalent concentration equals ((~~.031%~~)) 0.1534%.

(iii) A person whose waste contains toxic constituents must determine its designation according to the value of the equivalent concentration:

(A) If the equivalent concentration is less than 0.001%, the waste is not a toxic dangerous waste; or

(B) If the equivalent concentration is equal to or greater than 0.001% and less than 1.0%, the person will designate the waste as DW and assign the dangerous waste number WT02; and

(C) If the equivalent concentration is equal to or less than 0.01%, the DW may also be a special waste; or

(D) If the equivalent concentration is equal to or greater than 1.0%, the person will designate the waste as EHW and assign the dangerous waste number WT01.

Example 1. Continued. The equivalent concentration of ((~~0.031%~~)) 0.1534% (from Example 1. above) is greater than 0.001% and less than ((~~0.1%~~)) 1.0%. The waste is DW and the dangerous waste number WT02 must be assigned. Since ((~~0.031%~~)) 0.1534% is also greater than 0.01%, the waste is not a special waste.

(iv) Reserve.

(c) Designation from bioassay data. A person may determine if a waste meets the toxicity criteria by following the bioassay designation instructions of either:

(i) The DW bioassay. To determine if a waste is DW, a person must establish the toxicity category range (D category toxicity or greater toxicity) of a waste by means of the 100 mg/L acute static fish test or the 5000 mg/kg oral rat test, as described in the biological testing methods (bioassay) adopted in WAC 173-303-110(3). If data from the test indicates that the waste is DW, then the person will assign the dangerous waste number WT02. Otherwise, the waste is not regulated as toxic dangerous waste. No further testing must be done except as provided in WAC 173-303-070 (4) and (5), or if the person chooses to determine whether the waste is EHW, or in the case of state-only solid dangerous waste, if the person chooses to determine whether the waste is special waste; or

(ii) The EHW and special waste bioassay. To determine if a waste is EHW, a person must establish the toxicity category range of a waste by means of the fish bioassay at 10 mg/L or the rat bioassay at 50 mg/L, as described in the biological testing methods (bioassay) adopted in WAC 173-303-110(3). (NOTE: A fish bioassay at 1 mg/L corresponds with the ((~~proposed~~)) definition of EHW, which includes toxic categories X-B. However, the fish bioassay is not reproducible at these low levels.) If data from the test indicates that the waste is EHW, then the person will assign the dangerous waste number WT01. Otherwise, the waste will be designated DW, and the person will assign the dangerous waste number WT02. A person with state-only solid waste may choose to test a waste to determine if it is special waste. Testing levels for special waste must be at 10 mg/L for the fish bioassay or 500 mg/L for the oral rat bioassay. No further testing must be done except as provided in WAC 173-303-070 (4) and (5), or if the person chooses to test the waste in accordance with WAC 173-303-100 (5)(c)(i) to determine if the waste is not regulated as toxic dangerous waste.

(d) If the designation acquired from book designation and bioassay data do not agree, then bioassay data will be used to designate a waste. If a waste is designated as DW or EHW following the book designation procedure, a person may test the waste by means of the biological testing methods (bioassay) adopted under WAC 173-303-110(3), using either the static acute fish or the acute oral rat method, to demonstrate that the waste is not a dangerous waste or should be designated as DW and not EHW.

(e) A waste designated as DW by toxicity criteria must be assigned the dangerous waste number of WT02. A waste designated as EHW by toxicity criteria must be assigned the dangerous waste number of WT01.

(6) Persistence criteria. For the purposes of this section, persistent constituents are chemical compounds which are either halogenated ((~~hydrocarbons (HH)~~)) organic compounds (HOC), or polycyclic aromatic hydrocarbons (PAH), as defined under WAC 173-303-040. Except as provided in WAC 173-303-070 (4) or (5), a person may determine the identity and concentration of persistent constituents by either applying knowledge of the waste or by testing the waste according to ((~~the chemical testing methods for complying with the dangerous waste regulation adopted under~~)) WAC 173-303-110 (3)(c) *Chemical Testing Methods for Designating Dangerous Waste*, September 1997.

(a) Except as provided in WAC 173-303-070(4), if a person knows only some of the persistent constituents in the waste, or only some of the constituent concentrations, and if the waste is undesignated for those known constituents or concentrations, then the waste is not designated for persistence under this subsection.

(b) When a waste contains one or more halogenated ((~~hydrocarbons (HH)~~)) organic compounds (HOC) for which the concentrations are known, the total halogenated ((~~hydrocarbon~~)) organic compound concentration must be determined by summing the concentration percentages for all of the halogenated ((~~hydrocarbons~~)) organic compounds for which the ((~~concentrations are~~)) concentration is known.

Example 2. A waste contains: Carbon tetrachloride - .009%; DDT - .012%; 1,1,1 - trichloroethylene - .020%. The total halogenated ((~~hydrocarbon~~)) organic compound concentration would be:

Total ((~~HH~~)) HOC Concentration (%) = .009% + .012% + .020% = .041%

(c) A person whose waste contains polycyclic aromatic hydrocarbons (PAH) as defined in WAC 173-303-040, must determine the total PAH concentration by summing the concentration percentages of each of the polycyclic aromatic hydrocarbons for which they know the concentration.

Example 3. A person's waste contains: Chrysene - .08%; 3,4 - benzo(a)pyrene - 1.22%. The total polycyclic aromatic hydrocarbon concentration would be:

Total PAH Concentration (%) = .08% + 1.22% = 1.30%

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(d) A person whose waste contains halogenated ((~~hydrocarbons~~)) organic compounds and/or polycyclic aromatic hydrocarbons must determine its designation from the persistent dangerous waste table or persistent dangerous waste criteria graph WAC 173-303-9907.

PERSISTENT DANGEROUS WASTE TABLE

| If your waste contains. . . | At a total concentration level of. . . | Then your waste's designation, and waste # are. . . |
|---|---|---|
| Halogenated ((~~Hydrocarbons (HH)~~)) Organic Compounds (HOC) | 0.01% to 1.0% | DW, WP02 |
| | greater than 1.0% | EHW, WP01 |
| Polycyclic Aromatic Hydrocarbons (PAH) | greater than 1.0% | ~~EHW*~~, WP03 |

* No DW concentration level for PAH.

(7) Reserve.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-104 Generic dangerous waste numbers.** (1) Purpose. This section sets forth the dangerous waste number for each of the dangerous waste criteria designations.

(2) Characteristics. A waste which exhibits any of the dangerous waste characteristics, WAC 173-303-090, must be assigned the dangerous waste number corresponding to the characteristic(s) exhibited by the waste.

(3) Criteria. The following table must be used for assigning dangerous waste numbers to wastes designated by the dangerous waste criteria at WAC 173-303-100.

GENERIC DANGEROUS WASTE NUMBERS TABLE

| Dangerous Waste# | Dangerous Waste Criteria and Designation |
|---|---|
| | Toxic Dangerous Wastes |
| WT01---------- | EHW |
| WT02---------- | DW |
| | Persistent Dangerous Wastes |
| | Halogenated ((~~Hydrocarbons~~)) Organic Compounds |
| WP01---------- | EHW |
| WP02---------- | DW |
| | Polycyclic Aromatic Hydrocarbons |
| WP03---------- | EHW |

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-110 Sampling and testing methods.** (1) Purpose. This section sets forth the testing methods to be used ((~~in the process of designating a dangerous waste or of complying with the air emission standards in WAC 173-303-690 and 173-303-691~~)) to comply with the requirements of this chapter. Quality control procedures specified by the testing method or an approved equivalent method must be followed for the analytical result to be considered valid for designation.

(2) Representative samples.

(a) The methods and equipment used for obtaining representative samples of a waste will vary with the type and form of the waste. The department will consider samples collected using the sampling methods below or the most recent version of such methods for wastes with properties similar to the indicated materials, to be representative samples of the wastes:

(i) Crushed or powdered material - ASTM Standard D346-75;

(ii) Extremely viscous liquid - ASTM Standard D140-70;

(iii) Fly ash-like material - ASTM Standard D2234-86;

(iv) Soil-like material - ASTM Standard D1452-80 (Reapproved 1990);

(v) Soil or rock-like material - ASTM Standard D420-93;

(vi) Containerized liquid wastes - "COLIWASA" described in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,* SW-846, revised July 1982, as amended by Update 1 (April 1984) and Update 2 (April 1985); and,

(vii) Liquid waste in pits, ponds, lagoons, and similar reservoirs - "Pond Sampler" described in *Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods,* SW-846, revised July 1982, as amended by Update 1 (April 1984) and Update 2 (April 1985).

(b) Copies of these representative sampling methods are available from the department except for the ASTM standards which can be obtained by writing to:

ASTM
1916 Race Street
Philadelphia, PA 19103.

(3) Test procedures. Copies of the test procedures listed in this subsection can be obtained by writing to the appropriate address below:

For copies of Department of Ecology test methods:

Attn: Test Procedures
Hazardous Waste Section
Department of Ecology
PO Box 47600
Olympia, Washington 98504-7600

For copies of SW 846 and 40 CFR Part 261:

Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

For copies of ASTM methods:

ASTM
1916 Race Street
Philadelphia, PA 19103

For copies of APTI methods:

APTI
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161

The document titles and included test procedures are as follows:

(a) ((~~*Chemical Testing Methods for Complying with the state of Washington Dangerous Waste Regulation,* March 1982, revised July 1983, March 1984, and May 1993 describing methods for testing:~~

~~(i) Ignitability;~~

~~(ii) Corrosivity, including the addendum, *Test Method for Determining pH of Solutions in Contact with Solids,* March 1984;~~

~~(iii) Reactivity;~~

~~(iv) Toxicity characteristic leaching procedure;~~

~~(v) Halogenated hydrocarbons; and~~

~~(vi) Polycyclic aromatic hydrocarbons;~~)) *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA Publication, SW-846* (Third Edition (November 1986) as amended by Updates I (July 1992), II (September 1994), IIA (August 1993), IIB (January 1995), and III (December 1996)) is incorporated by reference. The Third Edition of SW-846 and its Updates (document number 955-001-00000-1) are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, (202) 512-1800. This includes, among others:

Method 9095 (Paint Filter Liquids Test), demonstrating the absence or presence of free liquids in either a containerized or bulk waste;

(b) *Biological Testing Methods,* the latest revision, describing procedures for:

(i) Static acute fish toxicity test; and

(ii) Acute oral rat toxicity test;

(c) ((~~*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846* (Third Edition, November, 1986 as amended by Updates I (July, 1992), II (September, 1994), IIA (August, 1993), IIB (January, 1995), and III) is adopted by reference. This includes, among others:~~

~~(i) Method 9095 (Paint Filter Liquids Test), demonstrating the absence or presence of free liquids in either a containerized or bulk waste.~~

~~(ii) Reserved.~~)) *Chemical Testing Methods for Designating Dangerous Waste,* September 1997 describing methods for testing:

(i) Ignitability;

(ii) Corrosivity;

(iii) Reactivity;

(iv) Toxicity characteristic leaching procedure;

(v) Halogenated organic compounds; and

(vi) Polycyclic aromatic hydrocarbons.

(d) ((~~40 CFR Part 261 Appendix X is adopted by reference for the purpose of analysis for chlorinated dibenzo-p-dioxins and dibenzofurans;~~)) Reserve;

(e)(i) The determination of Polychlorinated Biphenyls in Transformer Fluids and Waste Oils, EPA-600/4-81-045; and

(ii) Analysis of Polychlorinated Biphenyls in Mineral Insulating Oils by Gas Chromatography, ASTM Standard D 4059-86.

(f) 40 CFR Part 261 Appendix III *Chemical Analysis Test Methods,* ((~~which lists sampling and analysis methods contained~~)) which refers to appropriate analytical procedures to determine whether a sample contains a given toxic constituent in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA Publication SW-846,* and 40 CFR Part 261 Appendix II, which refers to *Method 1311 Toxicity Characteristic Leaching Procedure* are adopted by reference.

(g) The following publications for air emission standards are incorporated by reference.

(i) ASTM Standard Method for Analysis of Reformed Gas by Gas Chromatography, ASTM Standard D 1946-82.

(ii) ASTM Standard Test Method for Heat of Combustion of Hydrocarbon Fuels by Bomb Calorimeter (High-Precision Method), ASTM Standard D 2382-83.

(iii) ASTM Standard Practices for General Techniques of Ultraviolet-Visible Quantitative Analysis, ASTM Standard E 169-87.

(iv) ASTM Standard Practices for General Techniques of Infrared Quantitative Analysis, ASTM Standard E 168-88.

(v) ASTM Standard Practice for Packed Column Gas Chromatography, ASTM Standard E 260-85.

(vi) ASTM Standard Test Method for Aromatics in Light Naphthas and Aviation Gasolines by Gas Chromatography, ASTM Standard D 2267-88.

(vii) ASTM Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteriscope, ASTM Standard D 2879-86.

(viii) APTI Course 415: Control of Gaseous Emissions, EPA Publication EPA-450/2-81-005, December 1981.

(h) When used in this chapter, the following publications are incorporated by reference:

(i) "Flammable and Combustible Liquids Code" (1977 or 1981), available from the National Fire Protection Association, 470 Atlantic Avenue, Boston, MA 02210.

(ii) U.S. EPA, "Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised," October 1992, EPA Publication No. EPA-450/R-92-019, Environmental Protection Agency, Research Triangle Park, NC.

(iii) "ASTM Standard Test Methods for Preparing Refuse-Derived Fuel (RDF) Samples for Analyses of Metals," ASTM Standard E926-88, Test Method C-Bomb, Acid Digestion Method, available from American Society for Testing Materials, 1916 Race Street, Philadelphia, PA 19103.

(4) Substantial changes to the testing methods described above will be made only after the department has provided adequate opportunity for public review and comment on the proposed changes. The department may, at its discretion, schedule a public hearing on the proposed changes.

(5) Equivalent testing methods. Any person may request the department to approve an equivalent testing method by submitting a petition, prepared in accordance with WAC 173-303-910(2), to the department.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-120 Recycled, reclaimed, and recovered wastes.** (1) This section describes the requirements for persons who recycle materials that are solid wastes and dangerous. Except as provided in subsections (2) and (3) of this section, dangerous wastes that are recycled are subject to the requirements for generators, transporters, and storage facilities of subsection (4) of this section. Dangerous wastes that are recycled will be known as "recyclable materials."

(2)(a) The following recyclable materials are solid wastes and sometimes are dangerous wastes. However, they

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are subject only to the requirements of (b) of this subsection, WAC 173-303-050, 173-303-145 and 173-303-960:

(i) Industrial ethyl alcohol that is reclaimed;

(ii) ((~~Used batteries (or used battery cells) returned to a battery manufacturer for regeneration;~~)) Reserve;

(iii) Used oil that exhibits one or more of the characteristics or criteria of dangerous waste and is recycled in some manner other than:

(A) Being burned for energy recovery; or

(B) Being used in a manner constituting disposal;

(iv) Scrap metal;

(v) Fuels produced from the refining of oil-bearing dangerous wastes along with normal process streams at a petroleum refining facility if such wastes result from normal petroleum refining, production, and transportation practices (this exemption does not apply to fuels produced from oil recovered from oil-bearing dangerous wastes, where such recovered oil is already excluded under WAC 173-303-071 (3)(cc);

(vi) ((~~Oil reclaimed from dangerous waste resulting from normal petroleum refining, production, and transportation practices, which oil is to be refined along with normal process streams at a petroleum refining facility;~~)) Reserve;

(vii) Coke and coal tar from the iron and steel industry that contains dangerous waste from the iron and steel production process;

(viii)(A) Dangerous waste fuel produced from oil-bearing dangerous wastes from petroleum refining, production, or transportation practices, or produced from oil reclaimed from such dangerous wastes, where such dangerous wastes are reintroduced into a process that does not use distillation or does not produce products from crude oil so long as the resulting fuel meets the used oil specification under WAC 173-303-515 (1)(d) and so long as no other dangerous wastes are used to produce the dangerous waste fuel;

(B) Dangerous waste fuel produced from oil-bearing dangerous waste from petroleum refining production, and transportation practices, where such dangerous wastes are reintroduced into a refining process after a point at which contaminants are removed, so long as the fuel meets the used oil fuel specification under WAC 173-303-515 (1)(d); and

(C) Oil reclaimed from oil-bearing dangerous wastes from petroleum refining, production, and transportation practices, which reclaimed oil is burned as a fuel without reintroduction to a refining process, so long as the reclaimed oil meets the used oil fuel specification under WAC 173-303-515 (1)((~~(e)~~)) (d); and

(ix) Petroleum coke produced from petroleum refinery dangerous wastes containing oil ((~~at the same facility at which such wastes were generated~~)) by the same person who generated the waste, unless the resulting coke product exhibits one or more of the characteristics of dangerous waste in WAC 173-303-090.

(b) Any recyclable material listed in (a) of this subsection will be subject to the applicable requirements listed in subsection (4) of this section if the department determines, on a case-by-case basis, that:

(i) It is being accumulated, used, reused, or handled in a manner that poses a threat to public health or the environment; or

(ii) Due to the dangerous constituent(s) in it, any use or reuse would pose a threat to public health or the environment. Such recyclable material will be listed in WAC 173-303-016(6).

(3) The following recyclable materials are not subject to the requirements of this section but are subject to the requirements of WAC 173-303-070 through 173-303-110, 173-303-160, 173-303-500 through 173-303-525, and all applicable provisions of WAC 173-303-800 through 173-303-840:

(a) Recycling requirements for state-only dangerous wastes (see WAC 173-303-500);

(b) Recyclable materials used in a manner constituting disposal (see WAC 173-303-505);

(c) Spent CFC or HCFC refrigerants that are recycled on-site or sent to be reclaimed off-site (see WAC 173-303-506);

(d) Dangerous wastes burned for energy recovery in boilers and industrial furnaces that are not regulated under Subpart O of 40 CFR Part 265 or WAC 173-303-670 (see WAC 173-303-510);

(e) Used oil that is burned for energy recovery in boilers and industrial furnaces that are not regulated under Subpart O of 40 CFR Part 265 or WAC 173-303-670, if such used oil:

(i) Exhibits one or more of the characteristics of a dangerous waste; or

(ii) Is designated as DW solely through WAC 173-303-100; or

(iii) Is designated solely as W001, (see WAC 173-303-515);

(f) Spent lead-acid batteries that are being reclaimed (see WAC 173-303-520);

(g) Recyclable materials from which precious metals are reclaimed (see WAC 173-303-525);

(h) Spent antifreeze that is recycled on-site or sent to be recycled off-site (see WAC 173-303-522).

(4) Those recycling processes not specifically discussed in subsections (2) and (3) of this section are generally subject to regulation only up to and including storage prior to recycling. For the purpose of this section, recyclable materials received from off-site will be considered stored unless they are moved into an active recycling process within twenty-four hours after being received. An active recycling process refers to a dynamic recycling operation that occurs within a recycling unit such as a distillation or centrifuge unit. The phrase does not refer to passive storage-like activities that occur, for example, when tanks or containers are used for phase separation or for settling impurities. Passive storage-like activities are not eligible for the recycling exemption under this subsection.

The recycling process itself is generally exempt from permitting unless the department determines, on a case-by-case basis, that the recycling process poses a threat to public health or the environment.

Unless specified otherwise in subsections (2) and (3) of this section:

(a) Generators of recyclable materials are subject to all applicable requirements of this chapter including, but not limited to, WAC 173-303-170 through 173-303-230;

(b) Transporters of recyclable materials are subject to all applicable requirements of this chapter including, but not limited to, WAC 173-303-240 through 173-303-270;

(c) Owners or operators of facilities that receive recyclable materials from off-site and recycle these recyclable materials without storing them before they are recycled are subject to the following requirements:

(i) WAC 173-303-060,

(ii) WAC 173-303-120 (4)(e),

(iii) WAC 173-303-283 through 173-303-290,

(iv) WAC 173-303-310 through 173-303-395,

(v) WAC 173-303-630 (2) through (10), and

(vi) WAC 173-303-640 (2) through (10), except 173-303-640 (8)(c) and the second sentence of WAC 173-303-640 (8)(a) (i.e., a recycler, unless otherwise required to do so, does not have to prepare a closure plan, a cost estimate for closure, or provide financial responsibility for his tank system to satisfy the requirements of this section). In lieu of the dates in WAC 173-303-640 (2) and (4), for existing tank systems regulated under this subsection, owners and operators must complete the assessment of the tank system's integrity by June 1, 1992, and must meet the secondary containment requirements of WAC 173-303-640(4) by January 12, 1993;

(vii) The owner or operator must obtain data, by screening-type analysis if necessary, confirming the designation of each waste stream, such that each dangerous waste received can be effectively recycled without jeopardizing human health or the environment. The owner or operator must verify the waste designation periodically, so that it is accurate and current, but at least once every six months or on a batch basis if shipments of a specific waste stream are less frequent. Copies of all analyses and data must be retained for at least five years and made available to the department upon request.

(d) Owners or operators of facilities that store recyclable materials before they are recycled are subject to the following requirements including, but not limited to:

(i) For all recyclers, the applicable provisions of:

(A) WAC 173-303-280 through 173-303-395,

(B) WAC 173-303-800 through 173-303-840,

(C) WAC 173-303-140 (2)(a),

(D) WAC 173-303-120 (4)(e);

(ii) For recyclers with interim status permits, the applicable storage provisions of WAC 173-303-400 including Subparts F through L of 40 CFR Part 265;

(iii) For recyclers with final facility permits, the applicable storage provisions of:

(A) WAC 173-303-600 through 173-303-650, and

(B) WAC 173-303-660.

(e) Owners and operators of facilities subject to dangerous waste permitting requirements with dangerous waste management units that recycle hazardous wastes are subject to the requirements of WAC 173-303-690 and 173-303-691 (Air emission standards for process vents and equipment leaks) for final status facilities, and 40 CFR Part 265 Subparts AA and BB, incorporated by reference at WAC 173-303-400(3) for interim status facilities.

(5) Use of the used oil recycling statute, chapter 70.95I RCW. This subsection applies to persons who use or manage used oil as defined under chapter 70.95I RCW and its implementing regulations, as amended. The department requires persons who use or manage used oils to do so in accordance with chapter 70.95I RCW and its implementing regulations, as amended.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-140 Land disposal restrictions.** (1) Purpose.

(a) The purpose of this section is to encourage the best management practices for dangerous wastes according to the priorities of RCW 70.105.150 which are, in order of priority:

(i) Reduction;

(ii) Recycling;

(iii) Physical, chemical, and biological treatment;

(iv) Incineration;

(v) Stabilization and solidification; and

(vi) Landfill.

(b) This section identifies dangerous wastes that are restricted from land disposal, describes requirements for restricted wastes, and defines the circumstances under which a prohibited waste may continue to be land disposed.

(c) For the purposes of this section, the term "landfill," as stated in the priorities of RCW 70.105.150, will be the same as the term "land disposal." Land disposal will be used in this section to identify the lowest waste management priority.

(2) Applicability.

The land disposal restrictions of this section apply to any person who owns or operates a dangerous waste treatment, storage, or disposal facility in Washington state and to any person who generates or transports dangerous waste.

(a) Land disposal restrictions for wastes designated in accordance with WAC 173-303-070 (3)(a)(i), (ii), and (iii) are the restrictions set forth by the Environmental Protection Agency in 40 CFR Part 268 which are incorporated by reference into this regulation and the restrictions set forth in subsections (3) through (7) of this section. The words "regional administrator" (in 40 CFR) will mean the "department((,))", except for 40 CFR Parts 268.5 and 268.6; 268 Subpart B; and 268.42(b). The authority for implementing these excluded CFR sections remains with the U.S. Environmental Protection Agency. The exemption and exception provisions of subsections (3) through (7) of this section are not applicable to the federal land disposal restrictions.

(b) Land disposal restrictions for state-only dangerous waste are the restrictions set forth in subsections (3) through (7) of this section.

(3) Definitions.

When used in this section the following terms have the meaning provided in this subsection. All other terms have the meanings given under WAC 173-303-040.

(a) "Dangerous waste constituents" means those constituents listed in WAC 173-303-9905 and any other constituents which have caused a waste to be a dangerous waste under this chapter.

(b) "Land disposal" means placement in a facility or on the land with the intent of leaving the dangerous waste at closure, and includes, but is not limited to, placement for disposal purposes in a: Landfill; surface impoundment; waste pile; injection well; land treatment facility; salt dome

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or salt bed formation; underground cave or mine; concrete vault or bunker.

(c) "Organic/carbonaceous waste" means a dangerous waste that contains combined concentrations of greater than ten percent organic/carbonaceous constituents in the waste; organic/carbonaceous constituents are those substances that contain carbon-hydrogen, carbon-halogen, or carbon-carbon chemical bonding.

(d) "Solid acid waste" means a dangerous waste that exhibits the characteristic of low pH under the corrosivity tests of ((~~either~~)) WAC 173-303-090 (6)(a)((~~(ii) or~~)) (iii).

(e) "Stabilization" and "solidification" mean a technique that limits the solubility and mobility of dangerous waste constituents. Solidification immobilizes a waste through physical means and stabilization immobilizes the waste by bonding or chemically reacting with the stabilizing material.

(4) Land disposal restrictions and prohibitions. The land disposal requirements of this subsection apply to land disposal in Washington state.

(a) Disposal of extremely hazardous waste (EHW). No person may land dispose of EHW, except as provided in subsection (5) of this section, at any land disposal facility in the state. No person may land dispose of EHW at the facility established under RCW 70.105.050, except as provided by subsections (5), (6), and (7) of this section. A person is encouraged to reclaim, recycle, recover, treat, detoxify, neutralize, or otherwise process EHW to remove or reduce its harmful properties or characteristics, provided that such processing is performed in accordance with the requirements of this chapter.

(b) Disposal of liquid waste. Special requirements for bulk and containerized liquids.

(i) Effective May 8, 1985, the placement of bulk or noncontainerized liquid hazardous waste or hazardous waste containing free liquids (whether or not sorbents have been added) in any landfill is prohibited. (40 CFR 264.314(a) which applies prior to May 8, 1985, is incorporated by reference.)

(ii) Containers holding free liquids must not be placed in a landfill unless:

(A) All free-standing liquid:

(I) Has been removed by decanting, or other methods; or

(II) Has been mixed with sorbent or stabilized (solidified) so that free-standing liquid is no longer observed; or

(III) Has been otherwise eliminated; or

(B) The container is very small, such as an ampule; or

(C) The container is designed to hold free liquids for use other than storage, such as a battery or capacitor; or

(D) The container is a labpack and is disposed of in accordance with WAC 173-303-161 and this chapter.

(iii) To demonstrate the absence or presence of free liquids in either a containerized or a bulk waste, the following tests must be used: Method 9095 (Paint Filter Liquids Test) as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods((~~,~~))" (((~~)~~))EPA Publication ((~~No.~~)) SW-846((~~,~~)) as incorporated by reference in WAC 173-303-110 (3)(a).

(iv) Sorbents used to treat free liquids to be disposed of in landfills must be nonbiodegradable. Nonbiodegradable sorbents are: Materials listed or described in (b)(iv)(A) of this subsection; materials that pass one of the tests in (b)(iv)(B) of this subsection; or materials that are determined by the department to be nonbiodegradable through WAC 173-303-910.

(A) Nonbiodegradable sorbents.

(I) Inorganic minerals, other inorganic materials, and elemental carbon (e.g., aluminosilicates, clays, smectites, Fuller's earth, bentonite, calcium bentonite, montmorillonite, calcined montmorillonite, kaolinite, micas (illite), vermiculites, zeolites; calcium carbonate (organic free limestone); oxides/hydroxides, alumina, lime, silica (sand), diatomaceous earth; perlite (volcanic glass); expanded volcanic rock; volcanic ash; cement kiln dust; fly ash; rice hull ash; activated charcoal/activated carbon); or

(II) High molecular weight synthetic polymers (e.g., polyethylene, high density polyethylene (HDPE), polypropylene, polystyrene, polyurethane, polyacrylate, polynorborene, polyisobutylene, ground synthetic rubber, cross-linked allylstyrene and tertiary butyl copolymers). This does not include polymers derived from biological material or polymers specifically designed to be degradable; or

(III) Mixtures of these nonbiodegradable materials.

(B) Tests for nonbiodegradable sorbents.

(I) The sorbent material is determined to be nonbiodegradable under ASTM Method G21-70 (1984a)-Standard Practice for Determining Resistance of Synthetic Polymer Materials to Fungi; or

(II) The sorbent material is determined to be nonbiodegradable under ASTM Method G22-76 (1984b)-Standard Practice for Determining Resistance of Plastics to Bacteria; or

(III) The sorbent material is determined to be nonbiodegradable under OECD (Organization for Economic Cooperation and Development) test 301B: [$CO_2$ Evolution (Modified Sturm Test)].

(v) Effective November 8, 1985, the placement of any liquid which is not a hazardous waste in a landfill is prohibited unless the owner or operator of such landfill demonstrates to the department, or the department determines, that:

(A) The only reasonably available alternative to the placement in such landfill is placement in a landfill or unlined surface impoundment, whether or not permitted or operating under interim status, which contains, or may reasonably be anticipated to contain, hazardous waste; and

(B) Placement in such owner or operator's landfill will not present a risk of contamination of any underground source of drinking water (as that term is defined in 40 CFR Section 144.3.)

(c) Disposal of solid acid waste. No person may land dispose solid acid waste, except as provided in subsections (5), (6), or (7) of this section. A person is encouraged to reclaim, recycle, recover, treat, detoxify, neutralize, or otherwise process these wastes to remove or reduce their harmful properties or characteristics, provided that such processing is performed in accordance with the requirements of this chapter.

(d) Disposal of organic/carbonaceous waste.

(i) No person may land dispose organic/carbonaceous waste, except as provided in subsections (5), (6), or (7) of this section. A person is encouraged to reclaim, recycle, recover, treat, detoxify, or otherwise process these wastes to remove or reduce their harmful properties or characteristics,

provided that such processing is performed in accordance with the requirements of this chapter. Organic/carbonaceous wastes must be incinerated as a minimum management method according to the dangerous waste management priorities as defined in subsection (1)(a) of this section.

(ii) This prohibition against the land disposal of organic/carbonaceous waste does not apply to black mud generated from the caustic leach recovery of cryolite at primary aluminum smelting plants.

(iii) This prohibition against the land disposal of organic/carbonaceous waste does not apply to any person who certifies to the department that recycling, treatment and incineration facilities are not available within a radius of one thousand miles from Washington state's borders. Such certification must be sent to the department by certified mail and must include: The name, address and telephone number of the person certifying; a brief description of the organic/carbonaceous waste covered by the certification; a discussion of the efforts undertaken to identify available recycling, treatment and incineration facilities; and the signature of the person responsible for the certification and development of information used to support the certification. Records and information supporting the certification must be retained by the certifying person and must be made available to the department upon request.

A certification that has been properly submitted to the department will remain valid until the department determines that a recycling, treatment or incineration facility is available within a radius of one thousand miles from Washington state's borders and the person who submitted the certification is unable to demonstrate otherwise. A recycling, treatment or incineration facility will be considered by the department to be available if such facility: Is operating, and; can safely and legally recycle, treat or incinerate the organic/carbonaceous waste, and; has sufficient capacity to receive and handle significant amounts of the waste, and; agrees to accept the waste.

(5) Treatment in land disposal facilities. The land disposal restrictions in subsection (4) of this section do not apply to persons treating dangerous wastes in surface impoundments, waste piles, or land treatment facilities provided that such treatment is performed in accordance with the requirements of this subsection and this chapter.

(a) Surface impoundment treatment.

Liquid waste, extremely hazardous waste (EHW), solid acid waste, and organic/carbonaceous waste may be placed in surface impoundments for purposes of treatment provided the owner/operator can demonstrate that effective treatment of the dangerous waste constituents will occur and at closure the owner/operator complies with the prohibitions and restrictions of subsection (4) of this section.

(b) Waste pile treatment.

Liquid waste, extremely hazardous waste (EHW), solid acid waste, and organic/carbonaceous waste may be placed in waste piles for purposes of treatment provided the owner/operator can demonstrate that effective treatment of dangerous waste constituents will occur and that at closure the owner/operator will be in compliance with the prohibitions and restrictions of subsection (4) of this section.

(c) Land treatment.

Liquid waste, extremely hazardous waste (EHW), and organic/carbonaceous waste may be land treated provided that the owner/operator can demonstrate that effective treatment of dangerous waste constituents will occur, and at the end of the post-closure care period the owner/operator will be in compliance with subsection (4) of this section.

(6) Case-by-case exemptions to a land disposal prohibition. Any person may petition the department for an exemption from a prohibition in subsection (4) of this section for the land disposal of a dangerous waste. The procedures to submit a petition to the department are specified in WAC 173-303-910(6). The department may deny any petition if it determines that there is a potential for dangerous waste constituents to migrate from the land disposal facility where the waste is to be placed. The department will deny any petition when exemption would result in a substantial or imminent threat to public health or the environment. The department will deny any petition when exemption would result in a violation of applicable state laws.

The department may grant an exemption from the prohibitions and restrictions of subsection (4) of this section based on the demonstrations specified in (a), (b) or (c) of this subsection.

(a) Land disposal exemption for treatment residuals. Any person may request an exemption from a land disposal prohibition in subsection (4) of this section for treatment residuals by demonstrating to the department that:

(i) The person has applied the best achievable management method to the original waste; and

(ii) Application of additional management methods to the treatment residuals would prevent the person from utilizing the best achievable management methods for the original dangerous waste; and

(iii) The land disposal of the treatment residuals does not pose a greater risk to the public health and the environment than land disposal of the original dangerous waste would pose.

(b) Economic hardship exemption. Any person may request an exemption from a prohibition in subsection (4) of this section for the land disposal of a dangerous waste by demonstrating to the department that alternative management of the dangerous waste will impose an unreasonable economic burden in relation to the threat of harm to public health and the environment. It will be solely within the discretion of the department to approve or deny the requests for exemptions based on economic hardship.

(c) Organic/carbonaceous waste exemption. Any person may request an exemption from the requirements in subsection (4) of this section by demonstrating to the department that:

(i) Alternative management methods for organic/carbonaceous waste are less protective of public health and the environment than stabilization or landfilling; or

(ii)(A) The organic/carbonaceous waste has a heat content less than 3,000 BTU/LB or contains greater than sixty-five percent water or other noncombustible moisture; and

(B) Incineration is the only management method available within a radius of one thousand miles from Washington state's border (i.e., recycling or treatment are not available).

(7) Emergency cleanup provision. The department may, on a case-by-case basis, grant an exception to the land

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disposal restrictions in subsection (4) of this section for an emergency cleanup where an imminent threat to public health and the environment exists. Any exception will require compliance with applicable state law and will require (consistent with the nature of the emergency and imminent threat) application of the waste management priorities of RCW 70.105.150.

**Reviser's note:** The brackets and enclosed material in the text of the above section occurred in the copy filed by the agency and appear in the Register pursuant to the requirements of RCW 34.08.040.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-145 Spills and discharges into the environment.** (1) Purpose and applicability. This section sets forth the requirements for any person responsible for a spill or discharge of a dangerous waste or hazardous substance into the environment, except when such release is otherwise permitted under state or federal law. For the purposes of complying with this section, a transporter who spills or discharges dangerous waste or hazardous substances during transportation will be considered the responsible person. This section applies when any dangerous waste or hazardous substance is intentionally or accidentally spilled or discharged into the environment (unless otherwise permitted) such that human health or the environment is threatened, regardless of the quantity of dangerous waste or hazardous substance.

(2) Notification. Any person who is responsible for a spill or nonpermitted discharge must immediately notify the individuals and authorities described for the following situations:

(a) For spills or discharges onto the ground or into groundwater or surface water, notify all local authorities in accordance with the local emergency plan. If necessary, check with the local emergency service coordinator and the fire department to determine all notification responsibilities under the local emergency plan. Also, notify the appropriate regional office of the department of ecology;

(b) For spills or discharges which result in emissions to the air, notify all local authorities in accordance with the local emergency plan. If necessary, check with the local emergency service coordinator and the fire department to determine all notification responsibilities under the local emergency plan. Also, in western Washington notify the local air pollution control authority, or in eastern Washington notify the appropriate regional office of the department of ecology.

(3) Mitigation and control. The person responsible for a spill or nonpermitted discharge must take appropriate immediate action to protect human health and the environment (e.g., diking to prevent contamination of state waters, shutting of open valves).

(a) In addition, the person responsible for a spill or discharge must:

(i) Clean up all released dangerous wastes or hazardous substances, or take such actions as may be required or approved by federal, state, or local officials acting within the scope of their official responsibilities. This may include complete or partial removal of released dangerous wastes or hazardous substances as may be justified by the nature of the released dangerous wastes or hazardous substances, the human and environmental circumstances of the incident, and protection required by the Water Pollution Control Act, chapter 90.48 RCW;

(ii) Designate and treat, store or dispose of all soils, waters, or other materials contaminated by the spill or discharge in accordance with this chapter 173-303 WAC. The department may require testing in order to determine the amount or extent of contaminated materials, and the appropriate designation, treatment, storage, or disposal for any materials resulting from clean-up; and

(iii) If the property on which the spill or discharge occurred is not owned or controlled by the person responsible for the incident, restore the area impacted by the spill or discharge, and replenish resources (e.g., fish, plants) in a manner acceptable to the department.

(b) Where immediate removal ((~~or~~)), temporary storage, or treatment of spilled or discharged dangerous wastes or hazardous substances is necessary to protect human health or the environment, the department may direct that:

(i) Removal be accomplished without a manifest((,)) by transporters who do not have EPA/state identification numbers;

(ii) The wastes may be temporarily stored at sites that are protective of human health and the environment and are secure from access by the public; or

(iii) That the wastes may be treated to reduce or control the hazards, pursuant to WAC 173-303-170.

(4) Nothing in WAC 173-303-145 eliminates any obligations to comply with reporting requirements which may exist in a permit or under other state or federal regulations.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-160 Containers.** (1) Waste quantity. Containers and inner liners will not be considered as a part of the waste when measuring or calculating the quantity of a dangerous waste. Only the weight of the residues in nonempty or nonrinsed containers or inner liners will be considered when determining waste quantities.

(2) A container or inner liner is "empty" when:

(a) All wastes in it have been taken out that can be removed using practices commonly employed to remove materials from that type of container or inner liner (e.g., pouring, pumping, aspirating, etc.) and, no more than one inch of waste remains at the bottom of the container or inner liner, or the volume of waste remaining in the container or inner liner is equal to three percent or less of the container's total capacity, or, if the container's total capacity is greater than one hundred ten gallons, the volume of waste remaining in the container or inner liner is no more than 0.3 percent of the container's total capacity. A container which held compressed gas is empty when the pressure inside the container equals or nearly equals atmospheric pressure; and

(b) If the container or inner liner held acutely hazardous waste, as defined in WAC 173-303-040, toxic EHW as defined in WAC 173-303-100 or pesticides bearing the danger or warning label, the container or inner liner has been rinsed at least three times with an appropriate cleaner or solvent. The volume of cleaner or solvent used for each

rinsing must be ten percent or more of the container's or inner liner's capacity or of sufficient quantity to thoroughly decontaminate the container. In lieu of rinsing for containers that might be damaged or made unusable by rinsing with liquids (e.g., fiber or cardboard containers without inner liners), an empty container may be vacuum cleaned, struck, with the open end of the container up, three times (e.g., on the ground, with a hammer or hand) to remove or loosen particles from the inner walls and corners, and vacuum cleaned again. Equipment used for the vacuum cleaning of residues from containers or inner liners must be decontaminated before discarding, in accordance with procedures approved by the department. A container or inner liner is also considered "empty" if the container or inner liner has been cleaned by another method that has been shown in the scientific literature, or by tests conducted by the generator, to achieve equivalent removal.

Any rinsate or vacuumed residue which results from the cleaning of containers or inner liners must, whenever possible, be reused in a manner consistent with the original intended purpose of the substance in the container or inner liner. In the case of a farmer, if the rinsate is a pesticide residue then the rinsate must be managed or reused in a manner consistent with the instructions on the pesticide label, provided that when the label instructions specify disposal or burial, such disposal or burial must be on the farmer's own (including rented, leased or tenanted) property. Otherwise, the rinsate must be checked against the designation requirements (WAC 173-303-070 through 173-303-100) and, if designated, managed according to the requirements of this chapter.

(c) In the case of a container, the inner liner, that prevented the container from contact with the commercial chemical product or manufacturing chemical, has been removed.

(3)(a) Any residues remaining in containers or inner liners that are "empty" as described in subsection (2) of this section will not be subject to the requirements of this chapter, and will not be considered as accumulated wastes for the purposes of calculating waste quantities.

(b) Any dangerous waste in either: A container that is not empty, or an inner liner removed from a container that is not empty (as defined in subsection (2) of this section) is subject to the requirements of this chapter.

(4) ((~~A person~~)) If a person cannot meet the provisions in (2)(b) of this section, they may petition the department to approve alternative container rinsing processes in accordance with WAC 173-303-910(1).

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-180 Manifest.** Before transporting dangerous waste or offering dangerous waste for transport off the site of generation, the generator must prepare a manifest and must follow all applicable procedures described in this section.

(1) This subsection describes the form and contents of dangerous waste manifests. 40 CFR Part 262 Appendix - Uniform Hazardous Waste Manifest and Instructions (EPA Forms 8700-22 and 8700-22A and Their Instructions) is adopted by reference. The manifest must be EPA Form 8700-22 and, if necessary, EPA Form 8700-22A. The manifest must be prepared in accordance with the instructions for these forms, as described in the uniform manifest Appendix of 40 CFR Part 262, and in addition must contain the following information in the specified shaded items of the uniform manifest:

(a) Item D - The first transporter's telephone number must be provided in this space;

(b) Item F - If a second transporter is used, then the second transporter's telephone number must be provided in this space;

(c) Item H - The designated receiving facility's telephone number must be provided in this space;

(d) Item I, and R if the continuation sheet 8700-22A is used - The dangerous waste number (e.g., F001, D006, WT02((~~, P102~~))) must be provided in this space for each corresponding waste entered and described under Item 11, and 28 if the continuation sheet 8700-22A is used. (Note: The waste code does not have to be entered in this block if it already appears in the corresponding U.S. DOT Description block.) As discussed in subsection (5) of this section, dangerous waste numbers WL01 or WL02 may be used in this space for labpacks;

(e) Item O, (on the continuation sheet 8700-22A) - If a third transporter is used, then the third transporter's telephone number must be provided in this space; and

(f) Item Q, (on the continuation sheet 8700-22A) - If a fourth transporter is used, then the fourth transporter's telephone number must be provided in this space.

(2) The manifest must consist of enough copies to provide the generator, transporter(s), and facility owner/operator with a copy, and a copy for return to the generator.

(3) Manifest procedures.

(a) The generator must:

(i) Sign and date the manifest certification by hand;

(ii) Obtain the handwritten signature of the initial transporter and date of acceptance on the manifest; and

(iii) Retain one copy in accordance with WAC 173-303-210, Generator recordkeeping.

(b) The generator must give the remaining manifest copies to the transporter.

(c) If the transporter is unable to deliver the dangerous waste shipment to the designated facility or the alternate facility, the generator must either designate another facility or instruct the transporter to return the waste shipment.

(d) For shipments of dangerous waste within the United States solely by water (bulk shipments only), the generator must send three copies of the manifest dated and signed in accordance with this section to the owner or operator of the designated facility or the last water (bulk shipment) transporter to handle the waste in the United States if exported by water. Copies of the manifest are not required for each transporter.

(e) For rail shipments of dangerous waste within the United States which originate at the site of generation, the generator must send at least three copies of the manifest dated and signed in accordance with this section to:

(i) The next nonrail transporter, if any; or

(ii) The designated facility if transported solely by rail; or

(iii) The last rail transporter to handle the waste in the United States if exported by rail.

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(f) For shipments of federally regulated hazardous waste to a designated facility in an authorized state which has not yet obtained authorization to regulate that particular waste as hazardous, the generator must assure that the designated facility agrees to sign and return the manifest to the generator, and that any out-of-state transporter signs and forwards the manifest to the designated facility.

(4) Special requirements for shipments to the Washington EHW facility at Hanford.

(a) All generators planning to ship dangerous waste to the EHW facility at Hanford must notify the facility in writing and by sending a copy of the prepared manifest prior to shipment.

(b) The generator must not ship any dangerous waste without prior approval from the EHW facility. The state operator may exempt classes of waste from the requirements of WAC 173-303-180 (4)(a) and (b) where small quantities or multiple shipments of a previously approved waste are involved, or there exists an emergency and potential threat to public health and safety.

(5) Special instructions for shipment of labpacks. For purposes of completing the uniform dangerous waste manifest, dangerous waste numbers WL01 (for labpacks containing wastes designated as EHW) or WL02 (for labpacks containing wastes designated only as DW) may be used to complete Items I and R in lieu of the dangerous waste numbers that would otherwise be assigned to the contents of the labpack.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-201 Special accumulation standards.** (1) This section applies to persons who generate more than 220 pounds but less than 2200 pounds per calendar month and do not accumulate on-site more than 2200 pounds of dangerous waste. The special provisions of this section do not apply to acutely hazardous wastes or Toxic EHW (WT01) that exceed the QEL that are being generated or accumulated by the generator.

(2) For purposes of accumulating dangerous waste on-site, persons who generate per month and accumulate on-site less than 2200 pounds (1000 kg) per month of dangerous waste are subject to all applicable provisions of WAC 173-303-200 except as follows:

(a) In lieu of the ninety-day accumulation period, dangerous wastes may be accumulated for one hundred eighty days or less. The department may, on a case-by-case basis, grant a maximum ninety-day extension to this one hundred eighty-day period if the generator must transport his waste, or offer his waste for transportation, over a distance of two hundred miles or more for off-site treatment, storage, or disposal, and the dangerous wastes must remain on-site due to unforeseen, temporary and uncontrollable circumstances;

(b) The generator need not comply with WAC 173-303-330 (Personnel training);

(c) In lieu of the contingency plan and emergency procedures required by WAC 173-303-350 and 173-303-360, the generator must comply with the following:

(i) At all times there must be at least one employee either on the premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures specified in (c)(iv) of this subsection. This employee is the emergency coordinator.

(ii) The generator must post the following information next to all emergency communication devices (including telephones, two-way radios, etc.):

(A) The name and telephone number of the emergency coordinator;

(B) Location of fire extinguishers and spill control material, and, if present, fire alarm; and

(C) The telephone number of the fire department, unless the facility has a direct alarm.

(iii) The generator must ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures, relevant to their responsibilities during normal facility operations and emergencies;

(iv) The emergency coordinator or his designee must respond to any emergencies that arise. The applicable responses are as follows:

(A) In the event of a fire, call the fire department or attempt to extinguish it using a fire extinguisher;

(B) In the event of a spill, contain the flow of dangerous waste to the extent possible, and as soon as is practicable, clean up the dangerous waste and any contaminated materials or soil;

(C) In the event of a fire, explosion, or other release which could threaten human health outside the facility or when the generator has knowledge that a spill has reached waters of the state, the generator must immediately notify the department and either the government official designated as the on-scene coordinator, or the National Response Center (using their twenty-four hour toll free number 800/424-8802). The report must include the following information:

(I) The name, address, and EPA/state identification number of the generator;

(II) Date, time, and type of incident (e.g., spill or fire);

(III) Quantity and type of hazardous waste involved in the incident;

(IV) Extent of injuries, if any; and

(V) Estimated quantity and disposition of recovered materials, if any;

(d) For waste that is placed in tanks, generators must comply with WAC 173-303-202 in lieu of WAC 173-303-200 (1)(b).

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-210 Generator recordkeeping.** (1) The generator must keep a copy of each manifest signed by the initial transporter in accordance with WAC 173-303-180(3), manifest procedures, for three years, or until he receives a signed copy from the designated facility which received the waste. The signed facility copy must be retained for at least five years from the date the waste was accepted by the initial transporter.

(2) The generator must keep a copy of each annual report and exception report as required by WAC 173-303-220 for a period of at least five years from the due date of each report. The generator must keep a copy of his most

recent notification (Form 2) until he is no longer defined as a generator under this chapter.

(3) Waste designation records.

(a) The generator must keep records of any test results, waste analyses, or other determinations made in accordance with WAC 173-303-170(1) for designating dangerous waste for at least five years from the date that the waste was last transferred for on-site or off-site treatment, storage, or disposal.

(b) At a minimum, test results must include:

(i) The sample source, sampling date, and sampling procedure used;

(ii) The laboratory performing the test;

(iii) The testing date, and testing method used;

(iv) The analytical result, or the quantitative range of the testing method for analytes not detected.

(4) Any other records required for generators accumulating wastes on-site as described in WAC ((~~173-303-170 (4)(b) or~~)) 173-303-200 or 173-303-201 must be retained for at least five years, including, but not limited to such items as inspection logs.

(5) The periods of retention for any records described in this section will be automatically extended during the course of any unresolved enforcement action requiring those records or upon request by the director.

(6) All generator records, including plans required by this chapter, will be made available and furnished upon request by the director.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-230 Special conditions.** (1) Exporting dangerous waste.

Federal export requirements, administered by EPA, are set forth at 40 CFR 262 Subpart E and 40 CFR 261.5, 261.6, 262.41, and 263.20 and specify the procedures applicable to generators and transporters of hazardous waste (as defined in WAC 173-303-040). These requirements are incorporated by reference. Copies of any forms or reports submitted to the administrator of United States EPA as required by 40 CFR 262 Subpart E must also be submitted to the department.

(2) Importing dangerous waste. When importing dangerous waste from a foreign country into Washington state, the United States importer must comply with all the requirements of this chapter for generators, including the requirements of WAC 173-303-180(1), except that:

(a) In place of the generator's name, address and EPA/state identification number, the name and address of the foreign generator and the importer's name, address and EPA/state identification number must be used; and

(b) In place of the generator's signature on the certification statement, the United States importer or his agent must sign and date the certification and obtain the signature of the initial transporter.

(c) A person who imports hazardous waste must obtain the manifest form from the consignment state if the state supplies the manifest and requires its use. If the consignment state does not supply the manifest form, then the manifest form may be obtained from any source.

(3) Empty containers. For the purposes of this chapter, a person who stores, treats, disposes, transports, or offers for transport empty containers of dangerous waste that were for his own use will not be treated as a generator or as a facility owner/operator if the containers are empty as defined in WAC 173-303-160(2), and either:

(a) The rinsate is not a dangerous waste under this chapter; or

(b) He reuses the rinsate in a manner consistent with the original product or, if he is a farmer and the rinsate contains pesticide residues, he reuses or manages the rinsate in a manner consistent with the instructions on the pesticide label, provided that when the label instructions specify disposal or burial, such disposal or burial must be on the farmer's own (including rented, leased or tenanted) property.

(4) Tank cars. A person rinsing out dangerous waste tote tanks, truck or railroad tank cars must handle the rinsate according to this chapter, and according to chapter 90.48 RCW, Water pollution control.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-280 General requirements for dangerous waste management facilities.** (1) Applicability. The requirements of WAC 173-303-280 through 173-303-395 apply to all owners and operators of facilities which store, treat, or dispose of dangerous wastes and which must be permitted under the requirements of this chapter 173-303 WAC, unless otherwise specified in this chapter. Whenever a shipment of dangerous waste is initiated from a facility, the owner or operator of that facility must comply with the requirements for generators, WAC 173-303-170 through 173-303-230.

(2) Imminent hazard. Notwithstanding any provisions of this chapter, enforcement actions may be brought in the event that the management practices of a facility present an imminent and substantial hazard to the public health and the environment, regardless of the quantity or concentration of a dangerous waste.

(3) Identification numbers. Every facility owner or operator must apply for an EPA/state identification number from the department in accordance with WAC 173-303-060.

(4) The owner or operator must comply with the special land disposal restrictions for certain dangerous wastes in WAC 173-303-140.

(5) Salt dome formations, salt bed formations, underground mines and caves. The placement of any noncontainerized or bulk liquid dangerous waste in any salt dome formation, salt bed formation, underground mine or cave is prohibited.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-282 Siting criteria.** (1) **Purpose.** This section establishes siting criteria which serve as an initial screen in the consideration of sites for dangerous waste management facilities. The purpose of the siting criteria is to immediately disqualify proposed dangerous waste facility sites in locations considered unsuitable or inappropriate for the management of dangerous wastes. Under RCW 70.105.200 (1)(d), siting criteria cannot prevent existing

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dangerous waste management facilities from operating at or below their present level of activity.

A proposed site which is not disqualified under these criteria will be further studied to determine if it qualifies under site specific rules. Compliance with the siting criteria does not imply that a given project at a given location poses an acceptable level of risk, nor does it commit the department to the issuance of a dangerous waste permit. Projects that demonstrate compliance with the siting criteria will be subjected to comprehensive environmental and technical review pursuant to applicable laws and regulations before the department makes a final decision on a dangerous waste permit.

The department may deny a permit or require protective measures such as engineering enhancements or increased setback distances from resources in order to ensure protection of human health and the environment.

(2) **Applicability.**

(a) Except as otherwise specifically provided, this section applies to:

(i) Owners/operators of proposed facilities; and

(ii) Owners or operators of existing land-based facilities at which an expansion of the land based unit is proposed;

(iii) Owners or operators of existing incinerators at which an expansion is proposed; and

(iv) Owners or operators proposing a significant expansion of other existing dangerous waste management facilities not subject to (a)(i), (ii) and (iii) of this subsection, unless the owner/operator can demonstrate to the satisfaction of the department that the proposed expansion will provide a net increase in protection to human health and the environment beyond that which is currently provided at the facility. However, demonstrations under this subsection (iv) must not result in treatment or storage facilities expanding into land-based or incineration facilities if siting criteria cannot be satisfied.

(b) This section does not apply to:

(i) Owners/operators of facilities or portions of facilities who are applying for research, development and demonstration permits, pursuant to section 3005(g) of the Resource Conservation and Recovery Act, codified in 40 CFR Part 270.65 or WAC 173-303-809;

(ii) Owners/operators of facilities operating under an emergency permit pursuant to WAC 173-303-804;

(iii) Persons at facilities conducting on-site cleanup of sites under the Comprehensive Environmental Response Compensation and Liability Act, Sections 3004(u), 3004(v), and 3008(h) of the Resource Conservation and Recovery Act, chapter 70.105 RCW, or chapter 70.105D RCW, provided the cleanup activities are being conducted under a consent decree, agreed order, or enforcement order, or is being conducted by the department or United States Environmental Protection Agency;

(iv) Persons managing solid wastes who become subject to dangerous waste regulations through amendments to this chapter after the effective date of this section. This provision applies only to those activities operated in accordance with local, state, and federal requirements and which were being conducted prior to becoming subject to Dangerous waste regulations, chapter 173-303 WAC or expansions, if it can be demonstrated to the satisfaction of the department that the proposed expansion of such activities will provide a net increase in protection to human health and the environment beyond that which is currently provided at the facility; or

(v) Owners/operators of facilities which recycle hazardous waste and:

(A) Are otherwise exempt from regulation by this chapter under 120;

(B) Have notified the department pursuant to WAC 173-303-060, prior to the effective date of this section;

(C) Are currently operating as a recycling facility as of the effective date of this regulation; and

(D) Seek only to obtain a tank or container storage permit to support recycling operations under this chapter.

Further, significant expansions of such storage facilities meeting the qualifications for this exemption may be considered under subsection (2)(a)(iv) of this section.

(3) **Definitions.** Any terms used in this section that are not defined below have the meanings provided in WAC 173-303-040. For the purposes of this section, the following terms have the described meanings:

(a) "Aquifer of beneficial use" means an aquifer that contains sufficient quality and quantity of water to allow it to be withdrawn for beneficial uses which include, but are not limited to, uses for domestic, stock watering, industrial, commercial, agricultural, irrigation, mining, fish and wildlife maintenance and enhancement, or recreational purposes.

(b) "Displacement" means the relative movement of any two sides of a fault measured in any direction.

(c) "Domestic water use" means any water used for human consumption, other domestic activities or livestock watering for which the department has issued a permit of water right for surface water diversions pursuant to chapter 90.03 RCW, or for a well pursuant to chapter 90.44 RCW, or for which the department has received a well water report pursuant to RCW 18.104.050, or for any other valid water right claimed in accordance with chapter 90.14 RCW. This does not apply to wells abandoned in compliance with chapter 173-160 WAC.

(d) "Existing facility" means a facility which has qualified for interim status under WAC 173-303-805 or for which the department has issued a final facility permit under WAC 173-303-806.

(e) "Expansion" means the enlargement of the land surface area of an existing facility from that described in an interim status permit application or final facility permit, the addition of a new dangerous waste management process, or an increase in overall design capacity of existing dangerous waste management processes at a facility. However, a process or equipment change within the existing handling code (not to include "other") as defined under WAC 173-303-380 (2)(d) will not be considered a new dangerous waste management process.

(f) "Fault" means a fracture along which rocks or soils on one side have been displaced with respect to those on the other side.

(g) "Holocene" means the most recent epoch of the Quaternary period, extending from the end of the Pleistocene to the present.

(h) "Land-based facility" means a dangerous waste management facility which falls under the definition of land disposal as defined in Section 3004(k) of the Resource Conservation and Recovery Act. These facilities use the

land as an integral part of their waste management method and include, but are not limited to, landfills, surface impoundments, waste piles, and land treatment facilities. For the purposes of this section, this would not include waste piles in which the dangerous wastes are stored inside or under a structure that provides protection from precipitation and when runoff, leachate, or other types of waste dispersal are not generated under any conditions.

(i) "Nonland based facility" means a facility which does not use the land as an integral part of its waste management method and is not subject to the requirements of WAC 173-303-806 (4)(a)(xxi). These facilities include, but are not limited to, tanks, containers, and incinerators.

(j) "Perennial surface water body" means a surface water body which is normally continuous with natural flows throughout the year or an annually recurring body of water including lakes, rivers, ponds, streams, reservoirs, inland waters, and saltwaters. This does not include roadside ditches or storm drains. However, this definition does apply to irrigation or domestic water supply channels existing, or planned and approved by a governmental agency, at the time an owner/operator submits a notice of intent.

(k) "Preempted facility" means any facility that includes as a significant part of its activities any of the following operations: (i) Landfill; (ii) incineration; (iii) land treatment; (iv) surface impoundment to be closed as a landfill; or (v) waste pile to be closed as a landfill.

(l) "Prime farmland" means the land which has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber or oilseed crops, and is also available for these uses. It has the soil quality, growing season, and moisture supply needed to economically produce sustained high yields of crops when treated and managed, including water management, according to acceptable farming methods. In general, prime farmland has an adequate and dependable water supply from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. Prime farmland is not excessively erodible or saturated with water for a long period of time, and it either does not flood frequently or is protected from flooding. Prime farmland will be determined by those general and specific criteria as defined in the National Soils Handbook, Soil Conservation Service, United States Department of Agriculture, Washington, D.C. and 7 CFR 2.62. Areas of prime farmland are identified in the most recent county soil survey maps prepared by the National Cooperative Soil Survey.

(m) "Proposed facility" means a facility which has not qualified for interim status under WAC 173-303-805 or for which the department has not issued a final facility permit under WAC 173-303-806.

(n) "Public gathering places" means a place such as a public or private health care or child care facility; an educational institution; a church; a government institution not associated with dangerous waste management; or a retail shopping center.

(o) "Residence" means any dwelling including, but not limited to, private homes, rental homes, boarding houses, apartments, motels, or hotels.

(p) "Significant expansion" means an expansion of an existing facility, operating under interim status or a final status permit, that is considered a class three modification as designated by 40 CFR Parts 270.41 and 270.42. Examples include, but are not limited to, a modification or addition of container units resulting in greater than a twenty-five percent increase in the facility's container storage capacity, storage of different wastes in containers that require additional or different management practices from those authorized under interim status or by a final status permit, and a modification or addition of tank units resulting in greater than twenty-five percent increase in the facility's capacity. For the purposes of this section, a single or cumulative increase of greater than twenty-five percent of the process design capacity as described in the facility's original Part A permit application will be considered a significant expansion.

(q) "Slope and soil instability" means areas for which there is credible evidence of, or the potential for, landslides, slumps, avalanches, earth or mud flows, or other unsuitable slope conditions.

(r) "Subsidence" means areas for which there is credible evidence of, or potential for, sinking of the land surface. Areas of subsurface mines, caves, cavernous materials, or where there has been significant removal of fluids may provide credible evidence of subsidence.

(s) "Wetland" means land transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification a wetland must have one or more of the following three attributes: (i) At least periodically, the land supports predominantly hydrophytes; (ii) the substrate is predominantly undrained hydric soil; and (iii) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year. The *Joint Federal Methodology for Identifying and Delineating Wetlands* must be used for defining the upland boundary of wetlands.

(4) **Implementation.**

(a) Submittal of information to demonstrate compliance. Documentation that a proposed facility or expansion site meets the siting criteria must be submitted to the department:

(i) In the notice of intent for those facilities for which a notice of intent is filed after the effective date of this section; or

(ii) Within ninety days of the effective date of this section for proposed facilities for which a notice of intent or an application for a Part B permit has been submitted to the department prior to the effective date of this section.

(b) Consultation by department. The department will consult with the lead local government as defined in WAC 173-303-902 (4)(h) and consider those local land use, building, fire, air quality, and transportation standards to the extent they add to and do not conflict with the requirements of this section. Such consultation and consideration will be made prior to the department's rendering of a tentative decision under subsection (4)(c) of this section.

(c) Response by department. Within sixty days of receipt of a demonstration of compliance, the department will undertake one of the following actions:

(i) Return the demonstration of compliance as incomplete with written comments identifying the need for additional information. The owner or operator may resubmit the demonstration of compliance with complete information; or

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(ii) Render a written tentative decision to approve or deny the demonstration of compliance.

(d) Public notice and hearing process. The department in making a tentative decision to approve or deny a demonstration of compliance with this section will take the following actions:

(i) For land-based facilities and incinerators:

(A) The department will publish a notice of its tentative decision in a daily or weekly newspaper of general circulation in the potentially affected area, and will give notice by other reasonable methods to persons potentially affected.

(B) The department will hold a public hearing at a location convenient to the public in the potentially affected area. Notice of the date, time, purpose, and place of the hearing will be provided in the publication of notice.

(C) The department will accept comments on its tentative decision for a minimum of forty-five days.

(D) After evaluating all public comments the department will make a final decision in accordance with chapter 34.05 RCW. The department will either approve or deny the owner/operator's demonstration of compliance.

(ii) For nonland-based facilities, excluding incinerators:

(A) The department will publish a notice of its tentative decision in a daily or weekly newspaper of general circulation in the potentially affected area, and will give notice by other reasonable methods to persons potentially affected.

(B) Upon the written request of any interested person, the department may hold a public hearing to consider public comments on the owner or operator's demonstration of compliance. A person requesting the hearing must state the issues to be raised and explain why written comments would not suffice. In any case, if ten or more persons request a public hearing on the subject of the department's tentative decision, the department will hold a public hearing for the purpose of receiving comments.

(C) The department will accept comments on its tentative decision for a minimum of forty-five days.

(D) After evaluating all public comments the department will make a final decision in accordance with chapter 34.05 RCW. The department will either approve or deny the owner or operator's demonstration of compliance.

(5) **Appeal of a department decision.** Any person who is adversely affected by a decision of the department under this section may appeal the decision to the pollution control hearings board pursuant to the authority of WAC 173-303-845.

(6) **Criteria for elements of the natural environment.** The following siting criteria establish locations from which facilities are excluded and establish minimum setback distances from identified resources. Unless otherwise stated, setback distances are measured horizontally from the dangerous waste management unit boundary to the identified resource.

These criteria will be used as an initial screening tool in the selection of sites which may be considered by the department for the purpose of managing dangerous waste. A more comprehensive evaluation of locational factors will occur during the department's review of a permit application. The department may deny a permit or impose additional setback distances or other permit requirements if necessary to protect human health and the environment.

(a) Earth. The intent of this subsection is to reduce the potential for the release of dangerous waste into the environment because of structural damage to facilities subject to the hazards identified below. The owner/operator must provide supportive geologic, geotechnical, and soils information.

(i) Seismic risk. All dangerous waste management facilities must be located such that the dangerous waste management unit boundary is located at least five hundred feet from a fault which has had displacement in Holocene times.

(ii) Subsidence. No dangerous waste management facility may be located such that the dangerous waste management unit is within an area of subsidence.

(iii) Slope or soil instability. No dangerous waste management facility may be located such that the dangerous waste management unit is within an area of slope or soil instability, nor in the areas affected by unstable slope or soil conditions.

(b) Air. The intent of this subsection is to reduce the potential for further degradation of air quality in areas currently experiencing air quality impacts.

(i) Incineration facilities may not be located in a Class I ((~~Prevention of Significant Deterioration Air Quality Zone designated under~~)) area designated pursuant to Section 162 or 164 of the Federal Clean Air Act (pursuant to WAC 173-300-030(13)).

(ii) Incineration facilities may not be located in a nonattainment area designated by the department unless compensating emission offset can be achieved.

(iii) Proposed incineration facilities must comply with WAC 173-303-806 (4)(a)(xxii) during the permitting process.

(c) Water. The intent of this subsection is to reduce the potential for contaminating waters of the state in the event of a release of dangerous wastes.

(i) Surface water.

(A) Flood, seiche, and tsunami protection.

(I) No dangerous waste management facility or dangerous waste management unit may be located within the one hundred-year flood plain as indicated in the most current Federal Emergency Management Agency maps.

(II) The owner/operator of a nonland-based facility must identify whether the facility is intended to be located within the five hundred-year flood plain, as indicated in the most current Federal Emergency Management Agency maps. Nonland-based facilities will require special design features so as to prevent flooding of the dangerous waste management unit in the event of a five hundred-year flood.

(III) Land-based facilities may not be located within the five hundred-year flood plain as indicated in the most current Federal Emergency Management Agency maps.

(IV) Dangerous waste management facilities may not be located in areas subject to seiches, or coastal flooding including tsunamis or storm surges as indicated in the most current maps of the National Flood Insurance Program of the Federal Emergency Management Agency.

(B) Perennial surface water bodies.

(I) Nonland-based facilities must be located such that the dangerous waste management unit boundary is at least five hundred feet from a perennial surface water body.

(II) Land-based facilities must be located such that the dangerous waste management unit boundary is at least one-quarter mile from a perennial surface water body.

(C) Surface water supply.

(I) No dangerous waste management facility may be located in a watershed identified in the report submitted to, and approved by, the department of health under the authority of WAC ((~~248-54-225(3)~~)) 246-290-135(5), Watershed control.

(II) Nonland-based facilities must be located such that the dangerous waste management unit boundary is at least five hundred feet from the nearest surface water intake for domestic water.

(III) Land-based facilities must be located such that the dangerous waste management unit boundary is at least one-quarter mile from the nearest surface water intake for domestic water.

(ii) Ground water. To the extent feasible, proponents of land-based facilities should seek sites with natural site characteristics which are capable of providing protection of ground water resources. Natural features such as low permeability soils and substrata, relatively simple geologic formations, and high rates of evapotranspiration in relation to the seasonal occurrence of precipitation are preferable for the locations of land-based facilities. Proposed land-based facilities must comply with the contingent ground water protection program, WAC 173-303-806 (4)(a)(xxi), during the permitting process.

(A) Depth to ground water.

(I) Nonland-based facilities may not be located in areas where there is less than ten feet vertical separation between the lowest point of the dangerous waste management unit and the seasonal high water level of the uppermost aquifer of beneficial use.

(II) Land-based facilities may not be located in areas where there is less than fifty feet vertical separation between the lowest point of the dangerous waste management unit and the seasonal highwater level of the uppermost aquifer of beneficial use.

(B) Sole source aquifer. No land-based facilities may be located over an area designated as a sole source aquifer under section 1424(e) of the Federal Safe Drinking Water Act (P.L. 93-523).

(C) Ground water management areas. Owners/operators of facilities must identify whether the proposed facility location is within a ground water management area, as proposed or certified pursuant to RCW 90.44.130. In order to maintain consistency with the purpose and substantive requirements of certified ground water management area plans, the department may require additional protective measures or reject inconsistent projects.

(D) Ground water intakes.

(I) Nonland-based facilities must be located such that the dangerous waste management unit boundary is at least five hundred feet from the nearest ground water intake for domestic water.

(II) Land-based facilities must be located such that the dangerous waste management unit boundary is at least one-quarter mile from the nearest ground water intake for domestic water.

(E) Special protection areas. Land-based facilities must not be located within ground water special protection areas designated by ecology under the authority of chapter 90.48 RCW.

(d) Plants and animals: Intent. To reduce the potential for dangerous waste contaminating plant and animal habitat in the event of a release of dangerous wastes.

(i) Nonland-based facilities must be located such that the dangerous waste management unit boundary is at least five hundred feet from the following areas:

(A) Wetlands;

(B) Designated critical habitat, for federally listed threatened or endangered species, as defined by the Endangered Species Act of 1973 (P.L. 93-205);

(C) Habitat designated by the Washington department of wildlife as habitat essential to the maintenance or recovery of any state listed threatened or endangered wildlife species;

(D) Natural areas which are acquired or voluntarily registered or dedicated by the owner under chapter 79.70 RCW, Natural area preserves; and

(E) State or federally designated wildlife refuge, preserve, or bald eagle protection area.

(ii) Land-based facilities must be located such that the dangerous waste management unit boundary is at least one-quarter mile from those areas specified in item (i) above.

(e) Precipitation. The intent of this subsection is to reduce the potential for contaminating waters and soils of the state in the event of a release of dangerous wastes.

Land-based facilities must not be located in areas having a mean annual precipitation level of greater than one hundred inches. The mean annual precipitation map in the U.S. Geological Survey Water-Resources Investigations Report 84-4279 must be used to determine whether a land-based facility is proposed to be located in such an area.

(7) **Criteria for elements of the built environment.** The following siting criteria establish locations from which facilities are excluded or which require separation from identified land uses. Unless otherwise stated, setback distances are measured horizontally from the dangerous waste management unit boundary to the identified land use.

These criteria must be used as an initial screening tool in the selection of sites which may be considered by the department for the purpose of managing dangerous waste. A more comprehensive evaluation of locational factors will occur during the department's review of a permit application. The department may deny a permit or impose additional setback distances or other permit requirements if necessary to protect human health and the environment.

(a) Adjacent land use.

(i) Nonland-based facilities must be located such that the dangerous waste management unit boundary is at least two hundred feet from the nearest point of the facility property line.

(ii) Land-based facilities must be located such that the dangerous waste management unit boundary is at least five hundred feet from the nearest point of the facility property line.

(b) Special land uses.

(i) Wild and scenic rivers. Dangerous waste management facilities must not be located within the viewshed of users on wild and scenic rivers designated by the state or federal government.

(ii) Nonland-based facilities must be located such that the dangerous waste management unit boundary is at least five hundred feet from the following:

PROPOSED

(A) State or federally designated park, recreation area, or national monument;

(B) Wilderness area as defined by the Wilderness Act of 1964 (P.L. 88-577); and

(C) Land identified as prime farmland at the time a notice of intent is submitted to the department.

(iii) Land-based facilities must be located such that the dangerous waste management unit boundary is at least one-quarter mile from those land uses specified in item (ii) above.

(c) Residences and public gathering places.

(i) Nonland-based facilities with the exception of incineration facilities must be located such that the dangerous waste management unit boundary is at least five hundred feet from residences or public gathering places.

(ii) Incineration and land-based facilities must be located such that the dangerous waste management unit boundary is at least one-quarter mile from residences or public gathering places.

(d) Land use compatibility. Owners/operators of nonpreempted facilities must conform with local land use zoning designation requirements, as approved by the department under chapter 70.105 RCW.

(e) Archeological sites and historic sites. No dangerous waste management facility must be located in an archeological site or historic site designated by the state or federal government.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-300 General waste analysis.** (1) Purpose. This section requires the facility owner or operator to confirm his knowledge about a dangerous waste before he stores, treats, or disposes of it. The purpose for the analysis is to insure that a dangerous waste is managed properly.

(2) The owner or operator must obtain a detailed chemical, physical, and/or biological analysis of a dangerous waste, or nondangerous wastes if applicable under WAC 173-303-610 (4)(d), before he stores, treats, or disposes of it. This analysis must contain the information necessary to manage the waste in accordance with the requirements of this chapter 173-303 WAC. The analysis may include or consist of existing published or documented data on the dangerous waste, or on waste generated from similar processes, or data obtained by testing, if necessary.

(3) The owner or operator of an off-site facility must confirm, by analysis if necessary, that each dangerous waste received at the facility matches the identity of the waste specified on the accompanying manifest or shipping paper.

(4) Analysis must be repeated as necessary to ensure that it is accurate and current. At a minimum, analysis must be repeated:

(a) When the owner or operator has been notified, or has reason to believe, that the process or operation generating the dangerous waste, or nondangerous wastes if applicable under WAC 173-303-610 (4)(d), has significantly changed; and

(b) When a dangerous waste received at an off-site facility does not match the identity of the waste specified on the manifest or the shipping paper.

(5) Waste analysis plan. The owner or operator must develop and follow a written waste analysis plan which describes the procedures he will use to comply with the waste analysis requirements of subsections (1), (2), (3), and (4) of this section. He must keep this plan at the facility, and the plan must contain at least:

(a) The parameters for which each dangerous waste, or nondangerous waste if applicable under WAC 173-303-610 (4)(d), will be analyzed, and the rationale for selecting these parameters (i.e., how analysis for these parameters will provide sufficient information on the waste's properties to comply with subsections (1) through (4) of this section);

(b) The methods of obtaining or testing for these parameters;

(c) The methods for obtaining representative samples of wastes for analysis (representative sampling methods are discussed in WAC 173-303-110(2));

(d) The frequency with which analysis of a waste will be reviewed or repeated to ensure that the analysis is accurate and current;

(e) The waste analyses which generators have agreed to supply;

(f) Where applicable, the methods for meeting the additional waste analysis requirements for specific waste management methods as specified in WAC 173-303-400(3) which incorporates by reference the regulations in 40 CFR Part 265 Subparts F through R 265.1034, 265.1063, 268.4(a) and 268.7 for interim status facilities and in WAC 173-303-140 (4)(b), 173-303-395(1), 173-303-630 through 173-303-670, and 40 CFR 264.1034, 264.1063, 268.4(a) and 268.7 for final status facilities;

(g) For off-site facilities, the waste analysis that dangerous waste generators have agreed to supply;

(h) For surface impoundments exempted from land disposal restrictions under 40 CFR 268.4(a), incorporated by reference in WAC 173-303-140(2), the procedures and schedules for:

(i) The sampling of impoundment contents;

(ii) The analysis of test data; and

(iii) The annual removal of residues that are not delisted under 40 CFR 260.22 or which exhibit a characteristic of hazardous waste and either:

(A) Do not meet applicable treatment standards of 40 CFR Part 268, Subpart D; or

(B) Where no treatment standards have been established;

(I) Such residues are prohibited from land disposal under 40 CFR 268.32 or RCRA section 3004(d); or

(II) Such residues are prohibited from land disposal under 40 CFR 268.33(f).

(6) For off-site facilities, the waste analysis plan required in subsection (5) of this section must also specify the procedures which will be used to inspect and, if necessary, analyze each movement of hazardous waste received at the facility to ensure that it matches the identity of the waste designated on the accompanying manifest or shipping paper. At a minimum, the plan must describe:

(a) The procedures which will be used to determine the identity of each movement of waste managed at the facility;

(b) The sampling method which will be used to obtain a representative sample of the waste to be identified, if the identification method includes sampling; and

(c) The procedures that the owner or operator of an off-site landfill receiving containerized hazardous waste will use to determine whether a hazardous waste generator or treater has added a biodegradable sorbent to the waste in the container.

Comment: WAC 173-303-806 requires that the waste analysis plan be submitted with Part B of the permit application.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-335 Construction quality assurance program.** (1) CQA program.

(a) A construction quality assurance (CQA) program is required for all surface impoundment, waste pile, and landfill units that are required to comply with WAC 173-303-650 (2)(j) and (k), 173-303-660 (2)(j) and (k), and 173-303-665 (2)(h) and (j). The program must ensure that the constructed unit meets or exceeds all design criteria and specifications in the permit. The program must be developed and implemented under the direction of a CQA officer who is a registered professional engineer.

(b) The CQA program must address the following physical components, where applicable:

(i) Foundations;

(ii) Dikes;

(iii) Low-permeability soil liners;

(iv) Geomembranes (flexible membrane liners);

(v) Leachate collection and removal systems and leak detection systems; and

(vi) Final cover systems.

(2) Written CQA plan. The owner or operator of units subject to the CQA program under (a) of this subsection must develop and implement a written CQA plan. The plan must identify steps that will be used to monitor and document the quality of materials and the condition and manner of their installation. The CQA plan must include:

(a) Identification of applicable units, and a description of how they will be constructed.

(b) Identification of key personnel in the development and implementation of the CQA plan, and CQA officer qualifications.

(c) A description of inspection and sampling activities for all unit components identified in subsection (1)(b) of this section, including observations and tests that will be used before, during, and after construction to ensure that the construction materials and the installed unit components meet the design specifications. The description must cover: Sampling size and locations; frequency of testing; data evaluation procedures; acceptance and rejection criteria for construction materials; plans for implementing corrective measures; and data or other information to be recorded and retained in the operating record under WAC 173-303-380.

(3) Contents of program.

(a) The CQA program must include observations, inspections, tests, and measurements sufficient to ensure:

(i) Structural stability and integrity of all components of the unit identified in subsection (1)(b) of this section;

(ii) Proper construction of all components of the liners, leachate collection and removal system, leak detection system, and final cover system, according to permit specifications and good engineering practices, and proper installation of all components (e.g., pipes) according to design specifications;

(iii) Conformity of all materials used with design and other material specifications under WAC 173-303-650, 173-303-660, and 173-303-665.

(b) The CQA program will include test fills for compacted soil liners, using the same compaction methods as in the full scale unit, to ensure that the liners are constructed to meet the hydraulic conductivity requirements of WAC 173-303-650 (2)(j)(i)(B), 173-303-660 (2)(j)(i)(B), and 173-303-665 (2)(h)(i)(B) in the field. Compliance with the hydraulic conductivity requirements must be verified by using in-situ testing on the constructed test fill. The department may accept an alternative demonstration, in lieu of a test fill, where data are sufficient to show that a constructed soil liner will meet the hydraulic conductivity requirements of WAC 173-303-650 (2)(j)(i)(B), 173-303-660 (2)(j)(i)(B), and 173-303-665 (2)(h)(i)(B) in the field.

(4) Certification. Waste will not be received in a unit subject to this section until the owner or operator has submitted to the department by certified mail or hand delivery a certification signed by the CQA officer that the approved CQA plan has been successfully carried out and that the unit meets the requirements of WAC 173-303-650 (2)(j) or (k), 173-303-660 (2)(j) or (k), or 173-303-665 (2)(h) or (j); and the procedure in WAC 173-303-810 (14)(a) has been completed. Documentation supporting the CQA officer's certification must be furnished to the department upon request.

(5) Construction quality assurance program for interim status facilities. Interim status facilities must comply with the construction quality assurance program requirements at 40 CFR 265.19 which are incorporated by reference at WAC 173-303-400 (3)(a).

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-350 Contingency plan and emergency procedures.** (1) Purpose. The purpose of this section and WAC 173-303-360 is to lessen the potential impact on the public health and the environment in the event of an emergency circumstance, including a fire, explosion, or unplanned sudden or nonsudden release of dangerous waste or dangerous waste constituents to air, soil, surface water, or ground water by a facility. A contingency plan must be developed to lessen the potential impacts of such emergency circumstances, and the plan must be implemented immediately in such emergency circumstances.

(2) Contingency plan. Each owner or operator must have a contingency plan at his facility for use in emergencies or sudden or nonsudden releases which threaten ((~~the public~~)) human health and the environment. If the owner or operator has already prepared a spill prevention control and countermeasures (SPCC) plan in accordance with Part 112 of Title 40 CFR or Part 1510 of chapter V, or some other emergency or contingency plan, he need only amend that plan to incorporate dangerous waste management provisions that are sufficient to comply with the requirements of this section and WAC 173-303-360.

(3) The contingency plan must contain the following:

PROPOSED

(a) A description of the actions which facility personnel must take to comply with this section and WAC 173-303-360;

(b) A description of the actions which will be taken in the event that a dangerous waste shipment, which is damaged or otherwise presents a hazard to the public health and the environment, arrives at the facility, and is not acceptable to the owner or operator, but cannot be transported, pursuant to the requirements of WAC 173-303-370(5), Manifest system, reasons for not accepting dangerous waste shipments;

(c) A description of the arrangements agreed to by local police departments, fire departments, hospitals, contractors, and state and local emergency response teams to coordinate emergency services as required in WAC 173-303-340(4);

(d) A current list of names, addresses, and phone numbers (office and home) of all persons qualified to act as the emergency coordinator required under WAC 173-303-360(1). Where more than one person is listed, one must be named as primary emergency coordinator, and others must be listed in the order in which they will assume responsibility as alternates. For new facilities only, this list may be provided to the department at the time of facility certification (as required by WAC 173-303-810 (14)(a)(i)), rather than as part of the permit application;

(e) A list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems, and decontamination equipment), where this equipment is required. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities; and

(f) An evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe the signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes.

(4) Copies of contingency plan. A copy of the contingency plan and all revisions to the plan must be:

(a) Maintained at the facility; and

(b) Submitted to all local police departments, fire departments, hospitals, and state and local emergency response teams that may be called upon to provide emergency services.

(5) Amendments. The owner or operator must review and immediately amend the contingency plan, if necessary, whenever:

(a) Applicable regulations or the facility permit are revised;

(b) The plan fails in an emergency;

(c) The facility changes (in its design, construction, operation, maintenance, or other circumstances) in a way that materially increases the potential for fires, explosions, or releases of dangerous waste or dangerous waste constituents, or in a way that changes the response necessary in an emergency;

(d) The list of emergency coordinators changes; or

(e) The list of emergency equipment changes.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-380 Facility recordkeeping.** (1) Operating record. The owner or operator of a facility must keep a written operating record at their facility. The following information must be recorded, as it becomes available, and maintained in the operating record until closure of the facility:

(a) A description of and the quantity of each dangerous waste received or managed on-site, and the method(s) and date(s) of its treatment, storage, or disposal at the facility as required by subsection (2) of this section, recordkeeping instructions;

(b) The location of each dangerous waste within the facility and the quantity at each location. For disposal facilities, the location and quantity of each dangerous waste must be recorded on a map or diagram of each cell or disposal area. For all facilities, this information must include cross-references to specific manifest document numbers, if the waste was accompanied by a manifest;

(c) Records and results of waste analyses and trial tests required by WAC 173-303-300, General waste analysis, and by 40 CFR sections 264.1034, 264.1063, 265.1034, 265.1063, 268.4(a), and 268.7;

(d) Summary reports and details of all incidents that require implementing the contingency plan, as specified in WAC 173-303-360 (2)(k);

(e) Records and results of inspections as required by WAC 173-303-320 (2)(d), General inspection (except such information need be kept only for five years);

(f) Monitoring, testing, or analytical data, and corrective action where required by 40 CFR Part 265 Subparts F through R and sections 265.1034 (c) through (f), 265.1035, 265.1063 (d) through (i), and 265.1064 for interim status facilities, and by WAC 173-303-630 through 173-303-695 and 40 CFR sections 264.1034 (c) through (f), 264.1035, 264.1063 (d) through (i), and 264.1064 for final status facilities;

(g) All closure and post-closure cost estimates required for the facility;

(h) For off-site facilities, copies of notices to generators informing them that the facility has all appropriate permits, as required by WAC 173-303-290, Required notices;

(i) Records of the quantities (and date of placement) for each shipment of hazardous waste placed in land disposal units under an extension to the effective date of any land disposal restriction granted pursuant to 40 CFR 268.5, a petition pursuant to 40 CFR 268.6, or a certification under 268.8, and the applicable notice required by a generator under 40 CFR 268.7(a);

(j) For an off-site treatment facility, a copy of the notice, and the certification and demonstration, if applicable, required by the generator or the owner or operator under 40 CFR 268.7 or 268.8;

(k) For an on-site treatment facility, the information contained in the notice (except the manifest number), and the certification and demonstration if applicable, required by the generator or the owner or operator under 40 CFR 268.7 or 268.8;

(l) For an off-site land disposal facility, a copy of the notice, and the certification and demonstration if applicable,

required by the generator or the owner or operator of a treatment facility under 40 CFR 268.7 and 268.8, whichever is applicable;

(m) For an on-site land disposal facility, the information contained in the notice required by the generator or owner or operator of a treatment facility under 40 CFR 268.7, except for the manifest number, and the certification and demonstration if applicable, required under 40 CFR 268.8, whichever is applicable;

(n) For an off-site storage facility, a copy of the notice, and the certification and demonstration if applicable, required by the generator or the owner or operator under 40 CFR 268.7 or 268.8; and

(o) For an on-site storage facility, the information contained in the notice (except the manifest number), and the certification and demonstration if applicable, required by the generator or the owner or operator under 40 CFR 268.7 or 268.8.

(2) Recordkeeping instructions. This paragraph provides instructions for recording the portions of the operating record which are related to describing the types, quantities, and management of dangerous wastes at the facility. This information must be ((~~kept~~)) recorded, as it becomes available, and maintained in the operating record until closure of the facility, as follows:

(a) Each dangerous waste received ((~~or managed~~)), treated, stored, or disposed of at the facility must be described by its common name and by its dangerous waste number(s) from WAC 173-303-080 through 173-303-104. Each listed, characteristic, and criteria wastes has its own four-digit dangerous waste number. Where a dangerous waste contains more than one process waste or waste constituent the waste description must include all applicable dangerous waste numbers. If the dangerous waste number is not listed ((~~then~~)), the waste description must include the process which generated the waste;

(b) The waste description must include the waste's physical form (i.e., liquid, solid, sludge, or contained gas);

(c) The estimated or manifest-reported weight, or volume and density, where applicable, of the dangerous waste must be recorded, using one of the units of measure specified in Table 1, below; and

TABLE 1

((

| ~~Unit of Measure~~ | ~~Symbol~~ | ~~Density~~ |
|---|---|---|
| ~~Pounds~~ | ~~P~~ | |
| ~~Short tons (2000 lbs)~~ | ~~T~~ | |
| ~~Gallons (U.S.)~~ | ~~G~~ | ~~P/G~~ |
| ~~Cubic yards~~ | ~~Y~~ | ~~T/Y~~ |
| ~~Kilograms~~ | ~~K~~ | |
| ~~Tonnes (1000 kg)~~ | ~~M~~ | |
| ~~Liters~~ | ~~L~~ | ~~K/L~~ |
| ~~Cubic meters~~ | ~~C~~ | ~~M/C~~ |

))

| Unit of measure | Code[1] |
|---|---|
| Gallons | G |
| Gallons per Hour | E |
| Gallons per Day | U |
| Liters | L |
| Liters per Hour | H |
| Liters per Day | V |
| Short Tons (2000 lbs) | T |
| Short Tons per Hour | D |
| Metric Tons per Hour | W |
| Short Tons per Day | N |
| Metric Tons per Day | S |
| Pounds | P |
| Pounds per Hour | J |
| Kilograms | K |
| Kilograms per Hour | R |
| Cubic Yards | Y |
| Cubic Meters | C |
| Acres | B |
| Acre-feet | A |
| Hectares | Q |
| Hectare-meter | F |
| Btu's per Hour | I |

Footnote: [1]Single-digit symbols are used here for data processing purposes.***

(d) ((~~And,~~)) The ((~~date(s) and~~)) method(s) (by handling code(s)) of management for each dangerous waste received or managed ((~~treated, recycled, stored, or disposed of~~)), and the date(s) of treatment, recycling, storage, or disposal must be recorded, using the handling code(s) specified in Table 2, below.

TABLE 2 - Handling Codes for Treatment, Storage, and Disposal Methods

Enter the handling code(s) listed below that most closely represents the technique(s) used at the facility to treat, store, or dispose of each quantity of dangerous waste received.

1. Storage
   - S01 Container (barrel, drum, etc.)
   - S02 Tank
   - S03 Waste pile
   - S04 Surface impoundment
   - S05 Drip Pad
   - S06 Containment Building (Storage)
   - S99 Other storage (specify)
2. Treatment
   - (a) Thermal Treatment
   - T06 Liquid injection incinerator
   - T07 Rotary kiln incinerator
   - T08 Fluidized bed incinerator
   - T09 Multiple hearth incinerator
   - T10 Infrared furnace incinerator
   - T11 Molten salt destructor
   - T12 Pyrolysis
   - T13 Wet air oxidation
   - T14 Calcination
   - T15 Microwave discharge
   - ((~~T16 Cement kiln~~
   - ~~T17 Lime kiln~~))
   - T18 Other (specify)
   - (b) Chemical treatment
   - T19 Absorption mound
   - T20 Absorption field
   - T21 Chemical fixation
   - T22 Chemical oxidation
   - T23 Chemical precipitation

PROPOSED

PROPOSED

T24 Chemical reduction
T25 Chlorination
T26 Chlorinolysis
T27 Cyanide destruction
T28 Degradation
T29 Detoxification
T30 Ion exchange
T31 Neutralization
T32 Ozonation
T33 Photolysis
T34 Other (specify)
(c) Physical treatment
(i) Separation of components
T35 Centrifugation
T36 Clarification
T37 Coagulation
T38 Decanting
T39 Encapsulation
T40 Filtration
T41 Flocculation
T42 Flotation
T43 Foaming
T44 Sedimentation
T45 Thickening
T46 Ultrafiltration
T47 Other (specify)
(ii) Removal of specific components
T48 Absorption-molecular sieve
T49 Activated carbon
T50 Blending
T51 Catalysis
T52 Crystallization
T53 Dialysis
T54 Distillation
T55 Electrodialysis
T56 Electrolysis
T57 Evaporation
T58 High gradient magnetic separation
T59 Leaching
T60 Liquid ion exchange
T61 Liquid-liquid extraction
T62 Reverse osmosis
T63 Solvent recovery
T64 Stripping
T65 Sand filter
T66 Other (specify)
(d) Biological treatment
T67 Activated sludge
T68 Aerobic lagoon
T69 Aerobic tank
T70 Anaerobic ((~~lagoon or~~)) tank
T71 Composting
T72 Septic tank
T73 Spray irrigation
T74 Thickening filter
T75 Trickling filter
T76 Waste stabilization pond
T77 Other (specify)
T78-79 (Reserved)
(e) Boilers and industrial furnaces
T80 Boiler
T81 Cement kiln
T82 Lime kiln
T83 Aggregate kiln
T84 Phosphate kiln
T85 Coke oven
T86 Blast furnace
T87 Smelting, melting, or refining furnace
T88 Titanium dioxide chloride process oxidation reactor
T89 Methane reforming furnace
T90 Pulping liquor recovery furnace
T91 Combustion device used in the recovery of sulfur values from spent sulfuric acid
T92 Halogen acid furnaces
T93 Other industrial furnaces listed in WAC 173-303-040 (specify)
(f) Other treatment
T94 Containment building (treatment)

3. Disposal
D((~~80~~)) 79 Underground injection
D((~~81~~)) 80 Landfill
D((~~82~~)) 81 Land treatment
D((~~83~~)) 82 Ocean disposal
D((~~84~~)) 83 Surface impoundment (to be closed as a landfill)
D((~~85~~)) 99 Other disposal (specify)
4. Miscellaneous (Subpart X)
X01 Open burning/open detonation
X02 Mechanical processing
X03 Thermal unit
X04 Geologic repository
X99 Other Subpart X (specify)

(3) Availability, retention and disposition of records.

(a) All facility records, including plans, required by this chapter must be furnished upon request, and made available at all reasonable times for inspection, by any officer, employee, or representative of the department who is designated by the director.

(b) The retention period for all facility records required under this chapter is extended automatically during the course of any unresolved enforcement action regarding the facility or as requested by the director.

(c) A copy of records of waste disposal locations and quantities under this section must be submitted to the United States EPA regional administrator, the department, and the local land use and planning authority upon closure of the facility.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-395 Other general requirements.** (1) Precautions for ignitable, reactive, or incompatible wastes.

(a) The owner or operator must take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. This waste must be separated and protected from sources of ignition or reaction including, but not limited to, open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (e.g., from heat-producing chemical reactions), and radiant heat. While ignitable or reactive waste is being handled, the owner or operator must confine

smoking and open flame to specially designated locations. "No smoking" signs must be conspicuously placed wherever there is a hazard from ignitable or reactive waste.

(b) Where specifically required by other sections of this chapter 173-303 WAC, the treatment, storage, or disposal of ignitable or reactive waste, and the mixture or commingling of incompatible wastes, or incompatible wastes and materials, must be conducted so that it does not:

(i) Generate extreme heat or pressure, fire or explosion, or violent reaction;

(ii) Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment;

(iii) Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;

(iv) Damage the structural integrity of the facility or device containing the waste; or

(v) Through other like means, threaten human health or the environment.

(c) When required to comply with (a) and (b) of this subsection, the owner or operator must document that compliance in the operating record required under WAC 173-303-380(1). This documentation may be based on references to published scientific or engineering literature, data from trial tests, waste analyses, or the results of the treatment of similar wastes by similar treatment processes and under similar operating conditions.

(d) At least yearly, the owner or operator must inspect those areas of his facility where ignitable or reactive wastes are stored. This inspection must be performed in the presence of a professional person who is familiar with the Uniform Fire Code, or in the presence of the local, state, or federal fire marshal. The owner or operator must enter the following information in his inspection log or operating record as a result of this inspection:

(i) The date and time of the inspection;

(ii) The name of the professional inspector or fire marshal;

(iii) A notation of the observations made; and

(iv) Any remedial actions which were taken as a result of the inspection.

(2) Compliance with other environmental protection laws and regulations. In receiving, storing, handling, treating, processing, or disposing of dangerous wastes, the owner/operator must design, maintain and operate his dangerous waste facility in compliance with all applicable federal, state and local laws and regulations (e.g., control of stormwater or sanitary water discharge, control of volatile air emissions, etc.).

(3) ((~~Asbestos dangerous waste disposal requirements. All asbestos containing waste material must be disposed of at waste disposal sites which are operated in accordance with 40 CFR Part 61 Subpart M. Such sites will not need to comply with any other standards of chapter 173-303 WAC, if they comply with 40 CFR Part 61.~~)) Reserve.

(4) Loading and unloading areas. TSD facilities which receive or ship manifested shipments of liquid dangerous waste for treatment, storage or disposal must provide for and use an area (or areas) for loading and unloading waste shipments. The loading and unloading area(s) must be designed, constructed, operated and maintained to:

(a) Contain spills and leaks that might occur during loading or unloading;

(b) Prevent release of dangerous waste or dangerous waste constituents to ground or surface waters;

(c) Contain wash waters (if any) resulting from the cleaning of contaminated transport vehicles and load/unload equipment; and

(d) Allow for removal, as soon as possible, of collected wastes resulting from spills, leaks and equipment cleaning (if any) in a manner which assures compliance with (b) of this subsection.

(5) Storage time limit for impoundments and piles.

(a) Except as provided in (b) or (c) of this subsection, dangerous waste may not be stored in a surface impoundment or waste pile for more than five years after the waste was first placed in the impoundment or pile. For the purposes of this requirement, the five-year limit, for waste regulated under this chapter and being stored in impoundments or piles on the effective date of this requirement, will begin on August 1, 1984. The age of stored wastes must be determined on a monthly basis.

The owner/operator of a surface impoundment or waste pile used for storing dangerous waste must develop a written plan, to be kept at the facility, for complying with the five-year storage limit. The plan must describe the operating conditions, waste identification procedures (for keeping track of the age of the wastes), and a waste removal schedule, and at a minimum the plan must include the following elements:

(i) Methods for identifying the age of dangerous wastes placed in the impoundment or pile;

(ii) Where practical, procedures for segregating wastes of different ages. If the wastes cannot be practically segregated, then the age of all wastes placed in the impoundment or pile must be deemed the same age as the oldest waste in the impoundment or pile;

(iii) A schedule for removing dangerous waste from the impoundment or pile, or for disposing of them in a timely manner to assure compliance with the five-year limit;

(iv) A description of the actions to be taken according to the schedule required by (a)(iii) of this subsection;

(v) Procedures for noting in the operating record required by WAC 173-303-380(1) that the requirements of this subsection have been satisfied; and

(vi) Such other requirements as the department specifies.

(b) If the owner/operator of a surface impoundment or waste pile can develop a written plan and schedule for developing and implementing a recycling or treatment process for the wastes stored in his impoundment or pile, then the department may grant an extension to the storage time limit required in (a) of this subsection. Such extension will be granted only once, will only apply to those dangerous wastes covered by the recycling or treatment plan and which are less than five years old on the date that the plan is approved by the department, and will not exceed five years: *Provided,* That on a case-by-case basis the department may grant an extension of longer than five years, but in no case will any extension be granted for longer than ten years, if the owner/operator of the impoundment or pile can demonstrate to the department's satisfaction that an extension of more than five years will not pose a threat to public health or the environment, and is necessary because: Other treatment or recycling options of shorter durations are not

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available; the treatment or recycling plan developed by the owner/operator cannot be implemented within five years due to technological circumstances; or, such other reasons as are determined acceptable by the department. Until the department grants the extension by approving the recycling or treatment plan, the owner/operator must continue to comply with the requirements of (a) of this subsection. The recycling or treatment plan and schedule, at a minimum, must:

(i) Specify the wastes which will be recycled or treated in accordance with the plan;

(ii) Describe in detail the recycling or treatment which the owner/operator intends to perform. If the recycling or treatment will involve physical changes to the owner's/operator's facility, the plan must include descriptions of all necessary equipment, processes to be used, site plans, and maps to show any new structures, pipes, channels, waste handling areas, roads, etc.;

(iii) Discuss any permit actions (including issuance or modification) necessary under this chapter, and any other permits which will be required under other federal, state or local laws;

(iv) Establish a schedule for complying with the plan. The schedule must, at a minimum, cover:

(A) The rate at which wastes will be recycled or treated in order to comply with the extension granted by the department;

(B) Construction and equipment installation times as appropriate;

(C) Timing for complying with all required permit actions; and

(D) Such other elements as the department might require;

(v) Describe how the owner/operator will continue to comply with the requirements of (a) of this subsection for all wastes not specified in (b)(i) of this subsection;

(vi) Identify any future occurrences or situations which the owner/operator could reasonably expect to occur and which might cause him to fail to comply with his recycling or treatment plan. The owner/operator must also describe what actions he would take in the event that such occurrences or situations happen;

(vii) Be approved by the department. The plan may not be implemented until it is approved by the department including, if necessary, issuance or modification of a facility permit as required by this chapter. Any extension granted by the department will begin on the date that the plan is approved, or the date five years after the effective date of this subsection, whichever is later; and

(viii) Include any other elements that the department might require.

(c) The owner/operator of a surface impoundment or waste pile is exempted from the requirements of (a) and (b) of this subsection if:

(i) The owner/operator of a surface impoundment or waste pile can demonstrate to the department's satisfaction that the impoundment or pile is not used primarily for storage, but that it is primarily used to actively and effectively neutralize, detoxify, or other wise treat dangerous waste; or

(ii) The owner/operator of a surface impoundment or waste pile can demonstrate to the department's satisfaction that dangerous waste is removed on a frequent basis (at least four times a year) for treatment, recycling or disposal, provided that the amount of waste removed during any five-year period must equal or exceed the amount of waste placed in the impoundment or pile during that five-year period. However, this exemption does not apply to waste removal which is being performed pursuant to a recycling or treatment plan developed and approved under (b) of this subsection; or

(iii) The owner/operator of a surface impoundment or waste pile has demonstrated, through his permit, closure plan or other instrument, that the impoundment or pile is being operated as a land disposal unit and that it will be closed as a landfill.

(6) Labeling for containers and tanks. The owner or operator must label containers and tanks in a manner which adequately identifies the major risk(s) associated with the contents for employees, emergency response personnel and the public (Note—If there is already a system in use that performs this function in accordance with local, state or federal regulations, then such system will be adequate). The owner or operator must ensure that labels are not obscured, removed, or otherwise unreadable in the course of inspection required under WAC 173-303-320. For tanks, the label or sign must be legible at a distance of at least fifty feet. For containers, the owner or operator must affix labels upon transfer of dangerous waste from one container to another. The owner or operator must destroy or otherwise remove labels from the emptied container, unless the container will continue to be used for storing dangerous waste at the facility.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-400 Interim status facility standards.** (1) Purpose. The purpose of WAC 173-303-400 is to establish standards which define the acceptable management of dangerous waste during the period of interim status and until certification of final closure or, if the facility is subject to post-closure requirements, until post-closure responsibilities are fulfilled.

(2) Applicability.

(a) The interim status standards apply to owners and operators of facilities which treat, store, transfer, and/or dispose of dangerous waste. For purposes of this section, interim status applies to all facilities which comply fully with the requirements for interim status under Section 3005(e) of the Federal Resource Conservation and Recovery Act or WAC 173-303-805. The interim status standards also apply to those owners and operators of facilities in existence on November 19, 1980, for RCRA wastes and those facilities in existence on August 9, 1982, for state only wastes who have failed to provide the required notification pursuant to WAC 173-303-060 or failed to file Part A of the permit application pursuant to WAC 173-303-805 (4) and (5). Interim status will end after final administrative disposition of the Part B permit application is completed, or may be terminated for the causes described in WAC 173-303-805(8).

(b) Interim status facilities must meet the interim status standards by November 19, 1980, except that:

(i) Interim status facilities which handle only state designated wastes (i.e., not designated by 40 CFR Part 261)

must meet the interim status standards by August 9, 1982; and

(ii) Interim status facilities must comply with the additional state interim status requirements specified in subsection (3)(c)(ii), (iii) and (v), of this section, by August 9, 1982.

(c) The requirements of the interim status standards do not apply to:

(i) Persons disposing of dangerous waste subject to a permit issued under the Marine Protection, Research and Sanctuaries Act;

(ii) Reserved;

(iii) The owner or operator of a POTW who treats, stores, or disposes of dangerous wastes, provided that he has a permit by rule pursuant to the requirements of WAC 173-303-802(4);

(iv) The owner or operator of a totally enclosed treatment facility or elementary neutralization or wastewater treatment units as defined in WAC 173-303-040, provided that he has a permit by rule pursuant to the requirements of WAC 173-303-802(5);

(v) Generators accumulating waste for less than ninety days except to the extent WAC 173-303-200 provides otherwise;

(vi) The addition, by a generator, of absorbent material to waste in a container, or of waste to absorbent material in a container, provided that these actions occur at the time the waste is first placed in containers or, in the case of repackaging of previously containerized waste into new containers, at the time the waste is first placed into the new containers and the generator complies with WAC 173-303-200 (1)(b) and 173-303-395 (1)(a) and (b);

(vii) The compaction or sorting, by a generator, of miscellaneous waste forms such as cans, rags, and bottles in a container, so long as the activity is solely for the purpose of reducing waste void space, and so long as these activities are conducted in a manner that protects human health and prevents any release to the environment and the generator complies with WAC 173-303-200 (1)(b) and 173-303-395 (1)(a) and (b);

(viii) Generators treating dangerous waste on-site in tanks ((~~or~~)), containers, or containment buildings that are used for accumulation of such wastes provided the generator complies with the WAC 173-303-170(3);

(ix) The owner or operator of an elementary neutralization unit or a wastewater treatment unit as defined in WAC 173-303-040, provided that if the owner or operator is diluting hazardous ignitable (D001) wastes (other than the D001 High TOC Subcategory defined in 40 CFR section 268.40, Table Treatment Standards for Hazardous Wastes), or reactive (D003) waste, to remove the characteristic before land disposal, the owner/operator must comply with the requirements set out in WAC 173-303-395 (1)(a); and

(x) Any person, other than an owner or operator who is already subject to the final facility standards, who is carrying out an immediate or emergency response to contain or treat a discharge or potential discharge of a dangerous waste or hazardous substance.

((~~Reserve.~~))

(xi) Universal waste handlers and universal waste transporters (as defined in WAC 173-303-040) handling the wastes listed below. These handlers are subject to regulation under WAC 173-303-573, when handling the below listed universal wastes.

(A) Batteries as described in WAC 173-303-573(2); and

(B) Thermostats as described in WAC 173-303-573(3).

(3) Standards.

(a) Interim status standards are the standards set forth by the Environmental Protection Agency in 40 CFR Part 265 Section 265.19 of Subpart B, Subparts F through R, Subpart W, and Subparts AA, BB, and DD which are incorporated by reference into this regulation (including, by reference, any EPA requirements specified in those subparts which are not otherwise explicitly described in this chapter), and:

(i) The land disposal restrictions of WAC 173-303-140; the facility requirements of WAC 173-303-280 through 173-303-440; and the corrective action requirements of WAC 173-303-646((~~(2)~~));

(ii) WAC 173-303-630(3), for containers. In addition, for container storage, the department may require that the storage area include secondary containment in accordance with WAC 173-303-630(7), if the department determines that there is a potential threat to public health or the environment due to the nature of the wastes being stored, or due to a history of spills or releases from stored containers. Any new container storage areas constructed or installed after September 30, 1986, must comply with the provisions of WAC 173-303-630(7).

(iii) WAC 173-303-640 (5)(d), for tanks; and

(iv) WAC 173-303-805.

(b) For purposes of applying the interim status standards of 40 CFR Part 265 Subparts F through R, Subpart W, and Subparts AA, BB, and DD to the state of Washington facilities, the federal terms have (and in the case of the wording used in the financial instruments referenced in Subpart H of Part 265, must be replaced with) the following state of Washington meanings:

(i) "Regional administrator" means the "department" except for 40 CFR Parts 270.2; 270.3; 270.5; 270.10 (e)(1),(2) and (4); 270.10 (f) and (g); 270.11 (a)(3); 270.14 (b)(20); 270.32 (b)(2); and 270.51;

(ii) "Hazardous" means "dangerous" except for Subparts AA, BB, and DD. These subparts apply only to hazardous waste as defined in WAC 173-303-040;

(iii) "Compliance procedure" has the meaning set forth in WAC 173-303-040, Definitions;

(iv) "EPA hazardous waste numbers" mean "dangerous waste numbers".

(c) In addition to the changes described in (b) of this subsection, the following modifications are made to interim status standards of 40 CFR Part 265 Subparts F through R, Subpart W, and Subparts AA, BB, and DD:

(i) The words "the effective date of these regulations" means:

(A) November 19, 1980, for facilities which manage any wastes designated by 40 CFR Part 261;

(B) For wastes which become designated by 40 CFR Part 261 subsequent to November 19, 1980, the effective date is the date on which the wastes become regulated;

(C) March 12, 1982, for facilities which manage wastes designated only by WAC 173-303-080 through 173-303-100 and not designated by 40 CFR Part 261;

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(D) For wastes which become designated only by WAC 173-303-080 through 173-303-100 and not designated by 40 CFR Part 261 subsequent to March 12, 1982, the effective date is the date on which the wastes become regulated.

(ii) "Subpart N - landfills" has an additional section added which reads: "An owner/operator must not landfill an organic carcinogen or an EHW, as defined by WAC 173-303-080 through 173-303-100, except at the EHW facility at Hanford";

(iii) "Subpart R - underground injection" has an additional section which reads: "Owners and operators of wells are prohibited from disposing of EHW or an organic carcinogen designated under WAC 173-303-080 through 173-303-100";

(iv) "Subpart M - land treatment," section 265.273(b) is modified to replace the words "Part 261, Subpart D of this chapter" with "WAC 173-303-080";

(v) "Subpart F - ground water monitoring," section 265.91(c) includes the requirement that: "Groundwater monitoring wells must be designed, constructed, and operated so as to prevent groundwater contamination. Chapter 173-160 WAC may be used as guidance in the installation of wells";

(vi) "Subpart H - financial requirements" has an additional section which reads: "Any owner or operator who can provide financial assurances and instruments which satisfy the requirements of WAC 173-303-620 will be deemed to be in compliance with 40 CFR Part 265 Subpart H". In 40 CFR Parts 265.143(g) and 265.145(g) the following sentence does not apply to the state: "If the facilities covered by the mechanisms are in more than one Region, identical evidence of financial assurance must be submitted to, and maintained with the Regional Administrators of all such Regions." Instead, the following sentence applies: "If the facilities covered by the mechanism are in more than one state, identical evidence of financial assurance must be submitted to and maintained with the state agency regulating hazardous waste or with the appropriate regional administrator if the facility is located in an unauthorized state." In addition, the following sections and any cross-reference to these sections are not incorporated by reference: 40 CFR Parts 265.149 and 265.150; and

(vii) "Subpart J - tank systems" section 265.193(a) is modified so that the dates by which secondary containment (which meets the requirements of that section) must be provided are the same as the dates in WAC 173-303-640 (4)(a).

(viii) "Subpart J - tank systems" section 265.191(a) is modified so that the date by which an assessment of a tank system's integrity must be completed is January 12, 1990.

(ix) "Subpart G - closure and post-closure" section 265.115 is modified to read "Within 60 days of completion of closure of each dangerous waste management unit (including tank systems and container storage areas) and within 60 days of completion of final closure..." In addition, the clean-up levels for removal or decontamination set forth at WAC 173-303-610 (2)(b) apply.

(x) "Subpart B - general facility standards. References to "EPA" (etc.), means the "department" except at 40 CFR 265.11. Additionally, references to "administrator" (etc.), means the "director" except at 40 CFR 265.12(a)."

(xi) The following sections and any cross-reference to these sections are not incorporated or adopted by reference:

(A) 40 CFR Parts 260.1 (b)(4)-(6) and 260.20-22.

(B) 40 CFR Parts 264.1 (d) and (f); 265.1 (c)(4); 264.149-150 and 265.149-150; 264.301(k); and 265.430.

(C) 40 CFR Parts 268.5 and 6; 268 Subpart B; and 268.42(b)((~~; and 268.44~~)).

(D) 40 CFR Parts 270.1 (c)(1)(i); 270.60(b); and 270.64.

(E) 40 CFR Parts 124.1 (b)-(e); 124.4; 124.5(e); 124.9; 124.10 (a)(1)(iv); 124.12(e); 124.14(d); 124.15 (b)(2); 124.16; 124.17(b); 124.18; 124.19; and 124.21.

(F) 40 CFR Parts 2.106(b); 2.202(b); 2.205(i); 2.209 (b)-(c); 2.212-213; and 2.301-311.

(4) The requirements of this section apply to owners or operators of all facilities that treat, store or dispose of hazardous waste referred to in 40 CFR Part 268, and the 40 CFR Part 268 standards are considered material conditions or requirements of the interim status standards incorporated by reference in subsection (3) of this section.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-505 Special requirements for recyclable materials used in a manner constituting disposal.** (1) Applicability.

(a) This section applies to recyclable materials that are applied to or placed on the land:

(i) Without mixing with any other substance(s); or

(ii) After mixing or combining with any other substance(s). These materials will be referred to as "materials used in a manner that constitutes disposal."

(b)(i) Products produced for the general public's use that are used in a manner that constitutes disposal and that contain recyclable materials are not presently subject to regulation if the recyclable materials have undergone a chemical reaction in the course of producing the product so as to become inseparable by physical means and if such products meet the applicable treatment standards in 40 CFR Part 268 Subpart D (or applicable prohibition levels in 268.32 or RCRA section 3004(d), where no treatment standards have been established) for each recyclable material (i.e., hazardous waste) that they contain. Registered commercial fertilizers that are produced for the general public's use that contain recyclable materials also are not subject to regulation provided they meet these same treatment standards or prohibition levels for each recyclable material that they contain. However, zinc-containing fertilizers using hazardous waste K061 that are produced for the general public's use are not presently subject to regulation.

(ii) Anti-skid/deicing uses of slags, which are generated from high temperature metals recovery (HTMR) processing of dangerous waste K061, K062, and F006, in a manner constituting disposal are not covered by the exemption in (b)(i) of this subsection and remain subject to regulation.

(2) Recyclable materials used in a manner that constitutes disposal are dangerous wastes and are subject to the following requirements:

(a) For generators, WAC 173-303-170 through 173-303-230;

(b) For transporters, WAC 173-303-240 through 173-303-270; and

(c) For facilities that store or use dangerous wastes in a manner constituting disposal, the applicable requirements of 40 CFR Part 268 (incorporated by reference in WAC 173-303-140 (2)(a) and 173-303-280 through 173-303-840 (except that users of such products are not subject to these standards if the products meet the requirements of subsection (1)(b) of this section).

(d) The use of waste or used oil, or other material which is contaminated with dioxin or any other dangerous waste (other than a waste identified solely on the basis of ignitability), for dust suppression or road treatment is prohibited.

AMENDATORY SECTION (Amending Order 92-33, filed 12/8/93, effective 1/8/94)

**WAC 173-303-520 Special requirements for reclaiming spent lead acid battery wastes.** This section applies to persons who reclaim (including regeneration) spent lead-acid batteries that are recyclable materials ("spent batteries").

(1) Persons who generate, transport, or collect spent batteries, who regenerate spent batteries, or who store spent batteries but do not reclaim them (other than spent batteries that are to be regenerated) are subject only to the requirements of WAC ((~~173-303-050, 173-303-145~~)) 173-303-016 through 173-303-161, and 173-303-960 if such spent batteries are going to a battery reclaimer.

(2) Owners and operators of battery reclaiming facilities that store spent lead acid batteries prior to reclaiming (other than spent batteries that are to be regenerated) them are subject to the following requirements:

(a) For all reclaimers, the applicable storage provisions of:

(i) WAC 173-303-280 (2) and (3);
(ii) WAC 173-303-282;
(iii) WAC 173-303-283;
(iv) WAC 173-303-290;
(v) WAC 173-303-310 through 173-303-360;
(vi) WAC 173-303-380;
(vii) WAC 173-303-390 (2) and (3);
(viii) WAC 173-303-395; and
(ix) WAC 173-303-800 through 173-303-840.

(b) For reclaimers with interim status permits, the applicable storage provisions of WAC 173-303-400 including Subparts F through L of 40 CFR Part 265;

(c) For reclaimers with final facility permits, the applicable storage provisions of:

(i) WAC 173-303-600 through 173-303-650; and
(ii) WAC 173-303-660.

NEW SECTION

**WAC 173-303-522 Special requirements for recycling spent antifreeze.** (1) Applicability. This section applies to the recycling of spent antifreeze. Antifreeze means ethylene glycol based coolant used as a heat exchange medium in motor vehicle radiators, motorized equipment, or in other industrial processes. For the purposes of this section recycling means reclamation and reuse, but not burning for energy recovery.

(2) Standards. Persons who generate, transport, or store spent antifreeze but do not reclaim or recycle it are subject to the requirements of WAC 173-303-050, 173-303-145, and 173-303-960 if their spent antifreeze is going to a recycler. Any discharge of spent antifreeze to the environment constitutes disposal and is subject to full regulation under this chapter.

(a) Generator requirements:

(i) Persons who reclaim or recycle their spent antifreeze on-site, or send their antifreeze off-site to be reclaimed or recycled, must keep records for a period of five years from the date of reclamation/recycling.

Proof of reclamation/recycling is either a log for on-site reclamation/recycling or an invoice or bill of lading for off-site reclamation/recycling.

(ii) Containers and tanks used to accumulate spent antifreeze must be labeled "spent antifreeze."

(iii) Spent antifreeze that is to be reclaimed can be accumulated on-site for any length of time, and in any amount.

(iv) During accumulation, spent antifreeze must be stored in a manner to prevent releases to the environment. This includes, but is not limited to, storing wastes in compatible containers, on impermeable surfaces, or in secondary containment structures.

(b) If used antifreeze is mixed with another dangerous waste, generators are subject to the generator requirements, WAC 173-303-170 through 173-303-230.

(c) Persons who generate spent antifreeze that is not reclaimed/recycled, but is otherwise disposed, are subject to all applicable requirements of this chapter.

(3) Transporters and transfer facility requirements:

(a) Persons engaged in routine off-site transportation of spent antifreeze are required to obtain a state/EPA ID number, WAC 173-303-060, and to comply with the transporter requirements, WAC 173-303-240.

(b) If used antifreeze is mixed with another dangerous waste, transporters are subject to the generator requirements, WAC 173-303-170 through 173-303-230.

(c) Transporters who store used antifreeze at a transfer facility are allowed to use tanks or containers as defined in WAC 173-303-040, and store such waste for up to ten days, WAC 173-303-240(5).

Transporters may store used antifreeze at a transfer facility for longer than ten days if they meet the requirements for tank and/or container management, including secondary containment in WAC 173-303-630 through 173-303-640.

(4) Reclamation/recycling facility requirements: Owners and operators of antifreeze reclaiming/recycling facilities are subject to the conditions of WAC 173-303-120 (4)(c). These conditions apply equally to facilities whether or not twenty-four-hour storage of used antifreeze occurs prior to reclamation.

NEW SECTION

**WAC 173-303-573 Standards for universal waste management. (1) Scope.**

(a) This section establishes requirements for managing the following:

(i) Batteries as described in subsection (2) of this section; and

(ii) Thermostats as described in subsection (3) of this section.

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(b) This section provides an alternative set of management standards in lieu of regulation under the rest of this chapter except for WAC 173-303-050, 173-303-145, and 173-303-960.

**(2) Applicability—Batteries.**

(a) Batteries covered under this section.

(i) The requirements of this section apply to persons managing batteries, as described in WAC 173-303-040, except those listed in (b) of this subsection.

(ii) Spent lead-acid batteries which are not managed under WAC 173-303-120 (3)(f) and 173-303-520, are subject to management under this section.

(b) Batteries not covered under this section. The requirements of this section do not apply to persons managing the following batteries:

(i) Spent lead-acid batteries that are managed under WAC 173-303-120(3) and 173-303-520.

(ii) Batteries, as described in WAC 173-303-040, that are not yet wastes under WAC 173-303-016, 173-303-017, or 173-303-070, including those that do not meet the criteria for waste generation in (c) of this subsection.

(iii) Batteries, as described in WAC 173-303-040, that are not dangerous waste. A battery is a dangerous waste if it exhibits one or more of the characteristics or criteria identified in WAC 173-303-090 or 173-303-100.

(c) Generation of waste batteries.

(i) A used battery becomes a waste on the date it is discarded (e.g., when sent for reclamation).

(ii) An unused battery becomes a waste on the date the handler decides to discard it.

**(3) Applicability—Mercury thermostats.**

(a) Thermostats covered under this section. The requirements of this section apply to persons managing thermostats, as described in WAC 173-303-040, except those listed in (b) of this subsection.

(b) Thermostats not covered under this section. The requirements of this section do not apply to persons managing the following thermostats:

(i) Thermostats that are not yet wastes under WAC 173-303-016, 173-303-017, or 173-303-070. Paragraph (c) of this subsection describes when thermostats become wastes.

(ii) Thermostats that are not dangerous waste. A thermostat is a dangerous waste if it exhibits one or more of the characteristics or criteria identified in WAC 173-303-090 or 173-303-100.

(c) Generation of waste thermostats.

(i) A used thermostat becomes a waste on the date it is discarded (e.g., sent for reclamation).

(ii) An unused thermostat becomes a waste on the date the handler decides to discard it.

**(4) Applicability—Household and conditionally exempt small quantity generator waste.**

(a) Persons managing the wastes listed below may, at their option, manage them under the requirements of this section:

(i) Household wastes that are exempt under WAC 173-303-071 (3)(c) and are also of the same type as the universal wastes defined at WAC 173-303-040; and/or

(ii) Small quantity generator wastes that are conditionally exempt under WAC 173-303-070(8) and are also of the same type as the universal wastes defined at WAC 173-303-040.

(b) Persons who commingle the wastes described in (a)(i) and (ii) of this subsection together with universal waste regulated under this section must manage the commingled waste under the requirements of this section.

**(5) Reserve.**

**(6) Applicability—Small quantity handlers of universal waste.** Subsections (6) through (16) of this section apply to small quantity handlers of universal waste (as defined in WAC 173-303-040).

**(7) Prohibitions.**

A small quantity handler of universal waste is:

(a) Prohibited from disposing of universal waste; and

(b) Prohibited from diluting or treating universal waste, except by responding to releases as provided in subsection (13) of this section; or by managing specific wastes as provided in subsection (9) of this section.

**(8) Notification.**

A small quantity handler of universal waste is not required to notify the department of universal waste handling activities.

**(9) Waste management.**

(a) Universal waste batteries. A small quantity handler of universal waste must manage universal waste batteries in a way that prevents releases of any universal waste or component of a universal waste to the environment, as follows:

(i) A small quantity handler of universal waste must contain any universal waste battery that shows evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions in a container. The container must be closed, structurally sound, compatible with the contents of the battery, and must lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions.

(ii) A small quantity handler of universal waste may conduct the following activities as long as the casing of each individual battery cell is not breached and remains intact and closed (except that cells may be opened to remove electrolyte but must be immediately closed after removal):

(A) Sorting batteries by type;

(B) Mixing battery types in one container;

(C) Discharging batteries so as to remove the electric charge;

(D) Regenerating used batteries;

(E) Disassembling batteries or battery packs into individual batteries or cells;

(F) Removing batteries from consumer products; or

(G) Removing electrolyte from batteries.

(iii) A small quantity handler of universal waste who removes electrolyte from batteries, or who generates other solid waste (e.g., battery pack materials, discarded consumer products) as a result of the activities listed above, must determine whether the electrolyte and/or other solid waste exhibit a characteristic or criteria of dangerous waste identified in WAC 173-303-090 or 173-303-100.

(A) If the electrolyte and/or other solid waste exhibit a characteristic or criteria of dangerous waste, it is subject to all applicable requirements of this chapter. The handler is considered the generator of the dangerous electrolyte and/or other waste and is subject to WAC 173-303-170 through 173-303-230.

(B) If the electrolyte or other solid waste is not dangerous, the handler may manage the waste in any way that is in compliance with applicable federal, state or local solid waste regulations.

(b) Universal waste thermostats. A small quantity handler of universal waste must manage universal waste thermostats in a way that prevents releases of any universal waste or component of a universal waste to the environment, as follows:

(i) A small quantity handler of universal waste must contain any universal waste thermostat that shows evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions in a container. The container must be closed, structurally sound, compatible with the contents of the thermostat, and must lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions.

(ii) A small quantity handler of universal waste may remove mercury-containing ampules from universal waste thermostats provided the handler:

(A) Removes the ampules in a manner designed to prevent breakage of the ampules;

(B) Removes ampules only over or in a containment device (e.g., tray or pan sufficient to collect and contain any mercury released from an ampule in case of breakage);

(C) Ensures that a mercury clean-up system is readily available to immediately transfer any mercury resulting from spills or leaks from broken ampules, from the containment device to a container that meets the requirements of WAC 173-303-200;

(D) Immediately transfers any mercury resulting from spills or leaks from broken ampules from the containment device to a container that meets the requirements of WAC 173-303-200;

(E) Ensures that the area in which ampules are removed is well ventilated and monitored to ensure compliance with applicable OSHA exposure levels for mercury;

(F) Ensures that employees removing ampules are thoroughly familiar with proper waste mercury handling and emergency procedures, including transfer of mercury from containment devices to appropriate containers;

(G) Stores removed ampules in closed, nonleaking containers that are in good condition;

(H) Packs removed ampules in the container with packing materials adequate to prevent breakage during storage, handling, and transportation; and

(iii)(A) A small quantity handler of universal waste who removes mercury-containing ampules from thermostats must determine whether the following exhibit a characteristic or criteria of dangerous waste identified in WAC 173-303-090 or 173-303-100:

(I) Mercury or clean-up residues resulting from spills or leaks; and/or

(II) Other solid waste generated as a result of the removal of mercury-containing ampules (e.g., remaining thermostat units).

(B) If the mercury, residues, and/or other solid waste exhibit a characteristic or criteria of dangerous waste, it must be managed in compliance with all applicable requirements of this chapter. The handler is considered the generator of the mercury, residues, and/or other waste and must manage it subject to WAC 173-303-170 through 173-303-230.

(C) If the mercury, residues, and/or other solid waste is not dangerous, the handler may manage the waste in any way that is in compliance with applicable federal, state or local solid waste regulations.

**(10) Labeling/marking.**

A small quantity handler of universal waste must label or mark the universal waste to identify the type of universal waste as specified below:

(a) Universal waste batteries (i.e., each battery), or a container in which the batteries are contained, must be labeled or marked clearly with any one of the following phrases: "Universal Waste-Battery(ies), or "Waste Battery(ies)," or "Used Battery(ies);"

(b) Universal waste thermostats (i.e., each thermostat), or a container in which the thermostats are contained, must be labeled or marked clearly with any one of the following phrases: "Universal Waste-Mercury Thermostat(s)," or "Waste Mercury Thermostat(s)," or "Used Mercury Thermostat(s)."

**(11) Accumulation time limits.**

(a) A small quantity handler of universal waste may accumulate universal waste for no longer than one year from the date the universal waste is generated, or received from another handler, unless the requirements of (b) of this subsection are met.

(b) A small quantity handler of universal waste may accumulate universal waste for longer than one year from the date the universal waste is generated, or received from another handler, if such activity is solely for the purpose of accumulation of such quantities of universal waste as necessary to facilitate proper recovery, treatment, or disposal. However, the handler bears the burden of proving that such activity is solely for the purpose of accumulation of such quantities of universal waste as necessary to facilitate proper recovery, treatment, or disposal.

(c) A small quantity handler of universal waste who accumulates universal waste must be able to demonstrate the length of time that the universal waste has been accumulated from the date it becomes a waste or is received. The handler may make this demonstration by:

(i) Placing the universal waste in a container and marking or labeling the container with the earliest date that any universal waste in the container became a waste or was received;

(ii) Marking or labeling each individual item of universal waste (e.g., each battery or thermostat) with the date it became a waste or was received;

(iii) Maintaining an inventory system on-site that identifies the date each universal waste became a waste or was received;

(iv) Maintaining an inventory system on-site that identifies the earliest date that any universal waste in a group of universal waste items or a group of containers of universal waste became a waste or was received;

(v) Placing the universal waste in a specific accumulation area and identifying the earliest date that any universal waste in the area became a waste or was received; or

(vi) Any other method which clearly demonstrates the length of time that the universal waste has been accumulated from the date it becomes a waste or is received.

**(12) Employee training.**

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A small quantity handler of universal waste must inform all employees who handle or have responsibility for managing universal waste. The information must describe proper handling and emergency procedures appropriate to the type(s) of universal waste handled at the facility.

**(13) Response to releases.**

(a) A small quantity handler of universal waste must immediately contain all releases of universal wastes and other residues from universal wastes.

(b) A small quantity handler of universal waste must determine whether any material resulting from the release is dangerous waste, and if so, must manage the dangerous waste in compliance with all applicable requirements of this chapter. The handler is considered the generator of the material resulting from the release, and must manage it in compliance with WAC 173-303-170 through 173-303-230.

**(14) Off-site shipments.**

(a) A small quantity handler of universal waste is prohibited from sending or taking universal waste to a place other than another universal waste handler, a destination facility, or a foreign destination.

(b) If a small quantity handler of universal waste self-transports universal waste off-site, the handler becomes a universal waste transporter for those self-transportation activities and must comply with the transporter requirements of subsections (28) through (34) of this section while transporting the universal waste.

(c) If a universal waste being offered for off-site transportation meets the definition of hazardous materials under 49 CFR Parts 171 through 180, a small quantity handler of universal waste must package, label, mark and placard the shipment, and prepare the proper shipping papers in accordance with the applicable Department of Transportation regulations under 49 CFR Parts 172 through 180.

(d) Prior to sending a shipment of universal waste to another universal waste handler, the originating handler must ensure that the receiving handler agrees to receive the shipment.

(e) If a small quantity handler of universal waste sends a shipment of universal waste to another handler or to a destination facility and the shipment is rejected by the receiving handler or destination facility, the originating handler must either:

(i) Receive the waste back when notified that the shipment has been rejected, or

(ii) Agree with the receiving handler on a destination facility to which the shipment will be sent.

(f) A small quantity handler of universal waste may reject a shipment containing universal waste, or a portion of a shipment containing universal waste that he has received from another handler. If a handler rejects a shipment or a portion of a shipment, he must contact the originating handler to notify him of the rejection and to discuss reshipment of the load. The handler must:

(i) Send the shipment back to the originating handler; or

(ii) If agreed to by both the originating and receiving handler, send the shipment to a destination facility.

(g) If a small quantity handler of universal waste receives a shipment containing dangerous waste that is not a universal waste, the handler must immediately notify the department of the illegal shipment, and provide the name, address, and phone number of the originating shipper. The department will provide instructions for managing the dangerous waste.

(h) If a small quantity handler of universal waste receives a shipment of nondangerous, nonuniversal waste, the handler may manage the waste in any way that is in compliance with applicable federal, state or local solid waste regulations.

**(15) Tracking universal waste shipments.**

A small quantity handler of universal waste is not required to keep records of shipments of universal waste.

**(16) Exports.**

A small quantity handler of universal waste who sends universal waste to a foreign destination must:

(a) Comply with the requirements applicable to a primary exporter in 40 CFR 262.53, 262.56 (a)(1) through (4), (6), and (b) and 262.57 which are incorporated by reference at WAC 173-303-230(1);

(b) Export such universal waste only upon consent of the receiving country and in conformance with the EPA Acknowledgment of Consent as defined in 40 CFR Subpart E of Part 262 which is incorporated by reference at WAC 173-303-230(1); and

(c) Provide a copy of the EPA Acknowledgment of Consent for the shipment to the transporter transporting the shipment for export.

**(17) Applicability—Large quantity handlers of universal waste.**

Subsections (17) through (27) of this section apply to large quantity handlers of universal waste (as defined in WAC 173-303-040).

**(18) Prohibitions.**

A large quantity handler of universal waste is:

(a) Prohibited from disposing of universal waste; and

(b) Prohibited from diluting or treating universal waste, except by responding to releases as provided in subsection (24) of this section; or by managing specific wastes as provided in subsection (20) of this section.

**(19) Notification.**

(a)(i) Except as provided in (a)(ii) and (iii) of this subsection, a large quantity handler of universal waste must have sent written notification of universal waste management to the department, and received an EPA Identification Number, before meeting or exceeding the 5,000 kilogram storage limit.

(ii) A large quantity handler of universal waste who has already notified the department of their dangerous waste management activities and has received an EPA Identification Number is not required to renotify under this section.

(b) This notification must include:

(i) The universal waste handler's name and mailing address;

(ii) The name and business telephone number of the person at the universal waste handler's site who should be contacted regarding universal waste management activities;

(iii) The address or physical location of the universal waste management activities;

(iv) A list of all of the types of universal waste managed by the handler (e.g, batteries or thermostats);

(v) A statement indicating that the handler is accumulating more than 11,000 pounds of universal waste at one time and the types of universal waste (e.g, batteries or thermostats) the handler is accumulating above this quantity.

**(20) Waste management.**

(a) Universal waste batteries. A large quantity handler of universal waste must manage universal waste batteries in a way that prevents releases of any universal waste or component of a universal waste to the environment, as follows:

(i) A large quantity handler of universal waste must contain any universal waste battery that shows evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions in a container. The container must be closed, structurally sound, compatible with the contents of the battery, and must lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions.

(ii) A large quantity handler of universal waste may conduct the following activities as long as the casing of each individual battery cell is not breached and remains intact and closed (except that cells may be opened to remove electrolyte but must be immediately closed after removal):

(A) Sorting batteries by type;

(B) Mixing battery types in one container;

(C) Discharging batteries so as to remove the electric charge;

(D) Regenerating used batteries;

(E) Disassembling batteries or battery packs into individual batteries or cells;

(F) Removing batteries from consumer products; or

(G) Removing electrolyte from batteries.

(iii) A large quantity handler of universal waste who removes electrolyte from batteries, or who generates other solid waste (e.g., battery pack materials, discarded consumer products) as a result of the activities listed above, must determine whether the electrolyte and/or other solid waste exhibit a characteristic or criteria of dangerous waste identified in WAC 173-303-090 or 173-303-100.

(A) If the electrolyte and/or other solid waste exhibit a characteristic or criteria of dangerous waste, it must be managed in compliance with all applicable requirements of this chapter. The handler is considered the generator of the dangerous electrolyte and/or other waste and is subject to WAC 173-303-170 through 173-303-230.

(B) If the electrolyte or other solid waste is not dangerous, the handler may manage the waste in any way that is in compliance with applicable federal, state or local solid waste regulations.

(b) Universal waste thermostats. A large quantity handler of universal waste must manage universal waste thermostats in a way that prevents releases of any universal waste or component of a universal waste to the environment, as follows:

(i) A large quantity handler of universal waste must contain any universal waste thermostat that shows evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions in a container. The container must be closed, structurally sound, compatible with the contents of the thermostat, and must lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions.

(ii) A large quantity handler of universal waste may remove mercury-containing ampules from universal waste thermostats provided the handler:

(A) Removes the ampules in a manner designed to prevent breakage of the ampules;

(B) Removes ampules only over or in a containment device (e.g., tray or pan sufficient to contain any mercury released from an ampule in case of breakage);

(C) Ensures that a mercury clean-up system is readily available to immediately transfer any mercury resulting from spills or leaks from broken ampules, from the containment device to a container that meets the requirements of WAC 173-303-200;

(D) Immediately transfers any mercury resulting from spills or leaks from broken ampules from the containment device to a container that meets the requirements of WAC 173-303-200;

(E) Ensures that the area in which ampules are removed is well ventilated and monitored to ensure compliance with applicable OSHA exposure levels for mercury;

(F) Ensures that employees removing ampules are thoroughly familiar with proper waste mercury handling and emergency procedures, including transfer of mercury from containment devices to appropriate containers;

(G) Stores removed ampules in closed, nonleaking containers that are in good condition;

(H) Packs removed ampules in the container with packing materials adequate to prevent breakage during storage, handling, and transportation; and

(iii)(A) A large quantity handler of universal waste who removes mercury-containing ampules from thermostats must determine whether the following exhibit a characteristic or criteria of dangerous waste identified in WAC 173-303-090 or 173-303-100:

(I) Mercury or clean-up residues resulting from spills or leaks; and/or

(II) Other solid waste generated as a result of the removal of mercury-containing ampules (e.g., remaining thermostat units).

(B) If the mercury, residues, and/or other solid waste exhibit a characteristic or criteria of dangerous waste, it must be managed in compliance with all applicable requirements of this chapter. The handler is considered the generator of the mercury, residues, and/or other waste and is subject to WAC 173-303-170 through 173-303-230.

(C) If the mercury, residues, and/or other solid waste is not dangerous, the handler may manage the waste in any way that is in compliance with applicable federal, state or local solid waste regulations.

**(21) Labeling/marking.**

A large quantity handler of universal waste must label or mark the universal waste to identify the type of universal waste as specified below:

(a) Universal waste batteries (i.e., each battery), or a container or tank in which the batteries are contained, must be labeled or marked clearly with the any one of the following phrases: "Universal Waste-Battery(ies)," or "Waste Battery(ies)," or "Used Battery(ies);"

(b) Universal waste thermostats (i.e., each thermostat), or a container or tank in which the thermostats are contained, must be labeled or marked clearly with any one of the following phrases: "Universal Waste-Mercury Thermostat(s)," or "Waste Mercury Thermostat(s)," or "Used Mercury Thermostat(s)."

**(22) Accumulation time limits.**

(a) A large quantity handler of universal waste may accumulate universal waste for no longer than one year from the date the universal waste is generated, or received from another handler, unless the requirements of (b) of this subsection are met.

(b) A large quantity handler of universal waste may accumulate universal waste for longer than one year from the date the universal waste is generated, or received from another handler, if such activity is solely for the purpose of accumulation of such quantities of universal waste as necessary to facilitate proper recovery, treatment, or disposal. However, the handler bears the burden of proving that such activity was solely for the purpose of accumulation of such quantities of universal waste as necessary to facilitate proper recovery, treatment, or disposal.

(c) A large quantity handler of universal waste must be able to demonstrate the length of time that the universal waste has been accumulated from the date it becomes a waste or is received. The handler may make this demonstration by:

(i) Placing the universal waste in a container and marking or labeling the container with the earliest date that any universal waste in the container became a waste or was received;

(ii) Marking or labeling the individual item of universal waste (e.g., each battery or thermostat) with the date it became a waste or was received;

(iii) Maintaining an inventory system on site that identifies the date the universal waste being accumulated became a waste or was received;

(iv) Maintaining an inventory system on site that identifies the earliest date that any universal waste in a group of universal waste items or a group of containers of universal waste became a waste or was received;

(v) Placing the universal waste in a specific accumulation area and identifying the earliest date that any universal waste in the area became a waste or was received; or

(vi) Any other method which clearly demonstrates the length of time that the universal waste has been accumulated from the date it becomes a waste or is received.

**(23) Employee training.**

A large quantity handler of universal waste must ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures, relative to their responsibilities during normal facility operations and emergencies.

**(24) Response to releases.**

(a) A large quantity handler of universal waste must immediately contain all releases of universal wastes and other residues from universal wastes.

(b) A large quantity handler of universal waste must determine whether any material resulting from the release is dangerous waste, and if so, must manage the dangerous waste in compliance with all applicable requirements of this chapter. The handler is considered the generator of the material resulting from the release, and is subject to WAC 173-303-145 and 173-303-170 through 173-303-230.

**(25) Off-site shipments.**

(a) A large quantity handler of universal waste is prohibited from sending or taking universal waste to a place other than another universal waste handler, a destination facility, or a foreign destination.

(b) If a large quantity handler of universal waste self-transports universal waste off site, the handler becomes a universal waste transporter for those self-transportation activities and must comply with the transporter requirements of subsections (28) through (34) of this section while transporting the universal waste.

(c) If a universal waste being offered for off-site transportation meets the definition of hazardous materials under 49 CFR 171 through 180, a large quantity handler of universal waste must package, label, mark and placard the shipment, and prepare the proper shipping papers in accordance with the applicable Department of Transportation regulations under 49 CFR Parts 172 through 180;

(d) Prior to sending a shipment of universal waste to another universal waste handler, the originating handler must ensure that the receiving handler agrees to receive the shipment.

(e) If a large quantity handler of universal waste sends a shipment of universal waste to another handler or to a destination facility and the shipment is rejected by the receiving handler or destination facility, the originating handler must either:

(i) Receive the waste back when notified that the shipment has been rejected; or

(ii) Agree with the receiving handler on a destination facility to which the shipment will be sent.

(f) A large quantity handler of universal waste may reject a shipment containing universal waste, or a portion of a shipment containing universal waste that he has received from another handler. If a handler rejects a shipment or a portion of a shipment, he must contact the originating handler to notify him of the rejection and to discuss reshipment of the load. The handler must:

(i) Send the shipment back to the originating handler; or

(ii) If agreed to by both the originating and receiving handler, send the shipment to a destination facility.

(g) If a large quantity handler of universal waste receives a shipment containing dangerous waste that is not a universal waste, the handler must immediately notify the department of the illegal shipment, and provide the name, address, and phone number of the originating shipper. The department will provide instructions for managing the dangerous waste.

(h) If a large quantity handler of universal waste receives a shipment of nondangerous, nonuniversal waste, the handler may manage the waste in any way that is in compliance with applicable federal, state or local solid waste regulations.

**(26) Tracking universal waste shipments.**

(a) Receipt of shipments. A large quantity handler of universal waste must keep a record of each shipment of universal waste received at the facility. The record may take the form of a log, invoice, manifest, bill of lading, or other shipping document. The record for each shipment of universal waste received must include the following information:

(i) The name and address of the originating universal waste handler or foreign shipper from whom the universal waste was sent;

(ii) The quantity of each type of universal waste received (e.g., batteries or thermostats);

(iii) The date of receipt of the shipment of universal waste.

(b) Shipments off site. A large quantity handler of universal waste must keep a record of each shipment of universal waste sent from the handler to other facilities. The record may take the form of a log, invoice, manifest, bill of lading or other shipping document. The record for each shipment of universal waste sent must include the following information:

(i) The name and address of the universal waste handler, destination facility, or foreign destination to whom the universal waste was sent;

(ii) The quantity of each type of universal waste sent (e.g., batteries or thermostats);

(iii) The date the shipment of universal waste left the facility.

(c) Record retention.

(i) A large quantity handler of universal waste must retain the records described in (a) of this subsection for at least three years from the date of receipt of a shipment of universal waste.

(ii) A large quantity handler of universal waste must retain the records described in (b) of this subsection for at least three years from the date a shipment of universal waste left the facility.

**(27) Exports.**

A large quantity handler of universal waste who sends universal waste to a foreign destination must:

(a) Comply with the requirements applicable to a primary exporter in 40 CFR 262.53, 262.56 (a)(1) through (4), (6), and (b) and 262.57 which are incorporated by reference at WAC 173-303-230(1);

(b) Export such universal waste only upon consent of the receiving country and in conformance with the EPA Acknowledgment of Consent as defined in 40 CFR 262 Subpart E which is incorporated by reference at WAC 173-303-230(1); and

(c) Provide a copy of the EPA Acknowledgment of Consent for the shipment to the transporter transporting the shipment for export.

**(28) Applicability—Universal waste transporters.**

Subsections (28) through (34) of this section apply to universal waste transporters (as defined in WAC 173-303-040).

**(29) Prohibitions.**

A universal waste transporter is:

(a) Prohibited from disposing of universal waste; and

(b) Prohibited from diluting or treating universal waste, except by responding to releases as provided in subsection (32) of this section.

**(30) Waste management.**

(a) A universal waste transporter must comply with all applicable U.S. Department of Transportation regulations in 49 CFR Part 171 through 180 for transport of any universal waste that meets the definition of hazardous material in 49 CFR 171.8. For purposes of the Department of Transportation regulations, a material is considered a dangerous waste if it is subject to the Hazardous Waste Manifest Requirements of the U.S. Environmental Protection Agency specified in WAC 173-303-180. Because universal waste does not require a dangerous waste manifest, it is not considered hazardous waste under the Department of Transportation regulations.

(b) Some universal waste materials are regulated by the Department of Transportation as hazardous materials because they meet the criteria for one or more hazard classes specified in 49 CFR 173.2. As universal waste shipments do not require a manifest under WAC 173-303-180, they may not be described by the DOT proper shipping name "hazardous waste, (l) or (s), n.o.s.," nor may the hazardous material's proper shipping name be modified by adding the word "waste."

**(31) Storage time limits.**

(a) A universal waste transporter may only store the universal waste at a universal waste transfer facility for ten days or less.

(b) If a universal waste transporter stores universal waste for more than ten days, the transporter becomes a universal waste handler and must comply with the applicable requirements for small or large quantity handlers (subsections (6) through (27) of this section) while storing the universal waste.

**(32) Response to releases.**

(a) A universal waste transporter must immediately contain all releases of universal wastes and other residues from universal wastes.

(b) A universal waste transporter must determine whether any material resulting from the release is dangerous waste, and if so, it is subject to all applicable requirements of this chapter. If the waste is determined to be a dangerous waste, the transporter is subject to WAC 173-303-145 and 173-303-170 through 173-303-230.

**(33) Off-site shipments.**

(a) A universal waste transporter is prohibited from transporting the universal waste to a place other than a universal waste handler, a destination facility, or a foreign destination.

(b) If the universal waste being shipped off site meets the Department of Transportation's definition of hazardous materials under 49 CFR 171.8, the shipment must be properly described on a shipping paper in accordance with the applicable Department of Transportation regulations under 49 CFR Part 172.

**(34) Exports.**

A universal waste transporter transporting a shipment of universal waste to a foreign destination may not accept a shipment if the transporter knows the shipment does not conform to the EPA Acknowledgment of Consent. In addition the transporter must ensure that:

(a) A copy of the EPA Acknowledgment of Consent accompanies the shipment; and

(b) The shipment is delivered to the facility designated by the person initiating the shipment.

**(35) Applicability—Destination facilities.** Subsections (35) through (37) of this section apply to destination facilities.

(a) The owner or operator of a destination facility (as defined in WAC 173-303-040) is subject to all applicable requirements of WAC 173-303-140 and 173-303-141, 173-303-280 through 173-303-525, 173-303-800 through 173-303-840, and the notification requirement at WAC 173-303-060:

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(b) The owner or operator of a destination facility that recycles a particular universal waste without storing that universal waste before it is recycled must comply with WAC 173-303-120 (4)(c).

**(36) Off-site shipments.**

(a) The owner or operator of a destination facility is prohibited from sending or taking universal waste to a place other than a universal waste handler, another destination facility or foreign destination.

(b) The owner or operator of a destination facility may reject a shipment containing universal waste, or a portion of a shipment containing universal waste. If the owner or operator of the destination facility rejects a shipment or a portion of a shipment, he must contact the shipper to notify him of the rejection and to discuss reshipment of the load. The owner or operator of the destination facility must:

(i) Send the shipment back to the original shipper; or

(ii) If agreed to by both the shipper and the owner or operator of the destination facility, send the shipment to another destination facility.

(iii) If the owner or operator of a destination facility receives a shipment containing dangerous waste that is not a universal waste, the owner or operator of the destination facility must immediately notify the department of the illegal shipment, and provide the name, address, and phone number of the shipper. The department will provide instructions for managing the dangerous waste.

(c) If the owner or operator of a destination facility receives a shipment of nondangerous, nonuniversal waste, the owner or operator may manage the waste in any way that is in compliance with applicable federal or state solid waste regulations.

**(37) Tracking universal waste shipments.**

(a) The owner or operator of a destination facility must keep a record of each shipment of universal waste received at the facility. The record may take the form of a log, invoice, manifest, bill of lading, or other shipping document. The record for each shipment of universal waste received must include the following information:

(i) The name and address of the universal waste handler, destination facility, or foreign shipper from whom the universal waste was sent;

(ii) The quantity of each type of universal waste received (e.g., batteries or thermostats);

(iii) The date of receipt of the shipment of universal waste.

(b) The owner or operator of a destination facility must retain the records described in (a) of this subsection for at least three years from the date of receipt of a shipment of universal waste.

**(38) Imports.**

Persons managing universal waste that is imported from a foreign country into the United States are subject to the applicable requirements of this section, immediately after the waste enters the United States, as indicated below:

(a) A universal waste transporter is subject to the universal waste transporter requirements of subsections (28) through (34) of this section.

(b) A universal waste handler is subject to the small or large quantity handler of universal waste requirements of subsections (6) through (27) of this section, as applicable.

(c) An owner or operator of a destination facility is subject to the destination facility requirements of subsections (35) through (37) of this section.

**(39) General—Petitions.** Subsections (39) and (40) of this section address petitions to include other wastes under this section.

(a) Any person seeking to add a dangerous waste or a category of dangerous waste to this section may petition for a regulatory amendment under subsections (39) and (40) of this section and WAC 173-303-910 (1) and (7).

(b) To be successful, the petitioner must demonstrate to the satisfaction of the department that regulation under the universal waste regulations of this section is: Appropriate for the waste or category of waste; will improve management practices for the waste or category of waste; and will improve implementation of the dangerous waste program. The petition must include the information required by WAC 173-303-910 (1)(b). The petition should also address as many of the factors listed in subsection (40) of this section as are appropriate for the waste or waste category addressed in the petition.

(c) The department will evaluate petitions using the factors listed in subsection (40) of this section. The department will grant or deny a petition using the factors listed in subsection (40) of this section. The decision will be based on the weight of evidence showing that regulation under this section is appropriate for the waste or category of waste, will improve management practices for the waste or category of waste, and will improve implementation of the dangerous waste program.

**(40) Factors for petitions to include other wastes under this section.**

(a) The waste or category of waste, as generated by a wide variety of generators, is listed in WAC 173-303-081 or 173-303-082, or (if not listed) a proportion of the waste stream exhibits one or more characteristics or criteria of dangerous waste identified in WAC 173-303-090 or 173-303-100. (When a characteristic waste is added to the universal waste regulations of this section by using a generic name to identify the waste category (e.g., batteries), the definition of universal waste in WAC 173-303-040 will be amended to include only the dangerous waste portion of the waste category (e.g., dangerous waste batteries).) Thus, only the portion of the waste stream that does exhibit one or more characteristics or criteria (i.e., is dangerous waste) is subject to the universal waste regulations of this section;

(b) The waste or category of waste is not exclusive to a specific industry or group of industries, is commonly generated by a wide variety of types of establishments (including, for example, households, retail and commercial businesses, office complexes, conditionally exempt small quantity generators, small businesses, government organizations, as well as large industrial facilities);

(c) The waste or category of waste is generated by a large number of generators (e.g., more than 1,000 nationally) and is frequently generated in relatively small quantities by each generator;

(d) Systems to be used for collecting the waste or category of waste (including packaging, marking, and labeling practices) would ensure close stewardship of the waste;

(e) The risk posed by the waste or category of waste during accumulation and transport is relatively low compared to other dangerous wastes, and specific management standards proposed or referenced by the petitioner (e.g., waste management requirements appropriate to be added to subsections (9), (20), and (30) of this section; and/or applicable Department of Transportation requirements) would be protective of human health and the environment during accumulation and transport;

(f) Regulation of the waste or category of waste under this section will increase the likelihood that the waste will be diverted from nondangerous waste management systems (e.g., the municipal waste stream, nondangerous industrial or commercial waste stream, municipal sewer or stormwater systems) to recycling, treatment, or disposal in compliance with the Hazardous Waste Management Act chapter 70.105 RCW and this chapter.

(g) Regulation of the waste or category of waste under this section will improve implementation of and compliance with the dangerous waste regulatory program; and/or

(h) Such other factors as may be appropriate.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-600 Final facility standards.** Purpose, scope, and applicability.

(1) The purpose of WAC 173-303-600 through ((~~173-303-680~~)) 173-303-695, is to establish minimum state-wide standards which describe the acceptable management of dangerous waste. In addition to WAC 173-303-600 through ((~~173-303-680~~)) 173-303-695, the final facility standards include WAC 173-303-280 through 173-303-395.

(2) The final facility standards apply to owners and operators of all facilities which treat, store or dispose of dangerous waste, and which are not exempted by subsection (3) of this section.

(3) The final facility standards do not apply to:

(a) Persons whose disposal activities are permitted under the Marine Protection, Research and Sanctuaries Act, except that storage, or treatment facilities where dangerous waste is loaded onto an ocean vessel for incineration or disposal at sea are subject to final facility standards;

(b) Persons whose disposal activities are permitted under the underground injection control program of the Safe Drinking Water Act, except that storage, or treatment facilities needed to handle dangerous wastes are subject to final facility standards;

(c) The owner or operator of a POTW which treats, stores, or disposes of dangerous waste provided he has a permit by rule pursuant to the requirements of WAC 173-303-802(4);

(d) A generator accumulating waste on site in compliance with WAC 173-303-200;

(e) The owner or operator of a facility which is permitted to manage solid waste pursuant to chapter 173-304 WAC, if the only dangerous waste the facility manages is excluded from regulation under this chapter by WAC 173-303-070(8);

(f) A farmer disposing of waste pesticides from his own use provided he complies with WAC 173-303-160 (2)(b);

(g) A transporter storing a manifested shipment of dangerous waste for ten days or less in accordance with WAC 173-303-240(5);

(h) Any person, other than an owner or operator who is already subject to the final facility standards, who is carrying out an immediate or emergency response to contain or treat a discharge or potential discharge of a dangerous waste or hazardous substance;

(i) The owner or operator of a facility which is in compliance with the interim status requirements of WAC 173-303-400 and 173-303-805, until final administrative disposition of his final facility permit;

(j) The owner or operator of a totally enclosed treatment facility or elementary neutralization or wastewater treatment unit as defined in WAC 173-303-040, provided that he has a permit by rule pursuant to the requirements of WAC 173-303-802(5);

(k) The addition, by a generator, of absorbent material to waste in a container, or of waste to absorbent material in a container, provided that these actions occur at the time the waste is first placed in containers or, in the case of repackaging of previously containerized waste into new containers, at the time the waste is first placed into the new containers and the generator complies with WAC 173-303-200 (1)(b) and 173-303-395 (1)(a) and (b);

(l) The compaction or sorting of miscellaneous waste forms such as cans, rags, and bottles in a container, so long as the activity is solely for the purpose of reducing waste void space, and so long as these activities are conducted in a manner that protects human health and prevents any release to the environment and the generator complies with WAC 173-303-200 (1)(b) and 173-303-395 (1)(a) and (b);

(m) Generators treating dangerous waste on-site in tanks ((~~or~~)), containers, or containment buildings that are used for accumulation of such wastes provided the generator complies with the WAC 173-303-170(3); ((~~and~~))

(n) The owner or operator of an elementary neutralization unit or a wastewater treatment unit as defined in WAC 173-303-040, provided that if the owner or operator is diluting hazardous ignitable (D001) wastes (other than the D001 High TOC Subcategory defined in 40 CFR section 268.40, Table Treatment Standards for Hazardous Wastes), or reactive (D003) waste, to remove the characteristic before land disposal, the owner/operator must comply with the requirements set out in WAC 173-303-395 (1)(a); and

(o) Universal waste handlers and universal waste transporters (as defined in WAC 173-303-040) handling the wastes listed below. These handlers are subject to regulation under WAC 173-303-573, when handling the below listed universal wastes.

(i) Batteries as described in WAC 173-303-573(2); and

(ii) Thermostats as described in WAC 173-303-573(3).

(4) Reserve.

(5) The owner or operator of a facility which recycles dangerous waste may, for such recycled wastes only, comply with the applicable recycling standards specified in WAC 173-303-120 and 173-303-500 through 173-303-525 in lieu of the final facility standards.

(6) The owner or operator must comply with the special land disposal restrictions for certain dangerous wastes in WAC 173-303-140.

(7) The final facility requirements apply to owners or operators of all facilities that treat, store, or dispose of hazardous wastes referred to in 40 CFR Part 268, which is incorporated by reference at WAC 173-303-140(2).

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-610 Closure and postclosure.** (1) Applicability.

(a) Subsections (2) through (6) of this section, (which concern closure), apply to the owners and operators of all dangerous waste facilities.

(b) Subsections (7) through (11) of this section, (which concern postclosure care), apply to the owners and operators of all regulated units (as defined in WAC 173-303-040) at which dangerous waste will remain after closure, to tank systems that are required under WAC 173-303-640(8) to meet the requirements of landfills, to surface impoundments, waste piles, and miscellaneous units as specified in WAC 173-303-650(6), 173-303-660(9), and 173-303-680(4), respectively; to containment buildings that are required under 40 CFR 264.1102 (incorporated by reference at WAC 173-303-695) to meet the requirements for landfills; and, unless otherwise authorized by the department, to the owners and operators of all facilities which, at closure, cannot meet the removal or decontamination limits specified in subsection (2)(b) of this section.

(c) For the purposes of the closure and postclosure requirements, any portion of a facility which closes is subject to the applicable closure and postclosure standards even if the rest of the facility does not close and continues to operate.

(2) Closure performance standard. The owner or operator must close the facility in a manner that:

(a)(i) Minimizes the need for further maintenance;

(ii) Controls, minimizes or eliminates to the extent necessary to protect human health and the environment, postclosure escape of dangerous waste, dangerous constituents, leachate, contaminated run-off, or dangerous waste decomposition products to the ground, surface water, ground water, or the atmosphere; and

(iii) Returns the land to the appearance and use of surrounding land areas to the degree possible given the nature of the previous dangerous waste activity.

(b) Where the closure requirements of this section, or of WAC 173-303-630(10), 173-303-640(8), 173-303-650(6), 173-303-655(6), 173-303-655(8), 173-303-660(9), 173-303-665(6), 173-303-670(8), 173-303-680 (2) through (4), or 40 CFR 264.1102 (incorporated by reference at WAC 173-303-695) call for the removal or decontamination of dangerous wastes, waste residues, or equipment, bases, liners, soils or other materials containing or contaminated with dangerous wastes or waste residue, then such removal or decontamination must assure that the levels of dangerous waste or dangerous waste constituents or residues do not exceed:

(i) For soils, ground water, surface water, and air, the numeric cleanup levels calculated using residential exposure assumptions according to the Model Toxics Control Act Regulations, chapter 173-340 WAC as now or hereafter amended. Primarily, these will be numeric cleanup levels calculated according to MTCA Method B, although MTCA Method A may be used as appropriate, see WAC 173-340-700 through 173-340-760, excluding WAC 173-340-745; and

(ii) For all structures, equipment, bases, liners, etc., clean closure standards will be set by the department on a case-by-case basis in accordance with the closure performance standards of WAC 173-303-610 (2)(a)(ii) and in a manner that minimizes or eliminates post-closure escape of dangerous waste constituents.

(3) Closure plan; amendment of plan.

(a) The owner or operator of a dangerous waste management facility must have a written closure plan. In addition, certain surface impoundments and waste piles from which the owner or operator intends to remove or decontaminate the dangerous waste at partial or final closure are required by WAC 173-303-650(6) and 173-303-660(9) to have contingent closure plans. The plan must be submitted with the permit application, in accordance with WAC 173-303-806(4), and approved by the department as part of the permit issuance procedures under WAC 173-303-840. The approved closure plan will become a condition of any permit. The department's decision must assure that the approved closure plan is consistent with subsections (2), (3), (4), (5), and (6) of this section, and the applicable requirements of WAC 173-303-630(10), 173-303-640(8), 173-303-645, 173-303-650(6), 173-303-655(8), 173-303-660(9), 173-303-665(6), 173-303-670(8), 173-303-680(2), and 40 CFR 264.1102 (incorporated by reference at WAC 173-303-695). A copy of the approved plan and all revisions to the plan must be furnished to the department upon request, including request by mail until final closure is completed and certified in accordance with subsection (6) of this section. The plan must identify steps necessary to perform partial and/or final closure of the facility at any point during its active life. The closure plan must include at least:

(i) A description of how each dangerous waste management unit at the facility will be closed in accordance with subsection (2) of this section;

(ii) A description of how final closure of the facility will be conducted in accordance with subsection (2) of this section. The description must identify the maximum extent of the operation which will be unclosed during the active life of the facility;

(iii) An estimate of the maximum inventory of dangerous wastes ever on-site over the active life of the facility. (Any change in this estimate is a minor modification under WAC 173-303-830(4));

(iv) A detailed description of the methods to be used during partial closures and final closure, including, but not limited to, methods for removing, transporting, treating, storing, or disposing of all dangerous wastes, and identification of the type(s) of the off-site dangerous waste management units to be used, if applicable;

(v) A detailed description of the steps needed to remove or decontaminate all dangerous waste residues and contaminated containment system components, equipment, structures, and soils during partial and final closure, including, but not limited to, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and criteria for determining the extent of decontamination required to satisfy the closure performance standard;

(vi) A detailed description of other activities necessary during the closure period to ensure that all partial closures and final closure satisfy the closure performance standards, including, but not limited to, ground water monitoring, leachate collection, and run-on and run-off control; ((~~and~~))

(vii) A schedule for closure of each dangerous waste management unit and for final closure of the facility. The schedule must include, at a minimum, the total time required to close each dangerous waste management unit and the time required for intervening closure activities which will allow tracking of the progress of partial and final closure. (For example, in the case of a landfill unit, estimates of the time required to treat or dispose of all dangerous waste inventory and of the time required to place a final cover must be included.) ((~~Additionally,~~)); and

(viii) For facilities that use trust funds to establish financial assurance under WAC 173-303-620 (4) or (6) and that are expected to close prior to the expiration of the permit, an estimate of the expected year of final closure.

(b) The owner or operator must submit a written notification of or request for a permit modification to authorize a change in operating plans, facility design, or the approved closure plan in accordance with the applicable procedures in WAC 173-303-800 through 173-303-840. The written notification or request must include a copy of the amended closure plan for review or approval by the department.

(i) The owner or operator may submit a written notification or request to the department for a permit modification to amend the closure plan at any time prior to the notification of partial or final closure of the facility.

(ii) The owner or operator must submit a written notification of or request for a permit modification to authorize a change in the approved closure plan whenever:

(A) Changes in operating plans or facility design affect the closure plan; or

(B) There is a change in the expected year of closure, if applicable; or

(C) In conducting partial or final closure activities, unexpected events require a modification of the approved closure plan.

(iii) The owner or operator must submit a written request for a permit modification including a copy of the amended closure plan for approval at least sixty days prior to the proposed change in facility design or operation, or no later than sixty days after an unexpected event has occurred which has affected the closure plan. If an unexpected event occurs during the partial or final closure period, the owner or operator must request a permit modification no later than thirty days after the unexpected event. An owner or operator of a surface impoundment or waste pile that intends to remove all dangerous waste at closure and is not otherwise required to prepare a contingent closure plan under WAC 173-303-650(6) or 173-303-660(9), must submit an amended closure plan to the department no later than sixty days from the date that the owner or operator or department determines that the dangerous waste management unit must be closed as a landfill, subject to the requirements of WAC 173-303-665, or no later than thirty days from that date if the determination is made during partial or final closure. The department will approve, disapprove, or modify this amended plan in accordance with the procedures in WAC 173-303-800 through 173-303-840. The approved closure plan will become a condition of any permit issued.

(iv) The department may request modifications to the plan under the conditions described in (b)(ii) of this subsection. The owner or operator must submit the modified plan within sixty days of the department's request, or within thirty days if the change in facility conditions occurs during partial or final closure. Any modifications requested by the department will be approved in accordance with the procedures in WAC 173-303-800 through 173-303-840.

(c) Notification of partial closure and final closure.

(i) The owner or operator must notify the department in writing at least sixty days prior to the date on which he expects to begin closure of a surface impoundment, waste pile, land treatment, or landfill unit, or final closure of a facility with such a unit. The owner or operator must notify the department in writing at least forty-five days prior to the date on which he expects to begin final closure of a facility with only treatment or storage tanks, container storage, or incinerator units to be closed.

(ii) The date when he "expects to begin closure" must be either:

(A) No later than thirty days after the date on which any dangerous waste management unit receives the known final volume of dangerous wastes or, if there is a reasonable possibility that the dangerous waste management unit will receive additional dangerous wastes, no later than one year after the date on which the unit received the most recent volume of dangerous waste. If the owner or operator of a dangerous waste management unit can demonstrate to the department that the dangerous waste management unit or facility has the capacity to receive additional dangerous wastes and he has taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements, the department may approve an extension to this one-year limit; or

(B) For units meeting the requirements of subsection (4)(d) of this section, no later than thirty days after the date on which the dangerous waste management unit receives the known final volume of nondangerous wastes, or if there is a reasonable possibility that the dangerous waste management unit will receive additional nondangerous wastes, no later than one year after the date on which the unit received the most recent volume of nondangerous wastes. If the owner or operator can demonstrate to the department that the dangerous waste management unit has the capacity to receive additional nondangerous wastes and he has taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements, the department may approve an extension to this one-year limit.

(iii) If the facility's permit is terminated, or if the facility is otherwise ordered, by judicial decree or final order to cease receiving dangerous wastes or to close, then the requirements of (c) of this subsection do not apply. However, the owner or operator must close the facility in accordance with the deadlines established in subsection (4) of this section.

(iv) Removal of wastes and decontamination or dismantling of equipment. Nothing in this subsection will preclude the owner or operator from removing dangerous wastes and

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decontaminating or dismantling equipment in accordance with the approved partial or final closure plan at any time before or after notification of partial or final closure.

(4) Closure; time allowed for closure.

(a) Within ninety days after receiving the final volume of dangerous wastes, or the final volume of nondangerous wastes if the owner or operator complies with all applicable requirements in (d) and (e) of this subsection, at a dangerous waste management unit or facility, the owner or operator must treat, remove from the unit or facility, or dispose of on site, all dangerous wastes in accordance with the approved closure plan. The department may approve a longer period if the owner or operator complies with all applicable requirements for requesting a modification to the permit and demonstrates that he has taken and will continue to take all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements, and either:

(i) The activities required to comply with this paragraph will, of necessity, take longer than ninety days to complete; or

(ii)(A) The dangerous waste management unit or facility has the capacity to receive additional dangerous wastes, or has the capacity to receive nondangerous wastes if the owner or operator complies with (d) and (e) of this subsection;

(B) There is a reasonable likelihood that he or another person will recommence operation of the dangerous waste management unit or the facility within one year; and

(C) Closure of the dangerous waste management unit or facility would be incompatible with continued operation of the site.

(b) The owner or operator must complete partial and final closure activities in accordance with the approved closure plan and within one hundred eighty days after receiving the final volume of dangerous wastes, or the final volume of nondangerous wastes if the owner or operator complies with all applicable requirements in (d) and (e) of this subsection, at the dangerous waste management unit or facility. The department may approve an extension to the closure period if the owner or operator complies with all applicable requirements for requesting a modification to the permit and demonstrates that he has taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed but not operating dangerous waste management unit or facility, including compliance with all applicable permit requirements, and either:

(i) The partial or final closure activities will, of necessity, take longer than one hundred eighty days to complete; or

(ii)(A) The dangerous waste management unit or facility has the capacity to receive additional dangerous wastes, or has the capacity to receive nondangerous wastes if the owner or operator complies with (d) and (e) of this subsection;

(B) There is reasonable likelihood that he or another person will recommence operation of the dangerous waste management unit or the facility within one year; and

(C) Closure of the dangerous waste management unit or facility would be incompatible with continued operation of the site.

(c) The demonstrations referred to in (a)(i) and (b)(i) of this subsection must be made as follows: The demonstrations in (a)(i) of this subsection must be made at least thirty days prior to the expiration of the specified ninety-day period; and the demonstration in (b)(i) of this subsection must be made at least thirty days prior to the expiration of the specified one hundred eighty-day period unless the owner or operator is otherwise subject to the deadlines in (d) of this subsection.

(d) The department may allow an owner or operator to receive only nondangerous wastes in a landfill, land treatment, or surface impoundment unit after the final receipt of dangerous wastes at that unit if:

(i) The owner or operator requests a permit modification in compliance with all applicable requirements in WAC 173-303-830 and 40 CFR Part 124 and in the permit modification request demonstrates that:

(A) The unit has the existing design capacity as indicated on the part A application to receive nondangerous wastes; and

(B) There is a reasonable likelihood that the owner or operator or another person will receive nondangerous wastes in the unit within one year after the final receipt of dangerous wastes; and

(C) The nondangerous wastes will not be incompatible with any remaining wastes in the unit, or with the facility design and operating requirements of the unit or facility under this part; and

(D) Closure of the dangerous waste management unit would be incompatible with continued operation of the unit or facility; and

(E) The owner or operator is operating and will continue to operate in compliance with all applicable permit requirements; and

(ii) The request to modify the permit includes an amended wastes analysis plan, ground water monitoring and response program, human exposure assessment required under RCRA section 3019, and closure and postclosure plan, and updated cost estimates and demonstrations of financial assurance for closure and postclosure care as necessary and appropriate, to reflect any changes due to the presence of dangerous constituents in the nondangerous wastes, and changes in closure activities, including the expected year of closure if applicable under subsection (3)(a)((~~(vii)~~)) (viii) of this section, as a result of the receipt of nondangerous wastes following the final receipt of dangerous wastes; and

(iii) The request to modify the permit includes revisions, as necessary and appropriate, to affected conditions of the permit to account for the receipt of nondangerous wastes following receipt of the final volume of dangerous wastes; and

(iv) The request to modify the permit and the demonstration referred to in (d)(i) and (ii) of this subsection are submitted to the department no later than one hundred twenty days prior to the date on which the owner or operator of the facility receives the known final volume of dangerous wastes at the unit, or no later than ninety days after the effective date of this rule in the state in which the unit is located, whichever is later.

(e) In addition to the requirements in (d) of this subsection, an owner or operator of a dangerous wastes surface impoundment that is not in compliance with the liner and leachate collection system requirements in 42 U.S.C. 3004 (o)(1) and 3005 (j)(1) or 42 U.S.C. 3004 (o)(2) or (3) or 3005 (j)(2), (3), (4) or (13) must:

(i) Submit with the request to modify the permit:

(A) A contingent corrective measures plan, unless a corrective action plan has already been submitted under WAC 173-303-645(10); and

(B) A plan for removing dangerous wastes in compliance with (e)(ii) of this subsection; and

(ii) Remove all dangerous wastes from the unit by removing all dangerous liquids, and removing all dangerous sludges to the extent practicable without impairing the integrity of the liner(s), if any.

(iii) Removal of dangerous wastes must be completed no later than ninety days after the final receipt of dangerous wastes. The department may approve an extension to this deadline if the owner or operator demonstrates that the removal of dangerous wastes will, of necessity, take longer than the allotted period to complete and that an extension will not pose a threat to human health and the environment.

(iv) If a release that is a statistically significant increase (or decrease in the case of pH) over background values for detection monitoring parameters of constituents specified in the permit or that exceeds the facility's ground water protection standard at the point of compliance, if applicable, is detected in accordance with the requirements in WAC 173-303-645, the owner or operator of the unit:

(A) Must implement corrective measures in accordance with the approved contingent corrective measures plan required by (e)(i) of this subsection no later than one year after detection of the release, or approval of the contingent corrective measures plan, whichever is later;

(B) May continue to receive wastes at the unit following detection of the release only if the approved corrective measures plan includes a demonstration that continued receipt of wastes will not impede corrective action; and

(C) May be required by the department to implement corrective measures in less than one year or to cease the receipt of wastes until corrective measures have been implemented if necessary to protect human health and the environment.

(v) During the period of corrective action, the owner or operator must provide semiannual reports to the department that describe the progress of the corrective action program, compile all ground water monitoring data, and evaluate the effect of the continued receipt of nondangerous wastes on the effectiveness of the corrective action.

(vi) The department may require the owner or operator to commence closure of the unit if the owner or operator fails to implement corrective action measures in accordance with the approved contingent corrective measures plan within one year as required in (e)(iv) of this subsection, or fails to make substantial progress in implementing corrective action and achieving the facility's ground water protection standard or background levels if the facility has not yet established a ground water protection standard.

(vii) If the owner or operator fails to implement corrective measures as required in (e)(iv) of this subsection or if the department determines that substantial progress has not been made pursuant to (e)(vi) of this subsection the department will:

(A) Notify the owner or operator in writing that the owner or operator must begin closure in accordance with the deadline in (a) and (b) of this subsection and provide a detailed statement of reasons for this determination; and

(B) Provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments on the decision no later than twenty days after the date of the notice.

(C) If the department receives no written comments, the decision will become final five days after the close of the comment period. The department will notify the owner or operator that the decision is final, and that a revised closure plan, if necessary, must be submitted within fifteen days of the final notice and that closure must begin in accordance with the deadlines in (a) and (b) of this subsection.

(D) If the department receives written comments on the decision, it will make a final decision within thirty days after the end of the comment period, and provide the owner or operator in writing and the public through a newspaper notice, a detailed statement of reasons for the final decision. If the department determines that substantial progress has not been made, closure must be initiated in accordance with the deadlines in (a) and (b) of this subsection.

(E) The final determinations made by the department under (e)(vii)(C) and (D) of this subsection are not subject to administrative appeal.

(5) Disposal or decontamination of equipment, structures and soils. During the partial and final closure periods, all contaminated equipment, structures and soils must be properly disposed of or decontaminated unless otherwise specified in WAC 173-303-640(8), 173-303-650(6), 173-303-655(8), 173-303-660(9), 173-303-665(6), or under the authority of WAC 173-303-680 (2) and (4). By removing any dangerous wastes or dangerous constituents during partial and final closure, the owner or operator may become a generator of dangerous waste and must handle that waste in accordance with all applicable requirements of WAC 173-303-170 through 173-303-230.

(6) Certification of closure. Within sixty days of completion of closure of each dangerous waste management unit (including tank systems and container storage areas), and within sixty days of the completion of final closure, the owner or operator must submit to the department by registered mail, a certification that the dangerous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved closure plan. The certification must be signed by the owner or operator and by an independent registered professional engineer. Documentation supporting the independent registered professional engineer's certification must be furnished to the department upon request until it releases the owner or operator from the financial assurance requirements for closure under WAC 173-303-620(4).

(7) Postclosure care and use of property.

(a) Postclosure care for each dangerous waste management unit subject to postclosure requirements must begin after completion of closure of the unit and continue for thirty years after that date and must consist of at least the following:

(i) Ground water monitoring and reporting as required by WAC 173-303-645, 173-303-650, 173-303-655, 173-303-660, 173-303-665, and 173-303-680; and

(ii) Maintenance and monitoring of waste containment systems as applicable.

(b) Any time preceding partial closure of a dangerous waste management unit subject to postclosure care require-

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ments or final closure, or any time during the postclosure period for a particular unit, the department may, in accordance with the permit modification procedures in WAC 173-303-800 through 173-303-840:

(i) Shorten the postclosure care period applicable to the dangerous waste management unit, or facility, if all disposal units have been closed, if it finds that the reduced period is sufficient to protect human health and the environment (e.g., leachate or ground water monitoring results, characteristics of the dangerous waste, application of advanced technology, or alternative disposal, treatment, or reuse techniques indicate that the dangerous waste management unit or facility is secure); or

(ii) Extend the postclosure care period applicable to the dangerous waste management unit or facility if it finds that the extended period is necessary to protect human health and the environment (e.g., leachate or ground water monitoring results indicate a potential for migration of dangerous waste at levels which may be harmful to human health and the environment).

(c) The department may require, at partial or final closure, continuation of any of the security requirements of WAC 173-303-310 during part or all of the postclosure period when:

(i) Dangerous wastes may remain exposed after completion of partial or final closure; or

(ii) Access by the public or domestic livestock may pose a hazard to human health.

(d) Postclosure use of property on or in which dangerous wastes remain after partial or final closure must never be allowed to disturb the integrity of the final cover, liner(s), or any other components of any containment system, or the function of the facility's monitoring systems, unless the department finds that the disturbance:

(i) Is necessary to the proposed use of the property, and will not increase the potential hazard to human health or the environment; or

(ii) Is necessary to reduce a threat to human health or the environment.

(e) All postclosure care activities must be in accordance with the provisions of the approved postclosure plan as specified in subsection (8) of this section.

(8) Postclosure plan; amendment of plan.

(a) The owner or operator of a dangerous waste disposal unit must have a written postclosure plan. In addition, certain surface impoundments and certain piles from which the owner or operator intends to remove or decontaminate the dangerous wastes at partial or final closure are required by WAC 173-303-650 and 173-303-660, respectively, to have written contingent postclosure plans. Owners or operators of surface impoundments and waste piles not otherwise required to prepare contingent postclosure plans under WAC 173-303-650 or 173-303-660 must submit a postclosure plan to the department within ninety days from the date that the owner or operator or department determines that the dangerous waste management unit must be closed as a landfill, subject to the postclosure requirements. The plan must be submitted with the permit application, in accordance with WAC 173-303-806, and approved by the department as part of the permit issuance procedures under WAC 173-303-840. The approved postclosure plan will become a condition of any permit issued.

(b) For each dangerous waste management unit subject to the requirements of this subsection, the postclosure plan must identify the activities which will be carried on after closure and the frequency of these activities, and include at least:

(i) A description of the planned ground water monitoring activities and frequencies at which they will be performed;

(ii) A description of the planned maintenance activities, and frequencies at which they will be performed to comply with WAC 173-303-645, 173-303-650, 173-303-655, 173-303-660, 173-303-665, and 173-303-680 during the postclosure care period, to ensure:

(A) The integrity of the cap and final cover or other containment structures in accordance with the requirements of 173-303-645, 173-303-650, 173-303-655, 173-303-660, 173-303-665, and 173-303-680; and

(B) The function of the facility monitoring equipment;

(iii) And the name, address, and phone number of the person or office to contact about the dangerous waste disposal unit or facility during the postclosure care period.

(c) Until final closure of the facility, a copy of the approved postclosure plan must be furnished to the department upon request, including request by mail. After final closure has been certified, the person or office specified in (b)(iii) of this subsection must keep the approved postclosure plan during the remainder of the postclosure period.

(d) Amendment of plan. The owner or operator must submit a written notification of or request for a permit modification to authorize a change in the approved postclosure plan in accordance with the applicable requirements of WAC 173-303-800 through 173-303-840. The written notification or request must include a copy of the amended postclosure plan for review or approval by the department.

(i) The owner or operator may submit a written notification or request to the department for a permit modification to amend the postclosure plan at any time during the active life of the facility or during the postclosure care period.

(ii) The owner or operator must submit a written notification of or request for a permit modification to authorize a change in the approved postclosure plan whenever:

(A) Changes in operating plans or facility design affect the approved postclosure plan; or

(B) There is a change in the expected year of final closure, if applicable; or

(C) Events which occur during the active life of the facility, including partial and final closures, affect the approved postclosure plan.

(iii) The owner or operator must submit a written request for a permit modification at least sixty days prior to the proposed change in facility design or operation, or no later than sixty days after an unexpected event has occurred which has affected the postclosure plan. An owner or operator of a surface impoundment or waste pile that intends to remove all dangerous waste at closure and is not otherwise required to submit a contingent postclosure plan under WAC 173-303-650 or 173-303-660 must submit a postclosure plan to the department no later than ninety days after the date that the owner or operator or department determines that the dangerous waste management unit must be closed as

a landfill, subject to the requirements of WAC 173-303-665. The department will approve, disapprove, or modify this plan in accordance with the procedures in WAC 173-303-800 through 173-303-840. The approved postclosure plan will become a permit condition.

(iv) The department may request modifications to the plan under the conditions described in (d)(ii) of this subsection. The owner or operator must submit the modified plan no later than sixty days after the department's request, or no later than ninety days if the unit is a surface impoundment or waste pile not previously required to prepare a contingent postclosure plan. Any modifications requested by the department will be approved, disapproved, or modified in accordance with the procedures in WAC 173-303-800 through 173-303-840.

(9) Notice to local land authority. No later than the submission of the certification of closure of each dangerous waste disposal unit, the owner or operator of a disposal facility must submit to the local zoning authority or the authority with jurisdiction over local land use and to the department a survey plat indicating the location and dimensions of landfill cells or other dangerous waste disposal units with respect to permanently surveyed benchmarks. This plat must be prepared and certified by a professional land surveyor. The plat filed with the local zoning authority or the authority with jurisdiction over local land use must contain a note, prominently displayed, which states the owner's or operator's obligation to restrict disturbance of the dangerous waste disposal unit in accordance with the applicable requirements of this section. In addition, no later than sixty days after certification of closure of each dangerous waste disposal unit, the owner or operator must submit to the local zoning authority or the authority with jurisdiction over local land use and to the department, a record of the type, location, and quantity of dangerous wastes disposed of within each cell or other disposal unit of the facility. For wastes disposed of before November 19, 1980 (March 12, 1982, for facilities subject to this chapter but not subject to 40 CFR Part 264), the owner or operator must identify the type, location, and quantity of the dangerous wastes to the best of his knowledge and in accordance with any records he has kept.

(10) Notice in deed to property.

(a) No later than sixty days after certification of closure of each dangerous waste disposal unit, the owner or operator must submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the department a record of the type, location, and quantity of dangerous wastes disposed of within each cell or other disposal unit of the facility. For hazardous wastes (as defined in WAC 173-303-040) disposed of before January 12, 1981, the owner or operator must identify the type, location, and quantity of the dangerous wastes to the best of his knowledge and in accordance with any records he has kept.

(b) Within sixty days of certification of closure of the first dangerous waste disposal unit and within sixty days of certification of closure of the last dangerous waste disposal unit, the owner or operator must:

(i) Record, in accordance with state law, a notation on the deed to the facility property, or on some other instrument which is normally examined during title search, that will in perpetuity notify any potential purchaser of the property that:

(A) The land has been used to manage dangerous wastes;

(B) Its use is restricted under this section; and

(C) The survey plat and record of the type, location, and quantity of dangerous wastes disposed of within each cell or other dangerous waste disposal unit of the facility required in subsection (9) of this section have been filed with the local zoning authority, or the authority with jurisdiction over local land use, and with the department; and

(ii) Submit a certification, signed by the owner or operator, that he has recorded the notation specified in (b)(i) of this subsection, including a copy of the document in which the notation has been placed, to the department.

(c) If the owner or operator or any subsequent owner of the land upon which a dangerous waste facility was located wishes to remove dangerous wastes and dangerous waste residues, the liner, if any, or contaminated soils, he must request a modification to the postclosure permit in accordance with the applicable requirements in WAC 173-303-800 through 173-303-840. The owner or operator must demonstrate that the removal of dangerous wastes will satisfy the criteria of subsection (7)(d) of this section. By removing dangerous waste, the owner or operator may become a generator of dangerous waste and must manage it in accordance with all applicable requirements of this chapter. If he is granted a permit modification or otherwise granted approval to conduct such removal activities, the owner or operator may request that the department approve either:

(i) The removal of the notation on the deed to the facility property or other instrument normally examined during title search; or

(ii) The addition of a notation to the deed or instrument indicating the removal of the dangerous waste.

(11) Certification of completion of postclosure care. No later than sixty days after completion of the established postclosure care period for each dangerous waste disposal unit, the owner or operator must submit to the department, by registered mail, a certification that the postclosure care period for the dangerous waste disposal unit was performed in accordance with the specifications in the approved postclosure plan. The certification must be signed by the owner or operator and an independent registered professional engineer. Documentation supporting the independent registered professional engineer's certification must be furnished to the department upon request until he releases the owner or operator from the financial assurance requirements for postclosure care under WAC 173-303-620(6).

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-620 Financial requirements.** (1) Applicability.

(a) The requirements of subsections (3), (4), (7), (8), (9), and (10) of this section, apply to owners and operators of all dangerous waste facilities, except as provided otherwise in this section.

(b) The requirements of subsections (5) and (6) of this section apply to owners and operators of:

(i) Dangerous waste disposal facilities;

(ii) Tank systems that are required under WAC 173-303-640(8) to meet the requirements of landfills;

(iii) Miscellaneous units as specified in WAC 173-303-680(4);

(iv) Waste piles and surface impoundments to the extent that WAC 173-303-650 and 173-303-660, respectively, require that such facilities comply with this section; and

(v) Containment buildings that are required under WAC 173-303-695 to meet the requirements for landfills.

(c) States and the federal government((~~, and operators of state or federally owned facilities,~~)) are exempt from the requirements of this section. Operators of state or federally owned facilities are exempt from the requirements of this section, except subsections (3) and (5) of this section. Operators of facilities who are under contract with (but not owned by) the state or federal government must meet all of the requirements of this section.

(2) Definitions. As used in this section, the following listed or referenced terms have the meanings given below:

(a) "Closure plan" means the plan for closure prepared in accordance with the requirements of WAC 173-303-610(3);

(b) "Current closure cost estimate" means the most recent of the estimates prepared in accordance with subsection (3) of this section;

(c) "Current postclosure cost estimate" means the most recent of the estimates prepared in accordance with subsection (5) of this section;

(d) "Parent corporation" means a corporation which directly owns at least fifty percent of the voting stock of the corporation which is the facility owner or operator; the latter corporation is deemed a "subsidiary" of the parent corporation;

(e) "Postclosure plan" means the plan for postclosure care prepared in accordance with the requirements of WAC 173-303-610 (7), (8), (9), and (10);

(f) "Regional administrator" means the department;

(g) "Hazardous waste" means dangerous waste; and

(h) The additional terms listed and defined in 40 CFR 264.141 (f), (g), and (h) are ((~~adopted~~)) incorporated by reference.

(3) Cost estimate for facility closure.

(a) The owner or operator must have a detailed written estimate, in current dollars, of the cost of closing the facility in accordance with the requirements in WAC 173-303-610 (2) through (6), and applicable closure requirements in WAC 173-303-630(10), 173-303-640(5), 173-303-650(6), 173-303-655(8), 173-303-660(9), 173-303-665(6), 173-303-670(8), 173-303-680 (2) through (4) and 173-303-695. The closure cost estimate:

(i) Must equal the cost of closure at the point in the facility's operating life when the extent and manner of its operation would make closure the most expensive, as indicated by its closure plan (see WAC 173-303-610 (3)(a));

(ii) Must be based on the costs to the owner or operator of hiring a third party to close the facility. A third party is a party who is neither a parent nor a subsidiary of the owner or operator. (See definition of parent corporation in subsection (2)(d) of this section.) The owner or operator may use costs for on-site disposal if he can demonstrate that on-site disposal capacity will exist at all times over the life of the facility;

(iii) May not incorporate any salvage value that may be realized with the sale of dangerous wastes, or nondangerous wastes if applicable under WAC 173-303-610 (4)(d), facility structures or equipment, land, or other assets associated with the facility at the time of partial or final closure; and

(iv) May not incorporate a zero cost for dangerous wastes, or nondangerous wastes if applicable under WAC 173-303-610 (4)(d), that might have economic value.

(b) During the active life of the facility, the owner or operator must revise the closure cost estimate no later than thirty days after the department has approved the request to modify the closure plan, if the change in the closure plan increases the cost of closure. The revised closure cost estimate must be adjusted for inflation as specified in (c)(i) and (ii) of this subsection.

(c) During the active life of the facility, the owner or operator must adjust the closure cost estimate for inflation within sixty days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with this section. For owners and operators using the financial test or corporate guarantee, the closure cost estimate must be updated for inflation within thirty days after the close of the firm's fiscal year and before submission of updated information to the department as specified in subsection (4) of this section. The adjustment may be made by recalculating the maximum costs of closure in current dollars, or by using an inflation factor derived from the most recent *Implicit Price Deflator for Gross National Product or Gross Domestic Product* as published by the United States Department of Commerce in its survey of current business. The inflation factor is the result of dividing the latest published annual deflator by the deflator for the previous year.

(i) The first adjustment is made by multiplying the closure cost estimate by the inflation factor. The result is the adjusted closure cost estimate.

(ii) Subsequent adjustments are made by multiplying the latest adjusted closure cost estimate by the latest inflation factor.

(d) During the operating life of the facility, the owner or operator must keep at the facility the latest closure cost estimate prepared in accordance with (a) and (b) of this subsection, and, when this estimate has been adjusted in accordance with (c) of this subsection, the latest adjusted closure cost estimate.

(4) Financial assurance for facility closure.

(a) An owner or operator of a TSD facility must establish financial assurance for closure of the facility. The owner or operator must choose from the following options or combination of options:

(i) Closure trust fund;

(ii) Surety bond guaranteeing payment into a closure trust fund;

(iii) Surety bond guaranteeing performance of closure;

(iv) Closure letter of credit;

(v) Closure insurance; or

(vi) Financial test and corporate guarantee for closure.

(b) In satisfying the requirements of financial assurance for facility closure in this subsection, the owner or operator must meet all the requirements set forth in 40 CFR 264.143 which are incorporated by reference. If the facilities covered by the mechanism are in more than one state, identical evidence of financial assurance must be submitted to and maintained with the state agency regulating hazardous waste

or with the appropriate regional administrator if the facility is located in an unauthorized state.

(5) Cost estimate for postclosure monitoring and maintenance.

(a) The owner or operator of a facility subject to postclosure monitoring or maintenance requirements must have a detailed written estimate, in current dollars, of the annual cost of postclosure monitoring and maintenance of the facility in accordance with the applicable postclosure regulations in WAC 173-303-610 (7) through (10), 173-303-650(6), 173-303-655(8), 173-303-660(9), 173-303-665(6), and 173-303-680(4). The postclosure cost estimate must be based on the costs to the owner or operator of hiring a third party to conduct postclosure care activities. A third party is a party who is neither a parent nor a subsidiary of the owner or operator. (See definition of parent corporation in subsection (2)(d) of this section.) The postclosure cost estimate is calculated by multiplying the annual postclosure cost estimate by the number of years of postclosure care required by WAC 173-303-610.

(b) During the active life of the facility, the owner or operator must revise the postclosure cost estimate within thirty days after the department has approved the request to modify the postclosure plan, if the change in the postclosure plan increases the cost of postclosure care. The revised postclosure cost estimate must be adjusted for inflation as specified in (c)(i) and (ii) of this subsection.

(c) During the active life of the facility, the owner or operator must adjust the postclosure cost estimate for inflation within sixty days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with subsection (6) of this section. For owners or operators using the financial test or corporate guarantee, the postclosure cost estimate must be updated for inflation within thirty days after the close of the firm's fiscal year and before the submission of updated information to the department as specified in subsection (6) of this section. The adjustment may be made by recalculating the postclosure cost estimate in current dollars or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product or *Gross Domestic Product* as published by the United States Department of Commerce in its Survey of Current Business. The inflation factor is the result of dividing the latest published annual deflator by the deflator for the previous year.

(i) The first adjustment is made by multiplying the postclosure cost estimate by the inflation factor. The result is the adjusted postclosure cost estimate.

(ii) Subsequent adjustments are made by multiplying the latest adjusted postclosure cost estimate by the latest inflation factor.

(d) During the operating life of the facility, the owner or operator must keep at the facility the latest postclosure cost estimate prepared in accordance with (a) and (b) of this subsection, and, when this estimate has been adjusted in accordance with (c) of this subsection, the latest adjusted postclosure cost estimate.

(6) Financial assurance for postclosure monitoring and maintenance.

(a) An owner or operator of a facility subject to postclosure monitoring or maintenance requirements must establish financial assurance for postclosure care in accordance with the approved postclosure care plan. He must choose from the following options or combination of options:

(i) Postclosure trust fund;

(ii) Surety bond guaranteeing payment into a postclosure trust fund;

(iii) Surety bond guaranteeing performance of postclosure care;

(iv) Postclosure letter of credit;

(v) Postclosure insurance; or

(vi) Financial test and corporate guarantee for postclosure care.

(b) In satisfying the requirements of financial assurance for facility postclosure care in this subsection, the owner or operator must meet all the requirements set forth in 40 CFR 264.145 which are incorporated by reference. If the facilities covered by the mechanism are in more than one state, identical evidence of financial assurance must be submitted to and maintained with the state agency regulating hazardous waste or with the appropriate regional administrator if the facility is located in an unauthorized state.

(7) Use of a mechanism for financial assurance of both closure and postclosure care. An owner or operator may satisfy the requirements for financial assurance for both closure and postclosure care for one or more facilities by using a trust fund, surety bond, letter of credit, insurance, financial test, or corporate guarantee that meets the specifications for the mechanism in both 40 CFR 264.143 and 264.145 which are incorporated by reference. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for financial assurance of closure and of postclosure care.

(8) Liability requirements.

(a) An owner or operator of a TSD facility or a group of such facilities must demonstrate financial responsibility for bodily injury and property damages to third parties caused by sudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must meet the requirements of 40 CFR 264.147(a) which is incorporated by reference.

(b) An owner or operator of a facility with a regulated unit or units (as defined in WAC 173-303-040) or a disposal miscellaneous unit or units used to manage dangerous waste or a group of such facilities must demonstrate financial responsibility for bodily injury and property damage to third parties caused by nonsudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must meet the requirements of 40 CFR 264.147(b), 264.177 (f), (g), (h), (i), and (j) which are incorporated by reference.

(c) Request for variance. If an owner or operator can demonstrate to the satisfaction of the department that the levels of financial responsibility required by (a) or (b) of this subsection are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the owner or operator may obtain a variance from the department. The request for a variance must be submitted to the department as part of the application under WAC 173-303-806(4) for a facility that does not have a permit, or pursuant to the procedures for permit modification under WAC 173-303-830 for a facility that has a permit. If granted, the variance will take the form

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of an adjusted level of required liability coverage, such level to be based on the department's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. The department may require an owner or operator who requests a variance to provide such technical and engineering information as is deemed necessary by the department to determine a level of financial responsibility other than that required by (a) or (b) of this subsection. Any request for a variance for a permitted facility will be treated as a request for a permit modification under WAC 173-303-830.

(d) Adjustments by the department. If the department determines that the levels of financial responsibility required by (a) or (b) of this subsection are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the department may adjust the level of financial responsibility required under (a) or (b) of this subsection as may be necessary to protect human health and the environment. This adjusted level will be based on the department's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. In addition, if the department determines that there is a significant risk to human health and the environment from nonsudden accidental occurrences resulting from the operations of a facility that has no regulated units (as defined in WAC 173-303-040), it may require that the owner or operator of the facility comply with (b) of this subsection. An owner or operator must furnish to the department within a reasonable time, any information which the department requests to determine whether cause exists for such adjustments of level or type of coverage. Any adjustments of level or type of coverage for a facility that has a permit will be treated as a permit modification under WAC 173-303-830.

(e) Period of coverage. An owner or operator must continuously provide liability coverage for a facility as required by this subsection until certifications of closure of the facility, as specified in WAC 173-303-610(6), are received by the department.

(f) The following subsections are incorporated by reference: 40 CFR section 260.147(f), Financial test for liability coverage, (g) Guarantee for liability coverage, (h) Letter of credit for liability coverage, (i) Surety bond for liability coverage, and (j) Trust fund for liability coverage.

(9) Incapacity of owners or operators, guarantor or financial institutions.

(a) An owner or operator must notify the department by certified mail of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), United States Code, naming the owner or operator as debtor, within ten days after commencement of the proceeding. A guarantor of a corporate guarantee as specified in 40 CFR 264.143(f) and 264.145(f) must make such a notification if he is named as debtor, as required under the terms of the corporate guarantee (40 CFR 264.151(h)).

(b) An owner or operator who fulfills the requirements of 40 CFR 264.143, 264.145, or 264.147 (a) or (b) by obtaining a trust fund, surety bond, letter of credit, or insurance policy will be deemed to be without the required financial assurance or liability coverage in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee institution to act as trustee or of the institution issuing the surety bond, letter of credit, or insurance policy to issue such instruments. The owner or operator must establish other financial assurance or liability coverage within sixty days after such an event.

(10) Wording of the instruments. The financial instruments required by this section must contain the wording specified by 40 CFR 264.151 which is incorporated by reference, except that:

(a) The words "regional administrator" and "environmental protection agency" must be replaced with the ((~~word "department"~~)) words Washington state department of ecology;

(b) The words "hazardous waste" must be replaced with the words "dangerous waste"; ((~~and~~))

(c) Any other words specified by the department must be changed as necessary to assure financial responsibility of the facility in accordance with the requirements of this section; and

(d) Whenever 40 CFR 264.151 requires that owners and operators notify several regional administrators of their financial obligations, the owner or operator must notify both the department and all regional administrators of regions that are affected by the owner or operator's financial assurance mechanisms.

Copies of the financial instruments with the appropriate word changes will be available from the department by June 30, 1984.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-655 Land treatment.** (1) Applicability. The regulations in this subpart apply to owners and operators of facilities that treat or dispose of dangerous waste in land treatment units, except as WAC 173-303-600 provides otherwise.

(2) Treatment program.

(a) An owner or operator subject to this section must establish a land treatment program that is designed to ensure that dangerous constituents placed in or on the treatment zone are degraded, transformed, or immobilized within the treatment zone. The department will specify in the facility permit the elements of the treatment program, including:

(i) The wastes that are capable of being treated at the unit based on a demonstration under subsection (3) of this section;

(ii) Design measures and operating practices necessary to maximize the success of degradation, transformation, and immobilization processes in the treatment zone in accordance with subsection (4)(a) of this section; and

(iii) Unsaturated zone monitoring provisions meeting the requirements of subsection (6) of this section.

(b) The department will specify in the facility permit the dangerous constituents that must be degraded, transformed, or immobilized under this section. Dangerous constituents are constituents identified in WAC 173-303-9905, and any other constituents which, although not listed in WAC 173-303-9905, cause a waste to be regulated under this chapter, that are reasonably expected to be in, or derived from, waste placed in or on the treatment zone.

(c) The department will specify the vertical and horizontal dimensions of the treatment zone in the facility permit. The treatment zone is the portion of the unsaturated zone below, and including, the land surface in which the owner or operator intends to maintain the conditions necessary for effective degradation, transformation, or immobilization of dangerous constituents. The maximum depth of the treatment zone must be:

(i) No more than 1.5 meters (5 feet) below the initial soil surface; and

(ii) More than 3 meters (10 feet) above the seasonal high water table; except that the owner or operator may demonstrate to the satisfaction of the department that a distance of less than 3 meters will be adequate. In no case will the distance be less than 1 meter.

(3) Treatment demonstration.

(a) For each waste that will be applied to the treatment zone, the owner or operator must demonstrate, prior to application of the waste, that dangerous constituents in the waste can be completely degraded, transformed, or immobilized in the treatment zone.

(b) In making this demonstration, the owner or operator may use field tests, laboratory analyses, available data, or, in the case of existing units, operating data. If the owner or operator intends to conduct field tests or laboratory analyses in order to make the demonstration required under (a) of this subsection, he must obtain a land treatment demonstration permit under WAC 173-303-808. The department will specify in this permit the testing, analytical, design, and operating requirements (including the duration of the tests and analyses, and, in the case of field tests, the horizontal and vertical dimensions of the treatment zone, monitoring procedures, closure, and clean-up activities) necessary to meet the requirements in (c) of this subsection.

(c) Any field test or laboratory analysis conducted in order to make a demonstration under (a) of this subsection must:

(i) Accurately simulate the characteristics and operating conditions for the proposed land treatment unit including:

(A) The characteristics of the waste and of dangerous constituents present;

(B) The climate in the area;

(C) The topography of the surrounding area;

(D) The characteristics and depth of the soil in the treatment zone; and

(E) The operating practices to be used at the unit;

(ii) Be likely to show that dangerous constituents in the waste to be tested will be completely degraded, transformed, or immobilized in the treatment zone of the proposed land treatment unit; and

(iii) Be conducted in a manner that protects human health and the environment considering:

(A) The characteristics of the waste to be tested;

(B) The operating and monitoring measures taken during the course of the test;

(C) The duration of the test;

(D) The volume of waste used in the test; and

(E) In the case of field tests, the potential for migration of dangerous constituents to ground water or surface water.

(4) Design and operating requirements. The department will specify in the facility permit how the owner or operator will design, construct, operate, and maintain the land treatment unit in compliance with this subsection.

(a) The owner or operator must design, construct, operate, and maintain the unit to maximize the degradation, transformation, and immobilization of dangerous constituents in the treatment zone. The owner or operator must design, construct, operate, and maintain the unit in accordance with all design and operating conditions that were used in the treatment demonstration under subsection (3) of this section. At a minimum, the department will specify in the facility permit:

(i) The rate and method of waste application to the treatment zone;

(ii) Measures to control soil pH;

(iii) Measures to enhance microbial or chemical reactions (e.g., fertilization, tilling); and

(iv) Measures to control the moisture content of the treatment zone.

(b) The owner or operator must design, construct, operate, and maintain the treatment zone to minimize run-off of dangerous constituents during the active life of the land treatment unit.

(c) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the treatment zone during peak discharge from at least a twenty-five-year storm.

(d) The owner or operator must design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a twenty-four-hour, twenty-five-year storm.

(e) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously and in accordance with this chapter after storms to maintain the design capacity of the system.

(f) If the treatment zone contains particulate matter which may be subject to wind dispersal, the owner or operator must control wind dispersal.

(g) The owner or operator must inspect the unit weekly and after storms to detect evidence of:

(i) Deterioration, malfunctions, or improper operation of run-on and run-off control systems; and

(ii) Improper functioning of wind dispersal control measures.

(5) Food chain crops. The department may allow the growth of food chain crops in or on the treatment zone only if the owner or operator satisfies the conditions of this subsection. The department will specify in the facility permit the specific food chain crops which may be grown.

(a)(i) The owner or operator must demonstrate that there is no substantial risk to human health caused by the growth of such crops in or on the treatment zone by demonstrating, prior to the planting of such crops, that dangerous constituents other than cadmium:

(A) Will not be transferred to the food or feed portions of the crop by plant uptake or direct contact, and will not otherwise be ingested by food chain animals (e.g., by grazing); or

(B) Will not occur in greater concentrations in or on the food or feed portions of crops grown on the treatment zone than in or on identical portions of the same crops grown on untreated soils under similar conditions in the same region.

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(ii) The owner or operator must make the demonstration required under (a)(i) of this subsection prior to the planting of crops at the facility for all dangerous constituents that are reasonably expected to be in, or derived from, waste placed in or on the treatment zone.

(iii) In making such a demonstration, the owner or operator may use field tests, greenhouse studies, available data, or, in the case of existing units, operating data, and must:

(A) Base the demonstration on conditions similar to those present in the treatment zone, including soil characteristics (e.g., pH, cation exchange capacity), specific wastes, application rates, application methods, and crops to be grown; and

(B) Describe the procedures used in conducting any tests, including the sample selection criteria, sample size, analytical methods, and statistical procedures.

(iv) If the owner or operator intends to conduct field tests or greenhouse studies in order to make the demonstration he must obtain a permit for conducting such activities.

(b) The owner or operator must comply with the following conditions if cadmium is contained in wastes applied to the treatment zone;

(i)(A) The pH of the waste and soil mixture must be 6.5 or greater at the time of each waste application, except for waste containing cadmium at concentrations of 2 mg/kg (dry weight) or less;

(B) The annual application of cadmium from waste must not exceed 0.5 kilograms per hectare (kg/ha) on land used for production of tobacco, leafy vegetables, or root crops grown for human consumption. For other food chain crops, the annual cadmium application rate must not exceed:

| Time period | Annual Cd application rate (kilograms per hectare) |
|---|---|
| Present to June 30, 1984 | 2.0 |
| July 1, 1984 to Dec. 31, 1986 | 1.25 |
| Beginning Jan. 1, 1987 | 0.5 |

(C) The cumulative application of cadmium from waste must not exceed 5kg/ha if the waste and soil mixture has a pH of less than 6.5; and

(D) If the waste and soil mixture has a pH of 6.5 or greater or is maintained at a pH of 6.5 or greater during crop growth, the cumulative application of cadmium from waste must not exceed: 5 kg/ha if soil cation exchange capacity (CEC) is less than 5 meq/100g; 10 kg/ha if soil CEC is 5-15 meq/100g; and 20 kg/ha if soil CEC is greater than 15 meq/100g; or

(ii)(A) Animal feed must be the only food chain crop produced;

(B) The pH of the waste and soil mixture must be 6.5 or greater at the time of waste application or at the time the crop is planted, whichever occurs later, and this pH level must be maintained whenever food chain crops are grown;

(C) There must be an operating plan which demonstrates how the animal feed will be distributed to preclude ingestion by humans. The operating plan must describe the measures to be taken to safeguard against possible health hazards from cadmium entering the food chain, which may result from alternative land uses; and

(D) Future property owners must be notified by a stipulation in the land record or property deed which states that the property has received waste at high cadmium application rates and that food chain crops must not be grown except in compliance with (b)(ii) of this subsection.

(6) Unsaturated zone monitoring. An owner or operator subject to this section must establish an unsaturated zone monitoring program to discharge the responsibilities described in this subsection.

(a) The owner or operator must monitor the soil and soil-pore liquid to determine whether dangerous constituents migrate out of the treatment zone.

(i) The department will specify the dangerous constituents to be monitored in the facility permit. The dangerous constituents to be monitored are those specified under subsection (2)(b) of this section.

(ii) The department may require monitoring for principal dangerous constituents (PDCs) in lieu of the constituents specified under subsection (2)(b) of this section. PDCs are dangerous constituents contained in the wastes to be applied at the unit that are the most difficult to treat, considering the combined effects of degradation, transformation, and immobilization. The department will establish PDCs if it finds, based on waste analyses, treatment demonstrations, or other data, that effective degradation, transformation, or immobilization of the PDCs will assure treatment at least equivalent levels for the other dangerous constituents in the wastes.

(b) The owner or operator must install an unsaturated zone monitoring system that includes soil monitoring using soil cores and soil-pore liquid monitoring using devices such as lysimeters. The unsaturated zone monitoring system must consist of a sufficient number of sampling points at appropriate locations and depths to yield samples that:

(i) Represent the quality of background soil-pore liquid quality and the chemical make-up of soil that has not been affected by leakage from the treatment zone; and

(ii) Indicate the quality of soil-pore liquid and the chemical make-up of the soil below the treatment zone.

(c) The owner or operator must establish a background value for each dangerous constituent to be monitored under (a) of this subsection. The permit will specify the background values for each constituent or specify the procedures to be used to calculate the background values.

(i) Background soil values may be based on a one-time sampling at a background plot having characteristics similar to those of the treatment zone.

(ii) Background soil-pore liquid values must be based on at least quarterly sampling for one year at a background plot having characteristics similar to those of the treatment zone.

(iii) The owner or operator must express all background values in a form necessary for the determination of statistically significant increases under (f) of this subsection.

(iv) In taking samples used in the determination of all background values, the owner or operator must use an unsaturated zone monitoring system that complies with (b)(i) of this subsection.

(d) The owner or operator must conduct soil monitoring and soil-pore liquid monitoring immediately below the treatment zone. The department will specify the frequency

and timing of soil and soil-pore liquid monitoring in the facility permit after considering the frequency, timing, and rate of waste application, and the soil permeability. The owner or operator must express the results of soil and soil-pore liquid monitoring in a form necessary for the determination of statistically significant increases under (f) of this subsection.

(e) The owner or operator must use consistent sampling and analysis procedures that are designed to ensure sampling results that provide a reliable indication of soil-pore liquid quality and the chemical make-up of the soil below the treatment zone. At a minimum, the owner or operator must implement procedures and techniques for:

(i) Sample collection;

(ii) Sample preservation and shipment;

(iii) Analytical procedures; and

(iv) Chain of custody control.

(f) The owner or operator must determine whether there is a statistically significant change over background values for any dangerous constituent to be monitored under (a) of this subsection, below the treatment zone each time he conducts soil monitoring and soil-pore liquid monitoring under (d) of this subsection.

(i) In determining whether a statistically significant increase has occurred, the owner or operator must compare the value of each constituent, as determined under (d) of this subsection, to the background value for that constituent according to the statistical procedure specified in the facility permit under this subsection.

(ii) The owner or operator must determine whether there has been a statistically significant increase below the treatment zone within a reasonable time period after completion of sampling. The department will specify that time period in the facility permit after considering the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of soil and soil-pore liquid samples.

(iii) The owner or operator must determine whether there is a statistically significant increase below the treatment zone using a statistical procedure that provides reasonable confidence that migration from the treatment zone will be identified. The department will specify a statistical procedure in the facility permit that it finds:

(A) Is appropriate for the distribution of the data used to establish background values; and

(B) Provides a reasonable balance between the probability of falsely identifying migration from the treatment zone and the probability of failing to identify real migration from the treatment zone.

(g) If the owner or operator determines, pursuant to (f) of this subsection, that there is a statistically significant increase of dangerous constituents below the treatment zone, he must:

(i) Notify the department of his finding in writing within seven days. The notification must indicate what constituents have shown statistically significant increases;

(ii) Within forty-five days, submit to the department an application for a permit modification to amend the operating practices at the facility in order to maximize the success of degradation, transformation, or immobilization processes in the treatment zone; and

(iii) Continue to monitor in accordance with the unsaturated zone monitoring program established under this subsection.

(h) If the owner or operator determines, pursuant to (f) of this subsection, that there is a statistically significant increase of dangerous constituents below the treatment zone, he may demonstrate that a source other than regulated units caused the increase or that the increase resulted from an error in sampling, analysis, or evaluation. While the owner or operator may make a demonstration under this subsection, he is not relieved of the requirement to submit concurrently a permit modification application within the forty-five-day period, unless the demonstration made under this subsection successfully shows that a source other than regulated units caused the increase or that the increase resulted from an error in sampling, analysis, or evaluation. In making a demonstration under this subsection, the owner or operator must:

(i) Notify the department in writing within seven days of determining a statistically significant increase below the treatment zone that he intends to make a demonstration under this subsection;

(ii) Within forty-five days, submit a report to the department demonstrating that a source other than the regulated units caused the increase or that the increase resulted from error in sampling, analysis, or evaluation;

(iii) Within forty-five days, submit to the department an application for a permit modification to make any appropriate changes to the unsaturated zone monitoring program at the facility; and

(iv) Continue to monitor in accordance with the unsaturated zone monitoring program established under this subsection.

(7) Recordkeeping. The owner or operator must include dangerous waste application dates and rates in the operating record required under WAC 173-303-380.

(8) Closure and postclosure care.

(a) During the closure period the owner or operator must:

(i) Continue all operations (including pH control) necessary to maximize degradation, transformation, or immobilization of dangerous constituents within the treatment zone as required under subsection (4)(a) of this section, except to the extent such measures are inconsistent with (a)(viii) of this subsection;

(ii) Continue all operations in the treatment zone to minimize run-off of dangerous constituents as required under subsection (4)(b) of this section;

(iii) Maintain the run-on control system required under subsection (4)(c) of this section;

(iv) Maintain the run-off management system required under subsection (4)(d) of this section;

(v) Control wind dispersal of dangerous waste if required under subsection (4)(f) of this section;

(vi) Continue to comply with any prohibitions or conditions concerning growth of food chain crops under subsection (5) of this section;

(vii) Continue unsaturated zone monitoring in compliance with subsection (6) of this section, except that soil-pore liquid monitoring may be terminated ninety days after the last application of waste to the treatment zone; and

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(viii) Establish a vegetative cover on the portion of the facility being closed at such time that the cover will not substantially impede degradation, transformation, or immobilization of dangerous constituents in the treatment zone. The vegetative cover must be capable of maintaining growth without extensive maintenance.

(b) For the purpose of complying with WAC 173-303-610(6) when closure is completed, the owner or operator may submit to the department a certification by an independent qualified soil scientist, in lieu of an independent, qualified registered professional engineer, that the facility has been closed in accordance with the specifications in the approved closure plan.

(c) During the postclosure care period the owner or operator must:

(i) Continue all operations (including pH control) necessary to enhance degradation and transformation and sustain immobilization of dangerous constituents in the treatment zone to the extent that such measures are consistent with other postclosure care activities;

(ii) Maintain a vegetative cover over closed portions of the facility;

(iii) Maintain the run-on control system required under subsection (4)(c) of this section;

(iv) Maintain the run-off management system required under subsection (4)(d) of this section;

(v) Control wind dispersal of dangerous waste, if required under subsection (4)(f) of this section;

(vi) Continue to comply with any prohibitions or conditions concerning growth of food chain crops under subsection (5) of this section; and

(vii) Continue unsaturated zone monitoring in compliance with subsection (6) of this section, except that soil-pore liquid monitoring may be terminated one hundred eighty days after the last application of waste to the treatment zone.

(d) The owner or operator is not subject to regulation under (a)(viii) and (c) of this subsection, if the department finds that the level of dangerous constituents in the treatment zone soil does not exceed the background value of those constituents by an amount that is statistically significant when using the test specified in (d)(iii) of this subsection. The owner or operator may submit such a demonstration to the department at any time during the closure or postclosure care periods. For the purposes of this subsection:

(i) The owner or operator must establish background soil values and determine whether there is a statistically significant increase over those values for all dangerous constituents specified in the facility permit under subsection (2)(b) of this section;

(A) Background soil values may be based on a one-time sampling of a background plot having characteristics similar to those of the treatment zone;

(B) The owner or operator must express background values and values for dangerous constituents in the treatment zone in a form necessary for the determination of statistically significant increases under (d)(iii) of this subsection;

(ii) In taking samples used in the determination of background and treatment zone values, the owner or operator must take samples at a sufficient number of sampling points and at appropriate locations and depths to yield samples that represent the chemical make-up of soil that has not been affected by leakage from the treatment zone and the soil within the treatment zone, respectively;

(iii) In determining whether a statistically significant increase has occurred, the owner or operator must compare the value of each constituent in the treatment zone to the background value for that constituent using a statistical procedure that provides reasonable confidence that constituent presence in the treatment zone will be identified. The owner or operator must use a statistical procedure that:

(A) Is appropriate for the distribution of the data used to establish background values; and

(B) Provides a reasonable balance between the probability of falsely identifying dangerous constituent presence in the treatment zone and the probability of failing to identify real presence in the treatment zone.

(e) The owner or operator is not subject to regulation under WAC 173-303-645 if the department finds that the owner or operator satisfies (d) of this subsection, and if unsaturated zone monitoring under subsection (6) of this section, indicates that dangerous constituents have not migrated beyond the treatment zone during the active life of the land treatment unit.

(9) Special requirements for ignitable or reactive waste. The owner or operator must not apply ignitable or reactive waste to the treatment zone unless the waste and the treatment zone meet all applicable requirements of WAC 173-303-140 (2)(a), and:

(a) The waste is immediately incorporated into the soil so that:

(i) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under WAC 173-303-090 (5) and (7); and

(ii) WAC 173-303-395 is complied with; or

(b) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react.

(10) Special requirements for incompatible wastes. The owner or operator must not place incompatible wastes, or incompatible wastes and materials, in or on the same treatment zone, unless WAC 173-303-395 (1)(b) is complied with.

(11) Special requirements for extremely hazardous waste. Under no circumstances will EHW be allowed to remain in a closed land treatment unit after concluding the postclosure care period. If EHW remains at the end of the scheduled postclosure care period specified in the permit, then the department will either extend the postclosure care period, or require that all EHW be disposed of off-site or that it be treated. In deciding whether to extend postclosure care or require disposal or treatment, the department will take into account the likelihood that the waste will or will not continue to degrade in the land treatment unit to the extent that it is no longer EHW. For the purposes of this subsection, EHW will be considered to remain in a land treatment unit if representative samples of the treatment zone are designated as EHW. Procedures for representative sampling and testing will be specified in the permit.

(12) Special requirements for dangerous wastes F020, F021, F022, F023, F026, and F027.

(a) Dangerous wastes F020, F021, F022, F023, F026, or F027 must not be placed in a land treatment unit unless the owner or operator operates the facility in accordance with a

management plan for these wastes that is approved by the department pursuant to the standards set out in this subsection and in accord with all other applicable requirements of this chapter. The factors to be considered are:

(i) The volume, physical, and chemical characteristics of the wastes including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(ii) The attenuative properties of underlying and surrounding soils or other materials;

(iii) The mobilizing properties of other materials co-disposed with these wastes; and

(iv) The effectiveness of additional treatment, design, or monitoring techniques.

(b) The department may determine that additional design, operating, and monitoring requirements are necessary for land treatment facilities managing dangerous wastes F020, F021, F022, F023, F026, or F027 in order to reduce the possibility of migration of these wastes to ground water, surface water, or air so as to protect human health and the environment.

(13) Existing and newly regulated surface impoundments. The requirements of 3005 (j)(1) and (6) of the Resource Conservation and Recovery Act (RCRA) of 1976, as amended, are incorporated by reference. Surface impoundments regulated for the first time by a listing or characteristic promulgated after November 8, 1984, must comply with new unit requirements or stop hazardous waste activity by four years after the date of promulgation of the new listing or characteristic.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-665 Landfills.** (1) Applicability. The regulations in this section apply to owners and operators of facilities that dispose of dangerous waste in landfills, except as WAC 173-303-600 provides otherwise. No landfill will be permitted to dispose of EHW, except for the Hanford facility under WAC 173-303-700.

(2) Design and operating requirements.

(a) Any landfill that is not covered by (h) of this subsection must have a liner system for all portions of the landfill (except for an existing portion of a landfill). The liner system must have:

(i) A liner that is designed, constructed, and installed to prevent any migration of wastes out of the landfill to the adjacent subsurface soil or ground water or surface water at anytime during the active life (including the closure period) of the landfill. The liner must be constructed of materials that prevent wastes from passing into the liner during the active life of the facility. The owner or operator must submit an engineering report with his permit application under WAC 173-303-806(4) stating the basis for selecting the liner(s). The report must be certified by a licensed professional engineer. The liner must be:

(A) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;

(B) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and

(C) Installed to cover all surrounding earth likely to be in contact with the waste or leachate; and

(ii) A leachate collection and removal system immediately above the liner that is designed, constructed, maintained, and operated to collect and remove leachate from the landfill. The department will specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed 30 cm (one foot). The leachate collection and removal system must be:

(A) Constructed of materials that are:

(I) Chemically resistant to the waste managed in the landfill and the leachate expected to be generated; and

(II) Of sufficient strength and thickness to prevent failure under the pressures exerted by overlying wastes, waste cover materials, and by any equipment used at the landfill; and

(B) Designed and operated to function without clogging through the scheduled closure of the landfill.

(b) The owner or operator will be exempted from the requirements of (a) of this subsection, if the department finds, based on a demonstration by the owner or operator, that alternative design and operating practices, together with location characteristics, will prevent the migration of any dangerous constituents into the ground water or surface water at any future time. In deciding whether to grant an exemption, the department will consider:

(i) The nature and quantity of the wastes;

(ii) The proposed alternate design and operation;

(iii) The hydrogeologic setting of the facility, including the attenuative capacity and thickness of the liners and soils present between the landfill and ground water or surface water; and

(iv) All other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to ground water or surface water.

(c) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the landfill during peak discharge from at least a twenty-five-year storm.

(d) The owner or operator must design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a twenty-four-hour, twenty-five-year storm.

(e) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously and in accordance with this chapter after storms to maintain design capacity of the system.

(f) If the landfill contains any particulate matter which may be subject to wind dispersal, the owner or operator must cover or otherwise manage the landfill to control wind dispersal.

(g) The department will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this subsection are satisfied.

(h) The owner or operator of each new landfill unit on which construction commences after January 29, 1992, each lateral expansion of a landfill unit on which construction

commences after July 29, 1992, and each replacement of an existing landfill unit that commences reuse after July 29, 1992, must install two or more liners and a leachate collection and removal system above and between such liners. "Construction commences" is as defined in WAC 173-303-040 under "existing facility."

(i) The liner system must:

(A) Include a top liner designed and constructed of materials (e.g., a geomembrane) to prevent the migration of dangerous constituents into such liner during the active life and post-closure care period; and

(B) Include a composite bottom liner, consisting of at least two components. The upper component must be designed and constructed of materials (e.g., a geomembrane) to prevent the migration of dangerous constituents into this component during the active life and post-closure care period. The lower component must be designed and constructed of materials to minimize the migration of dangerous constituents if a breach in the upper component were to occur. The lower component must be constructed of at least 3 feet (91 cm) of compacted soil material with a hydraulic conductivity of no more than $1 \times 10^{-7}$ cm/sec.

(C) The liners must comply with (a)(i)(A), (B), and (C) of this subsection.

(ii) The leachate collection and removal system immediately above the top liner must be designed, constructed, operated, and maintained to collect and remove leachate from the landfill during the active life and post-closure care period. The department will specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed twelve inches (30.5 cm). The leachate collection and removal system must comply with (h)(iii) and (iv) of this subsection.

(iii) The leachate collection and removal system between the liners, and immediately above the bottom composite liner in the case of multiple leachate collection and removal systems, is also a leak detection system. This leak detection system must be capable of detecting, collecting, and removing leaks of dangerous constituents at the earliest practicable time through all areas of the top liner likely to be exposed to waste or leachate during the active life and post-closure care period. The requirements for a leak detection system in this subsection are satisfied by installation of a system that is, at a minimum:

(A) Constructed with a bottom slope of one percent or more;

(B) Constructed of granular drainage materials with a hydraulic conductivity of $1 \times 10^{-2}$ cm/sec or more and a thickness of 12 inches (30.5 cm) or more; or constructed of synthetic or geonet drainage materials with a transmissivity of $3 \times 10^{-5}$ $m^2$/sec or more;

(C) Constructed of materials that are chemically resistant to the waste managed in the landfill and the leachate expected to be generated, and of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials, and equipment used at the landfill;

(D) Designed and operated to minimize clogging during the active life and post-closure care period; and

(E) Constructed with sumps and liquid removal methods (e.g., pumps) of sufficient size to collect and remove liquids from the sump and prevent liquids from backing up into the drainage layer. Each unit must have its own sump(s). The design of each sump and removal system must provide a method for measuring and recording the volume of liquids present in the sump and of liquids removed.

(iv) The owner or operator will collect and remove pumpable liquids in the leak detection system sumps to minimize the head on the bottom liner.

(v) The owner or operator of a leak detection system that is not located completely above the seasonal high water table must demonstrate that the operation of the leak detection system will not be adversely affected by the presence of ground water.

(j) The department may approve alternative design or operating practices to those specified in (h) of this subsection if the owner or operator demonstrates to the department that such design and operating practices, together with location characteristics:

(i) Will prevent the migration of any dangerous constituent into the ground water or surface water at least as effectively as the liners and leachate collection and removal systems specified in (c) of this subsection; and

(ii) Will allow detection of leaks of dangerous constituents through the top liner at least as effectively.

(k) The double liner requirement set forth in (h) of this subsection may be waived by the department for any monofill, if:

(i) The monofill contains only dangerous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents which would render the wastes dangerous for reasons other than the Toxicity Characteristic in WAC 173-303-090(8), with dangerous waste numbers D004 through D017 or the toxicity criteria at WAC 173-303-100(5); and

(ii)(A) The monofill has at least one liner for which there is no evidence that such liner is leaking;

(B) The monofill is located more than one-quarter mile from an underground source of drinking water (as that term is defined in 40 CFR section 144.3); and

(C) The monofill is in compliance with generally applicable ground water monitoring requirements for facilities with permits under RCRA 3005(c); or

(D) The owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any dangerous constituent into ground water or surface water at any future time.

(l) The owner or operator of any replacement landfill unit is exempt from (h) of this subsection if:

(i) The existing unit was constructed in compliance with the design standards of section 3004 (o)(1)(A)(i) and (o)(5) of the Resource Conservation and Recovery Act; and

(ii) There is no reason to believe that the liner is not functioning as designed.

(3) Reserve.

(4) Monitoring and inspection.

(a) During construction or installation, liners (except in the case of existing portions of landfills exempt from subsection (2)(a) of this section), and cover systems (e.g., membranes, sheets, or coatings) must be inspected for uniformity, damage, and imperfections (e.g., holes, cracks, thin spots, or foreign materials). Immediately after construction or installation:

(i) Synthetic liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters; and

(ii) Soil-based and admixed liners and covers must be inspected for imperfections including lenses, cracks, channels, root holes, or other structural nonuniformities that may cause an increase in the permeability of the liner or cover.

(b) While a landfill is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

(i) Deterioration, malfunctions, or improper operation of run-on and run-off control systems;

(ii) Proper functioning of wind dispersal control systems; and

(iii) The presence of leachate in and proper functioning of leachate collection and removal systems.

(c)(i) An owner or operator required to have a leak detection system under subsection (2)(h) or (j) of this section must record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

(ii) After the final cover is installed, the amount of liquids removed from each leak detection system sump must be recorded at least monthly. If the liquid level in the sump stays below the pump operating level for two consecutive months, the amount of liquids in the sumps must be recorded at least quarterly. If the liquid level in the sump stays below the pump operating level for two consecutive quarters, the amount of liquids in the sumps must be recorded at least semiannually. If at any time during the post-closure care period the pump operating level is exceeded at units on quarterly or semiannual recording schedules, the owner or operator must return to monthly recording of amounts of liquids removed from each sump until the liquid level again stays below the pump operating level for two consecutive months.

(iii) "Pump operating level" is a liquid level proposed by the owner or operator and approved by the department based on pump activation level, sump dimensions, and level that avoids backup into the drainage layer and minimizes head in the sump.

(5) Surveying and recordkeeping. The owner or operator of a landfill must maintain the following items in the operating record required under WAC 173-303-380:

(a) On a map, the exact location and dimensions, including depth, of each cell with respect to permanently surveyed benchmarks; and

(b) The contents of each cell and the approximate location of each dangerous waste type within each cell.

(6) Closure and postclosure care.

(a) At final closure of the landfill or upon closure of any cell, the owner or operator must cover the landfill or cell with a final cover designed and constructed to:

(i) Provide long-term minimization of migration of liquids through the closed landfill;

(ii) Function with minimum maintenance;

(iii) Promote drainage and minimize erosion or abrasion of the cover;

(iv) Accommodate settling and subsidence so that the cover's integrity is maintained; and

(v) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(b) After final closure, the owner or operator must comply with all postclosure requirements contained in WAC 173-303-610 (7), (8), (9), and (10) including maintenance and monitoring throughout the postclosure care period. The owner or operator must:

(i) Maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events;

(ii) Maintain and monitor the leak detection system in accordance with subsections (2)(h) and (4)(c) of this section, where such a system is present between double liner systems;

(iii) Continue to operate the leachate collection and removal system until leachate is no longer detected;

(iv) Maintain and monitor the ground water monitoring system and comply with all other applicable requirements of WAC 173-303-645;

(v) Prevent run-on and run-off from eroding or otherwise damaging the final cover; and

(vi) Protect and maintain surveyed benchmarks used in complying with subsection (5) of this section.

(c) Reserve.

(7) Special requirements for incompatible wastes. Incompatible wastes, or incompatible wastes and materials must not be placed in the same landfill cell, unless WAC 173-303-395 (1)(b) is complied with.

(8) Action leakage rate.

(a) The department must approve an action leakage rate for surface impoundment units subject to subsection (2)(h) or (j) of this section. The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding 1 foot. The action leakage rate must include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the LDS, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the LDS, and proposed response actions (e.g., the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).

(b) To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly or monthly flow rate from the monitoring data obtained under subsection (2)(h) of this section, to an average daily flow rate (gallons per acre per day) for each sump. Unless the department approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period, and monthly during the post-closure care period when monthly monitoring is required under subsection (9) of this section.

(9) Response actions.

(a) The owner or operator of landfill units subject to subsection (2)(h) or (j) of this section must have an approved response action plan before receipt of waste. The response action plan must set forth the actions to be taken if the

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action leakage rate has been exceeded. At a minimum, the response action plan must describe the actions specified in (b) of this subsection.

(b) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator must:

(i) Notify the department in writing of the exceedance within seven days of the determination;

(ii) Submit a preliminary written assessment to the department within fourteen days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;

(iii) Determine to the extent practicable the location, size, and cause of any leak;

(iv) Determine whether waste receipt should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;

(v) Determine any other short-term and long-term actions to be taken to mitigate or stop any leaks; and

(vi) Within thirty days after the notification that the action leakage rate has been exceeded, submit to the department the results of the analyses specified in (b)(iii), (iv), and (v) of this subsection, the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator must submit to the department a report summarizing the results of any remedial actions taken and actions planned.

(c) To make the leak and/or remediation determinations in (b)(iii), (iv), and (v) of this subsection, the owner or operator must:

(i) Assess the source of liquids and amounts of liquids by source;

(ii) Conduct a fingerprint, dangerous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and

(iii) Assess the seriousness of any leaks in terms of potential for escaping into the environment; or

(iv) Document why such assessments are not needed.

(10) Special requirements for ignitable or reactive waste.

(a) Except as provided in subsection (8)(b) of this section, and in WAC 173-303-161, ignitable or reactive waste must not be placed in a landfill, unless the waste and landfill meet all applicable requirements for owners and operators of dangerous waste treatment, storage and disposal facilities contained in this chapter, and:

(i) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under WAC 173-303-090 (5) or (7); and

(ii) WAC 173-303-395(1) is complied with.

(b) Except for prohibited wastes which remain subject to treatment standards in WAC 173-303-140 (2)(a), ignitable wastes in containers may be landfilled without meeting the requirements of (a) of this subsection, provided that the wastes are disposed of in such a way that they are protected from any material or conditions which may cause them to ignite. At a minimum, ignitable wastes must be disposed of in nonleaking containers which are carefully handled and placed so as to avoid heat, sparks, rupture, or any other condition that might cause ignition of the wastes; must be covered daily with soil or other noncombustible material to minimize the potential for ignition of the wastes; and must not be disposed of in cells that contain or will contain other wastes which may generate heat sufficient to cause ignition of the waste.

(11) Special requirements for hazardous wastes F020, F021, F022, F023, F026, and F027.

(a) Hazardous wastes F020, F021, F022, F023, F026, and F027 must not be placed in landfills unless the owner or operator operates the landfill in accord with a management plan for these wastes that is approved by the department pursuant to the standards set out in this subsection, and in accord with all other applicable requirements of this section. The factors to be considered are:

(i) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through the soil or to volatilize or escape into the atmosphere;

(ii) The attenuative properties of underlying and surrounding soils or other materials;

(iii) The mobilizing properties of other materials co-disposed with these wastes; and

(iv) The effectiveness of additional treatment, design, or monitoring requirements.

(b) The department may determine that additional design, operating, and monitoring requirements are necessary for landfills managing hazardous wastes F020, F021, F022, F023, F026, and F027 in order to reduce the possibility of migration of these wastes to ground water, surface water, or air so as to protect human health and the environment.

(12) Special requirements for containers. Unless they are very small, such as an ampule, containers must be either:

(a) At least ninety percent full when placed in the landfill; or

(b) Crushed, shredded, or similarly reduced in volume to the maximum practical extent before burial in the landfill.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-675 Drip pads.** (1) Applicability.

(a) The requirements of this section apply to owners and operators of facilities that use new or existing drip pads to convey treated wood drippage, precipitation, and/or surface water run-off to an associated collection system. Existing drip pads are those constructed before December 6, 1990, and those for which the owner or operator has a design and has entered into binding financial or other agreements for construction prior to December 6, 1990. All other drip pads are new drip pads. The requirement in subsection (4)(b)(iii) of this section to install a leak collection system applies only to those drip pads that are constructed after December 24, 1992, except for those constructed after December 24, 1992, for which the owner or operator has a design and has entered into binding financial or other agreements for construction prior to December 24, 1992.

(b) The owner or operator of any drip pad that is inside or under a structure that provides protection from precipitation so that neither run-off nor run-on is generated is not subject to regulation under subsection (~~(3)~~) (4)(e) or (f) of this section, as appropriate.

(c) The requirements of this section are not applicable to the management of infrequent and incidental drippage in storage yards provided that: The owner or operator maintains and complies with a written contingency plan that describes how the owner or operator will respond immediately to the discharge of such infrequent and incidental drippage. At a minimum, the contingency plan must describe how the owner or operator will do the following:

(i) Clean up the drippage;

(ii) Document the cleanup of the drippage;

(iii) Retain documents regarding cleanup for three years; and

(iv) Manage the contaminated media in a manner consistent with federal regulations.

(2) Assessment of existing drip pad integrity.

(a) For each existing drip pad as defined in subsection (1) of this section, the owner or operator must evaluate the drip pad and determine that it meets all of the requirements of this section, except the requirements for liners and leak detection systems of subsection (4)(b) of this section. No later than the effective date of this rule, the owner or operator must obtain and keep on file at the facility a written assessment of the drip pad, reviewed and certified by an independent, qualified registered professional engineer that attests to the results of the evaluation. The assessment must be reviewed, updated and recertified annually until all upgrades, repairs, or modifications necessary to achieve compliance with all of the standards of subsection (4) of this section are complete. The evaluation must document the extent to which the drip pad meets each of the design and operating standards of subsection (4) of this section, except the standards for liners and leak detection systems, specified in subsection (4)(b) of this section.

(b) The owner or operator must develop a written plan for upgrading, repairing, and modifying the drip pad to meet the requirements of subsection (4)(b) of this section, and submit the plan to the department no later than two years before the date that all repairs, upgrades, and modifications are complete. This written plan must describe all changes to be made to the drip pad in sufficient detail to document compliance with all the requirements of subsection (4) of this section. The plan must be reviewed and certified by an independent qualified registered professional engineer.

(c) Upon completion of all upgrades, repairs, and modifications, the owner or operator must submit to the department, the as-built drawings for the drip pad together with a certification by an independent qualified registered professional engineer attesting that the drip pad conforms to the drawings.

(d) If the drip pad is found to be leaking or unfit for use, the owner or operator must comply with the provisions of subsection (4)(m) of this section or close the drip pad in accordance with subsection (6) of this section.

(3) Design and installation of new drip pads.

Owners and operators of new drip pads must ensure that the pads are designed, installed, and operated in accordance with one of the following:

(a) All of the requirements of subsections (4) of this section (except subsection (4)(a)(iv)), (5) and (6) of this section; or

(b) All of the requirements of subsections (4) of this section (except subsection (4)(b)), (5) and (6) of this section.

(4) Design and operating requirements.

(a) Drip pads must:

(i) Be constructed of nonearthen materials, excluding wood and nonstructurally supported asphalt:

(ii) Be sloped to free-drain treated wood drippage, rain and other waters, or solutions of drippage and water or other wastes to the associated collection system;

(iii) Have a curb or berm around the perimeter;

(iv)(A) Have a hydraulic conductivity of less than or equal to $1 \times 10^{-7}$ centimeters per second, e.g., existing concrete drip pads must be sealed, coated, or covered with a surface material with a hydraulic conductivity of less than or equal to $1 \times 10^{-7}$ centimeters per second such that the entire surface where drippage occurs or may run across is capable of containing such drippage and mixtures of drippage and precipitation, materials, or other wastes while being routed to an associated collection system. This surface material must be maintained free of cracks and gaps that could adversely affect its hydraulic conductivity, and the material must be chemically compatible with the preservatives that contact the drip pad. The requirements of this provision apply only to existing drip pads and those drip pads for which the owner or operator elects to comply with subsection (3)(a) of this section instead of subsection (3)(b) of this section.

(B) The owner or operator must obtain and keep on file at the facility a written assessment of the drip pad, reviewed and certified by an independent, qualified registered professional engineer that attests to the results of the evaluation. The assessment must be reviewed, updated and recertified annually. The evaluation must document the extent to which the drip pad meets the design and operating standards of this subsection, except for (b) of this subsection.

(v) Be of sufficient structural strength and thickness to prevent failure due to physical contact, climatic conditions, the stress of daily operations, e.g., variable and moving loads such as vehicle traffic, movement of wood, etc.

Note: The department will generally consider applicable standards established by professional organizations generally recognized by the industry such as the American Concrete Institute (ACI) or the American Society of Testing and Materials (ASTM) in judging the structural integrity requirement of this subsection.

(b) If an owner/operator elects to comply with subsection (3)(b) of this section instead of subsection (3)(a) of this section, the drip pad must have:

(i) A synthetic liner installed below the drip pad that is designed, constructed, and installed to prevent leakage from the drip pad into the adjacent subsurface soil or ground water or surface water at any time during the active life (including the closure period) of the drip pad. The liner must be constructed of materials that will prevent waste from being absorbed into the liner and to prevent releases into the adjacent subsurface soil or ground water or surface water during the active life of the facility. The liner must be:

(A) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or drip pad leakage to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation (including stresses from vehicular traffic on the drip pad);

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(B) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression or uplift; and

(C) Installed to cover all surrounding earth that could come in contact with the waste or leakage; and

(ii) A leakage detection system immediately above the liner that is designed, constructed, maintained and operated to detect leakage from the drip pad. The leakage detection system must be:

(A) Constructed of materials that are:

(I) Chemically resistant to the waste managed in the drip pad and the leakage that might be generated; and

(II) Of sufficient strength and thickness to prevent collapse under the pressures exerted by overlaying materials and by any equipment used at the drip pad;

(B) Designed and operated to function without clogging through the scheduled closure of the drip pad; and

(C) Designed so that it will detect the failure of the drip pad or the presence of a release of hazardous waste or accumulated liquid at the earliest practicable time.

(iii) A leakage collection system immediately above the liner that is designed, constructed, maintained and operated to collect leakage from the drip pad such that it can be removed from below the drip pad. The date, time, and quantity of any leakage collected in this system and removed must be documented in the operating log.

(c) Drip pads must be maintained such that they remain free of cracks, gaps, corrosion, or other deterioration that could cause hazardous waste to be released from the drip pad.

Note: See subsection (4)(m) of this section for remedial action required if deterioration or leakage is detected.

(d) The drip pad and associated collection system must be designed and operated to convey, drain, and collect liquid resulting from drippage or precipitation in order to prevent run-off.

(e) Unless protected by a structure, as described in subsection (1)(b) of this section, the owner or operator must design, construct, operate and maintain a run-on control system capable of preventing flow onto the drip pad during peak discharge from at least a twenty-four-hour, twenty-five-year storm, unless the system has sufficient excess capacity to contain any run-off that might enter the system.

(f) Unless protected by a structure or cover as described in subsection (1)(b) of this section, the owner or operator must design, construct, operate and maintain a run-off management system to collect and control at least the water volume resulting from a twenty-four-hour, twenty-five-year storm.

(g) The drip pad must be evaluated to determine that it meets the requirements of (a) through (f) of this subsection and the owner or operator must obtain a statement from an independent, qualified registered professional engineer certifying that the drip pad design meets the requirements of this section.

(h) Drippage and accumulated precipitation must be removed from the associated collection system as necessary to prevent overflow onto the drip pad.

(i) The drip pad surface must be cleaned thoroughly in a manner and frequency such that accumulated residues of hazardous waste or other materials are removed, with residues being properly managed as hazardous waste, so as to allow weekly inspections of the entire drip pad surface without interference or hindrance from accumulated residues of hazardous waste or other materials on the drip pad. The owner or operator must document the date and time of each cleaning and the cleaning procedure used in the facility's operating log. The owner/operator must determine if the residues are dangerous under WAC 173-303-070 and, if so, must manage them under this chapter.

(j) Drip pads must be operated and maintained in a manner to minimize tracking of hazardous waste or hazardous waste constituents off the drip pad as a result of activities by personnel or equipment.

(k) After being removed from the treatment vessel, treated wood from pressure and nonpressure processes must be held on the drip pad until drippage has ceased. The owner or operator must maintain records sufficient to document that all treated wood is held on the drip pad following treatment in accordance with this requirement.

(l) Collection and holding units associated with run-on and run-off control systems must be emptied or otherwise managed as soon as possible after storms to maintain design capacity of the system.

(m) Throughout the active life of the drip pad and as specified in the permit, if the owner or operator detects a condition that may have caused or has caused a release of hazardous waste, the condition must be repaired within a reasonably prompt period of time following discovery, in accordance with the following procedures:

(i) Upon detection of a condition that may have caused or has caused a release of hazardous waste (e.g., upon detection of leakage in the leak detection system), the owner or operator must:

(A) Enter a record of the discovery in the facility operating log;

(B) Immediately remove the portion of the drip pad affected by the condition from service;

(C) Determine what steps must be taken to repair the drip pad and clean up any leakage from below the drip pad, and establish a schedule for accomplishing the repairs;

(D) Within twenty-four hours after discovery of the condition, notify the department of the condition and, within ten working days, provide written notice to the department with a description of the steps that will be taken to repair the drip pad and clean up any leakage, and the schedule for accomplishing this work.

(ii) The department will review the information submitted, make a determination regarding whether the pad must be removed from service completely or partially until repairs and clean up are complete and notify the owner or operator of the determination and the underlying rationale in writing.

(iii) Upon completing all repairs and clean up, the owner or operator must notify the department in writing and provide a certification signed by an independent, qualified registered professional engineer, that the repairs and clean up have been completed according to the written plan submitted in accordance with (m)(i)(D) of this subsection.

(n) Should a permit be necessary, the department will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied.

(o) The owner or operator must maintain, as part of the facility operating log, documentation of past operating and waste handling practices. This must include identification of preservative formulations used in the past, a description of drippage management practices, and a description of treated wood storage and handling practices.

(5) Inspections.

(a) During construction or installation, liners and cover systems (e.g., membranes, sheets, or coatings) must be inspected for uniformity, damage and imperfections (e.g., holes, cracks, thin spots, or foreign materials). Immediately after construction or installation, liners must be inspected and certified as meeting the requirements of subsection (4) of this section by an independent qualified, registered professional engineer. This certification must be maintained at the facility as part of the facility operating record. After installation, liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters.

(b) While a drip pad is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

(i) Deterioration, malfunctions or improper operation of run-on and run-off control systems;

(ii) The presence of leakage in and proper functioning of leak detection system;

(iii) Deterioration or cracking of the drip pad surface.

Note: See subsection (4)(m) of this section for remedial action required if deterioration or leakage is detected.

(6) Closure.

(a) At closure, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (pad, liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leakage, and manage them as hazardous waste.

(b) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in (a) of this subsection, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he must close the facility and perform post-closure care in accordance with closure and post-closure care requirements that apply to landfills (WAC 173-303-665(6)). For permitted units, the requirement to have a permit continues throughout the post-closure period. In addition, for the purpose of closure, post-closure, and financial responsibility, such a drip pad is then considered to be landfill, and the owner or operator must meet all of the requirements for landfills specified in WAC 173-303-610 and 173-303-620.

(c)(i) The owner or operator of an existing drip pad, as defined in subsection (1) of this section, that does not comply with the liner requirements of subsection (4)(b)(i) of this section must:

(A) Include in the closure plan for the drip pad under WAC 173-303-610(3), both a plan for complying with (a) of this subsection and a contingent plan for complying with (b) of this subsection in case not all contaminated subsoils can be practicably removed at closure; and

(B) Prepare a contingent post-closure plan under WAC 173-303-610(8) for complying with (b) of this subsection in case not all contaminated subsoils can be practicably removed at closure.

(ii) The cost estimates calculated under WAC 173-303-610 and 173-303-620 for closure and post-closure care of a drip pad subject to this subsection must include the cost of complying with the contingent closure plan and the contingent post-closure plan, but are not required to include the cost of expected closure under (a) of this subsection.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-800 Permit requirements for dangerous waste management facilities.** (1) The purpose of WAC 173-303-800 through 173-303-840 is to establish the requirements for permits which will allow a dangerous waste facility to operate without endangering the public health and the environment.

(2) The owner/operator of a dangerous waste facility that transfers, treats, stores, or disposes (TSD) or recycles dangerous waste must, when required by this chapter, obtain a permit in accordance with WAC 173-303-800 through 173-303-840 covering the active life, closure period, ground water protection compliance period, and for any regulated unit (as defined in WAC 173-303-040) or for any facility which at closure does not meet the removal or decontamination limits of WAC 173-303-610 (2)(b), post-closure care period, unless they demonstrate closure by removal or decontamination as provided under WAC 173-303-800 (9) and (10). If a post-closure permit is required, the permit must address applicable ground water monitoring, unsaturated zone monitoring, corrective action, and post-closure care requirements of this chapter. The denial of a permit for the active life of a dangerous waste management facility or unit does not affect the requirement to obtain a post-closure permit under this section.

(3) TSD facility permits will be granted only if the objectives of the siting and performance standards set forth in WAC 173-303-282 and 173-303-283 are met.

(4) Permits will be issued according to the requirements of all applicable TSD facility standards.

(5) The owner/operator of a TSD facility is responsible for obtaining all other applicable federal, state, and local permits authorizing the development and operation of the TSD facility.

(6) The terms used in regard to permits which are not defined in WAC 173-303-040 have the same meanings as set forth in 40 CFR 270.2.

(7) Exemptions.

(a) A permit for an on-site cleanup action may be exempted as provided in a consent decree or order signed by the department and issued pursuant to chapter 70.105D RCW.

(b) A permit is not required for an on-site cleanup action performed by the department pursuant to chapter 70.105D RCW.

(c) Further exemptions.

(i) A person is not required to obtain a dangerous waste permit for treatment or containment activities taken during immediate response to any of the following situations:

(A) A discharge of a dangerous waste;

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(B) An imminent and substantial threat of a discharge of dangerous waste;

(ii) Any person who continues or initiates dangerous waste treatment or containment activities after the immediate response is over is subject to all applicable requirements of this chapter for those activities.

(iii) Universal waste handlers and universal waste transporters (as defined in WAC 173-303-040) handling the wastes listed below are not required to obtain a dangerous waste permit. These handlers are subject to regulation under WAC 173-303-573, when handling the below listed universal wastes.

(A) Batteries as described in WAC 173-303-573(2); and

(B) Thermostats as described in WAC 173-303-573(3).

(8) Each permit issued under this chapter will contain terms and conditions as the department determines necessary to protect human health and the environment.

(9) Closure by removal. Owners/operators of surface impoundments, land treatment units, and waste piles closing by removal or decontamination under 40 CFR Part 265 standards as referenced by WAC 173-303-400 must obtain a post-closure permit unless they can demonstrate to the department that the closure met the standards for closure by removal or decontamination in WAC 173-303-650(6), 173-303-655(8), or 173-303-660(9), as appropriate, and such removal or decontamination must assure that the levels of dangerous waste or dangerous waste constituents or residues do not exceed standards for closure at 40 CFR Part 264.111, as appropriate. The demonstration may be made in the following ways:

(a) If the owner/operator has submitted a Part B application for a post-closure permit, the owner/operator may request a determination, based on information contained in the application, that 40 CFR Part 264.111 standards for closure by removal were met. If the department believes that 40 CFR Part 264.111 standards were met, the department will notify the public of this proposed decision, allow for public comment, and reach a final determination according to the procedures in subsection (10) of this section.

(b) If the owner/operator has not submitted a Part B application for a post-closure permit, the owner/operator may petition the department for a determination that a post-closure permit is not required because the closure met the applicable 40 CFR Part 264.111 closure standards.

(i) The petition must include data demonstrating that standards for closure by removal or decontamination were met, or it must demonstrate that the unit closed under chapter 173-303 WAC requirements that met or exceeded the applicable 40 CFR Part 264.111 closure-by-removal standard.

(ii) The department will approve or deny the petition according to the procedures outline in subsection (10) of this section.

(10) Procedures for closure equivalency determination.

(a) If a facility owner/operator seeks an equivalency demonstration under subsection (9) of this section, the department will provide the public, through a newspaper notice, the opportunity to submit written comments on the information submitted by the owner/operator within thirty days from the date of the notice. The department will also, in response to a request or at the discretion of the department, hold a public hearing whenever such a hearing might clarify one or more issues concerning the equivalence of the 40 CFR Part 265 closure, as referenced by WAC 173-303-400, to a 40 CFR Part 264.111 closure. The department will give public notice of the hearing at least thirty days before it occurs. (Public notice of the hearing may be given at the same time as notice of the opportunity for the public to submit written comments, and the two notices may be combined.)

(b) The department will determine whether the 40 CFR Part 265 closure met 40 CFR Part 264.111 closure by removal or decontamination requirements within ninety days of its receipt. If the department finds that the closure did not meet the applicable 40 CFR Part 264.111 standards, the department will provide the owner/operator with a written statement of the reasons why the closure failed to meet 40 CFR Part 264.111 standards. The owner/operator may submit additional information in support of an equivalency demonstration within thirty days after receiving such written statement. The department will review any additional information submitted and make a final determination within sixty days.

(c) If the department determines that the facility did not close in accordance with 40 CFR Part 264.111 standards for closure by removal, the facility is subject to post-closure permitting requirements.

(11) The department may require a permittee or an applicant to submit information in order to establish permit conditions under subsection (8) of this section and WAC 173-303-806 (11)(d).

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-802 Permits by rule.** (1) Purpose and applicability. This section provides for permit by rule for particular facilities and activities managing dangerous wastes, provided that certain conditions are met. These facilities, activities, and conditions are listed in this section. Owners and operators of facilities with permits by rule are not required to submit an application for a dangerous waste facility permit.

(2) Ocean disposal barges or vessels. The owner or operator of a barge or other vessel which accepts dangerous waste for ocean disposal, will have a permit by rule if the owner or operator:

(a) Has a permit for ocean dumping issued under 40 CFR Part 220 (Ocean Dumping, authorized by the Marine Protection, Research, and Sanctuaries Act, as amended, 33 U.S.C. § 1420 et seq.);

(b) Complies with the conditions of that permit; and

(c) Complies with the following dangerous waste regulations:

(i) WAC 173-303-060, notification and identification numbers;

(ii) WAC 173-303-170 through 173-303-230 when initiating shipments of dangerous waste;

(iii) WAC 173-303-370, manifest system;

(iv) WAC 173-303-380 (1)(a), operating record;

(v) WAC 173-303-390(2), annual report; and

(vi) WAC 173-303-390(1), unmanifested waste report.

(3) Underground injection wells. Underground injection wells with an underground injection control (UIC) permit for

underground injection will have a permit by rule if the owner or operator has a UIC permit issued by the department under a federally approved program for underground injection control, and complies with the conditions of the permit and requirements of 40 CFR 144.14 and applicable state waste discharge rules. For UIC permits issued after November 8, 1984, the owner or operator must comply with WAC 173-303-646(2), corrective action for solid waste management units; and where the UIC well is the only unit at a facility which requires a RCRA permit, complies with WAC 173-303-806 (4)(a)(xxiii). All underground injection wells must comply with WAC 173-303-060, notification and identification numbers. However, underground injection wells disposing of EHW are prohibited.

(4) Publicly owned treatment works (POTW). The owner or operator of a POTW which accepts dangerous waste for treatment, will have a permit by rule if the owner or operator:

(a) Has a National Pollutant Discharge Elimination System (NPDES) permit;

(b) Complies with the conditions of that permit;

(c) Complies with the following regulations:

(i) WAC 173-303-060, notification and identification numbers;

(ii) WAC 173-303-170 through 173-303-230 when initiating shipments of dangerous waste;

(iii) WAC 173-303-283, performance standards;

(iv) WAC 173-303-370, manifest system;

(v) WAC 173-303-380 (1)(a), operating record;

(vi) WAC 173-303-390(2), annual report;

(vii) WAC 173-303-390(1), unmanifested waste reports; and

(viii) For NPDES permits issued after November 8, 1984, WAC 173-303-646(2), corrective action for solid waste management units;

(d) Accepts the waste only if it meets all federal, state, and local pretreatment requirements which would be applicable to the waste if it were being discharged into the POTW through a sewer, pipe, or similar conveyance; and

(e) Accepts no EHW for disposal at the POTW.

(5) Totally enclosed treatment facilities or elementary neutralization or wastewater treatment units.

(a) The owner or operator of a totally enclosed treatment facility or an elementary neutralization or wastewater treatment unit that treats state-only dangerous wastes generated on or off site, or federally regulated hazardous wastes generated on site will have a permit by rule, except as provided in ((~~(b)~~)) (c) of this subsection, if ((~~he~~)) they:

(i) ((~~Has~~)) Have an NPDES permit, state waste discharge permit, pretreatment permit (or written discharge authorization from the local sewerage authority) issued by the department, or pretreatment permit (or written discharge authorization) from a local sewage utility delegated pretreatment program responsibilities pursuant to RCW 90.48.165, and the permit or authorization covers the waste stream and constituents being discharged;

(ii) ((~~Complies~~)) Comply with the conditions of that permit;

(iii) ((~~Complies~~)) Comply with the following regulations:

(A) WAC 173-303-060, notification and identification numbers;

(B) WAC 173-303-070, designation of dangerous waste;

(C) WAC 173-303-283, performance standards;

(D) WAC 173-303-300, general waste analysis;

(E) WAC 173-303-310, security;

(F) WAC 173-303-350, contingency plan and emergency procedures;

(G) WAC 173-303-360, emergencies;

(H) WAC 173-303-370, manifest system;

(I) WAC 173-303-380 (1)(d), operating record;

(J) WAC 173-303-390, facility reporting.

(b) The owner or operator of a wastewater treatment unit that treats federally regulated hazardous wastes received from off site will have a permit by rule, except as provided in (c) of this subsection, if:

(i) The facility has received a permit (or interim status) for treatment, storage, or disposal of hazardous wastes in accordance with WAC 173-303-800, 173-303-801 and 173-303-804 through 173-303-840; and

(ii) The owner or operator complies with (a)(i) through (iii) of this subsection.

(c) The department may require the owner or operator of a totally enclosed treatment facility or an elementary neutralization or wastewater treatment unit subject to (a) or (b) of this subsection to apply for and obtain a final facility permit or a permit modification in accordance with WAC 173-303-800 through 173-303-840, if:

(i) The owner or operator violates the general facility or performance requirements specified in (a) of this subsection;

(ii) The owner or operator is conducting other activities which require him to obtain a final facility permit;

(iii) The department determines that the general facility or performance requirements specified in (a) of this subsection, are not sufficient to protect public health or the environment and that additional requirements under this chapter are necessary to provide such protection; or

(iv) The owner or operator does not comply with applicable local, state or federal requirements established pursuant to sections 402 or 307(b) of the Federal Clean Water Act, or chapter 90.48 RCW.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-804 Emergency permits.** Requirements for an emergency permit. In the event the department finds that an imminent and substantial endangerment to human health or the environment exists, the department may issue a temporary emergency permit to a facility to allow treatment, storage, or disposal (TSD) of dangerous waste at a nonpermitted facility, or at a facility covered by an effective permit that does not otherwise allow treatment, storage, or disposal of such dangerous waste. Notice of the issuance of an emergency permit will be given to the fire marshal, police department, and other local emergency service agencies with jurisdiction near the location of the facility. The emergency permit:

(1) May be oral or written. If oral, it will be followed within five days by a written emergency permit;

(2) Will not exceed ninety days in duration for dangerous wastes;

(3) Will not exceed one hundred eighty days in duration for ((~~moderate risk wastes~~)) special waste;



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(4) Will clearly specify the dangerous wastes to be received, and the manner and location of their treatment, storage, or disposal;

(5) May be terminated by the department at any time without following the decisionmaking procedures of WAC 173-303-840 if the department determines that termination is appropriate to protect public health and the environment;

(6)(a) Will be accompanied by a public notice that includes:

(i) The name and address of the department;

(ii) The name and location of the permitted TSD facility;

(iii) A brief description of the wastes involved;

(iv) A brief description of the action authorized and reasons for authorizing it; and

(v) The duration of the emergency permit; and

(b) Will be given public notice by:

(i) Publication in a daily newspaper within the area affected;

(ii) By radio broadcast within the area affected;

(iii) By mailing a copy of the public notice to the persons described in WAC 173-303-840 (3)(e)(i); and

(iv) Any other method reasonably determined to give actual notice of the emergency permit to persons potentially affected by it; and

(7) Will incorporate, to the extent possible and not inconsistent with the emergency situation, all applicable requirements of this chapter.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-805 Interim status permits.** (1) Applicability. This section applies to all facilities eligible for an interim status permit. When a facility is owned by one person but is operated by another person, it is the operator's duty to qualify for interim status, except that the owner must also sign an interim status application. Prior to submittal of an interim status permit application the requirements of WAC 173-303-281 must be met.

(2) Failure to qualify for interim status. If the department has reason to believe upon examination of a Part A application that it fails to provide the required information, it will notify the owner or operator in writing of the apparent deficiency. Such notice will specify the grounds for the department's belief that the application is deficient. The owner or operator will have thirty days from receipt to respond to such a notification and to explain or cure the alleged deficiency in his Part A application. If, after such notification and opportunity for response, the department determines that the application is deficient it may take appropriate enforcement action.

(3) Interim status for facilities under RCRA interim status. Any existing facility operating under interim status gained under section 3005 of RCRA will be deemed to have an interim status permit under this chapter provided that the owner/operator complies with the applicable requirements of WAC 173-303-400 and this section.

(4) Interim status for facilities managing state-designated (non-RCRA) dangerous wastes. Any existing facility which does not satisfy subsection (3) of this section, but which is only managing dangerous wastes that are not hazardous wastes under 40 CFR Part 261, will be deemed to have an interim status permit provided that the owner/operator of the facility has complied with the notification requirements of WAC 173-303-060 by May 11, 1982 and has submitted Part A of his permit application by August 9, 1982. If an existing facility becomes subject to this chapter due to amendments to this chapter and the facility was not previously subject to this chapter, then the owner/operator of an existing facility may qualify for an interim status permit by complying with the notification requirements of WAC 173-303-060 within three months, and submitting Part A of his permit application within six months, after the adoption date of the amendments which cause the facility to be subject to the requirements of this chapter. Facilities qualifying for interim status under this subsection will not be deemed to have interim status under section 3005 of RCRA, and may only manage non-RCRA wastes until they either qualify separately for interim status under section 3005 of RCRA or receive a final status facility permit allowing them to manage RCRA wastes.

(5) Maintaining the interim status permit.

(a) Timely notification and submission of a Part A application qualifies the owner/operator of the existing TSD facility for the interim status permit, until the department terminates interim status pursuant to subsection (8) of this section.

(b) Interim status for the existing TSD facility will be maintained while the department makes final administrative disposition of a final facility permit pursuant to WAC 173-303-806 if:

(i) The owner/operator has submitted his final facility permit application (as described in WAC 173-303-806) within six months of the written request by the department to submit such application; and

(ii) Grounds for terminating interim status (as described in subsection (8) of this section) do not exist.

(c) The owner/operator of an interim status facility must update his Part A whenever he is managing wastes that are newly regulated under this chapter, and as necessary to comply with subsection (7) of this section. Failure to comply with this updating requirement is a violation of interim status.

(6) Prohibitions for interim status permits. Facilities with an interim status permit must not:

(a) Treat, store, or dispose of dangerous waste not specified in Part A of the permit application;

(b) Employ processes not specified in Part A of the permit application; or

(c) Exceed the design capacities specified in Part A of the permit application.

(7) Changes during interim status.

(a) Except as provided in (b) of this subsection, the owner or operator of an interim status facility may make the following changes at the facility:

(i) Treatment, storage, or disposal of new dangerous wastes not previously identified in Part A of the permit application (and, in the case of newly listed or identified wastes, addition of the units being used to treat, store, or dispose of the dangerous wastes on the effective date of the listing or identification) if the owner or operator submits a revised Part A permit application prior to such treatment, storage, or disposal (along with a justification detailing the

equipment and process or processes that the owner or operator will use to treat, store, or dispose of the new dangerous wastes) and if the department does not explicitly deny the changes within sixty days of receipt of the revised application;

(ii) Increases in the design capacity of processes used at the facility if the owner or operator submits a revised Part A permit application prior to such a change (along with a justification explaining the need for the change), the requirements of WAC 173-303-281 are met, and the department approves the changes because:

(A) There is a lack of available treatment, storage, or disposal capacity at other dangerous waste management facilities; or

(B) The change is necessary to comply with a federal, state, or local requirement.

(iii) Changes in the processes for the treatment, storage, or disposal of dangerous waste or addition of processes if the owner or operator submits a revised Part A permit application prior to such change (along with a justification explaining the need for the change) and the department approves the change because:

(A) The change is necessary to prevent a threat to human health and the environment because of an emergency situation; or

(B) The change is necessary to comply with a federal, state, or local requirement.

(iv) Changes in the ownership or operational control of a facility if the new owner or operator submits a revised Part A permit application no later than ninety days prior to the scheduled change. When a transfer of operational control of a facility occurs, the old owner or operator must comply with the interim status financial requirements of 40 CFR Part 265, Subpart H (as referenced in WAC 173-303-400), until the new owner or operator has demonstrated to the department that he is complying with the financial requirements. Upon demonstration to the department by the new owner or operator of compliance with the interim status financial requirements, the department will notify the old owner or operator in writing that he no longer needs to comply with the interim status financial requirements as of the date of demonstration. The new owner or operator must demonstrate compliance with the financial requirements within six months of the date of the change in ownership or operational control of the facility. All other interim status duties are transferred effective immediately upon the date of the change in ownership or operational control of the facility.

(v) Changes made in accordance with an interim status corrective action order issued by EPA under section 3008(h) of RCRA or other federal authority, including an order or consent decree issued pursuant to WAC 173-303-646 (2) or (3), by the department under chapter 70.105 RCW or other state authority, or by a court in a judicial action brought by EPA or by the department. Changes under this subsection (7)(a)(v) are limited to the treatment, storage, or disposal of solid waste from releases that originate within the boundary of the facility.

(vi) Addition of newly regulated units for the treatment, storage, or disposal of dangerous waste if the owner or operator submits a revised Part A permit application on or before the date on which the unit becomes subject to the new requirements.

(b) Except as specifically allowed under this subsection (7)(b), changes listed under (a) of this subsection may not be made if they amount to reconstruction of the dangerous waste management facility. Reconstruction occurs when the capital investment in the changes to the facility exceeds fifty percent of the capital cost of a comparable entirely new dangerous waste management facility. If all other requirements are met, the following changes may be made even if they amount to a reconstruction:

(i) Changes made solely for the purposes of complying with the requirements of WAC 173-303-640(4) for tanks and ancillary equipment.

(ii) If necessary to comply with federal, state, or local requirements, changes to an existing unit, changes solely involving tanks or containers, or addition of replacement surface impoundments that satisfy the standards of section 3004(o) of RCRA.

(iii) Changes that are necessary to allow owners or operators to continue handling newly listed or identified dangerous wastes that have been treated, stored, or disposed of at the facility prior to the effective date of the rule establishing the new listing or identification.

(iv) Changes during closure of a facility or of a unit within a facility made in accordance with an approved closure plan.

(v) Changes necessary to comply with an interim status corrective action order issued by EPA under section 3008(h) or other federal authority, by the department under chapter 70.105 RCW or other state authority, or by a court in a judicial proceeding brought by EPA or an authorized state, provided that such changes are limited to the treatment, storage, or disposal of solid waste from releases that originate within the boundary of the facility.

(vi) Changes to treat or store, in tanks, containers, or containment buildings hazardous wastes subject to land disposal restrictions imposed by 40 CFR Part 268 or RCRA section 3004, provided that such changes are made solely for the purpose of complying with 40 CFR Part 268 or RCRA section 3004.

(vii) Addition of newly regulated units under (a)(vi) of this subsection.

(8) Termination of interim status permit. The following are causes for terminating an interim status permit, or for denying a revised permit application:

(a) Final administrative disposition of a final facility permit application is made pursuant to WAC 173-303-806;

(b) When the department on examination or reexamination of a Part A application determines that it fails to meet the applicable standards of this chapter, it may notify the owner or operator that the application is deficient and that the interim status permit has been revoked. The owner or operator will then be subject to enforcement for operating without a permit;

(c) Failure to submit a requested Part B application on time, or to provide in full the information required in the Part B application;

(d) Violation of applicable interim status standards;

(e) A determination that the permit applicant has failed to satisfy the performance standards of WAC 173-303-283;

(f) For owners or operators of each land disposal facility which has been granted interim status prior to November 8,

1984, interim status terminated on November 8, 1985, unless:

(i) The owner or operator submits a Part B application for a permit for such facility prior to that date; and

(ii) The owner or operator certifies that such facility is in compliance with all applicable ground water monitoring and financial responsibility requirements.

(g) For owners or operators of each land disposal facility which is in existence on the effective date of statutory or regulatory amendments under the Hazardous Waste Management Act that render the facility subject to the requirement to have a final facility permit and which is granted interim status, interim status terminates twelve months after the date on which the facility first becomes subject to such permit requirement unless the owner or operator of such facility:

(i) Submits a Part B application for a final facility permit for such facility before the date twelve months after the date on which the facility first becomes subject to such permit requirement; and

(ii) Certifies that such facility is in compliance with all applicable ground water monitoring and financial responsibility requirements.

(h) For owners or operators of any land disposal unit that is granted authority to operate under subsection (7)(a)(i), (ii) or (iii) of this section, interim status terminates on the date twelve months after the effective date of such requirement, unless the owner or operator certifies that such unit is in compliance with all applicable ground water monitoring and financial responsibility requirements;

(i) For owners and operators of each incinerator facility which achieved interim status prior to November 8, 1984, interim status terminated on November 8, 1989, unless the owner or operator of the facility submitted a Part B application for a final facility permit for an incinerator facility by November 8, 1986; or

(j) For owners or operators of any facility (other than a land disposal or an incinerator facility) which has achieved interim status prior to November 8, 1984, interim status terminated on November 8, 1992, unless the owner or operator of the facility submitted a Part B application for a final facility permit for the facility by November 8, 1988.

(9) Reserve.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-806 Final facility permits.** (1) Applicability. This section applies to all dangerous waste facilities required to have a final facility permit. The final facility permit requirements are applicable to:

(a) Final status TSD facilities; and

(b) Certain recycling facilities that are not exempt from the permit requirements.

(2) Application. Any person subject to the permit requirements of this section who intends to operate a new TSD facility must comply with WAC 173-303-281 and apply for a final facility permit. The department may, at any time, require the owner or operator of an existing TSD facility to apply for a final facility permit. Such owner or operator will be allowed one hundred eighty days to submit his application; the department may extend the length of the application period if it finds that there are good reasons to do so. The owner or operator of an existing TSD facility may voluntarily apply for a final facility permit at any time. Any person seeking a final facility permit must complete, sign, and submit an application to the department. An application must consist of a Part A permit form (which can be obtained from the department), and the contents of Part B as specified in subsection (4) of this section.

(3) Effective regulations. A final facility permit will include all applicable requirements of this chapter which are in effect on the date that the permit is issued by the department. WAC 173-303-840(7) provides a means for reopening permit proceedings at the discretion of the department where new requirements become effective during the permitting process and are of sufficient magnitude to make additional proceedings desirable. Any other changes to the final facility permit will be in accordance with the permit modification requirements of WAC 173-303-830.

(4) Contents of Part B. Part B of a permit application must consist of the information required in (a) through ((~~(i)~~)) (l) of this subsection.

(a) General requirements. Part B of the permit application consists of the general information requirements of this subsection, and the specific information requirements in (b) through (h) of this subsection as applicable to the facility. The Part B information requirements presented in (a) through (h) of this subsection, reflect the standards promulgated in WAC 173-303-600. These information requirements are necessary in order for the department to determine compliance with WAC 173-303-600 through 173-303-670. If owners and operators of TSD facilities can demonstrate that the information prescribed in Part B cannot be provided to the extent required, the department may make allowance for submission of such information on a case-by-case basis. Information required in Part B must be submitted to the department and signed in accordance with requirements in WAC 173-303-810(12). Certain technical data, such as design drawings and specifications, and engineering studies must be certified by a registered professional engineer. The following information is required for all TSD facilities, except as WAC 173-303-600(3) provides otherwise.

(i) A general description of the facility.

(ii) Chemical, biological, and physical analyses of the dangerous waste and hazardous debris to be handled at the facility. At a minimum, these analyses must contain all the information which must be known to treat, store, or dispose of the wastes properly in accordance with WAC 173-303-600.

(iii) A copy of the waste analysis plan required by WAC 173-303-300(5) and, if applicable WAC 173-303-300 (5)(g).

(iv) A description of the security procedures and equipment required by WAC 173-303-310, or a justification demonstrating the reasons for requesting a waiver of this requirement.

(v) A copy of the general inspection schedule required by WAC 173-303-320(2): Include where applicable, as part of the inspection schedule, specific requirements in WAC 173-303-395 (1)(d), 173-303-630(6), 173-303-640 (4)(a)(i) and (6), 173-303-650(4), 173-303-655(4), 173-303-660 (4) and (5), 173-303-665(4), 173-303-670(7), and 173-303-680(3), and 40 CFR 264.1033, 264.1035, 264.1052,

264.1053, 264.1058, 264.1064, 264.1067, 264.1088, and 264.1091.

(vi) A justification of any request for a waiver(s) of the preparedness and prevention requirements of WAC 173-303-340, or a description of the procedures used to comply with these requirements.

(vii) A copy of the contingency plan required by WAC 173-303-350: Include, where applicable, as part of the contingency plan, specific requirements in WAC 173-303-640(7), 173-303-650(5) and 173-303-660(6).

(viii) A description of procedures, structures, or equipment used at the facility to:

(A) Prevent hazards and contain spills in unloading/loading operations (for example, ramps, berms, pavement, special forklifts);

(B) Prevent run-off from dangerous waste handling areas to other areas of the facility or environment, or to prevent flooding (for example, berms, dikes, trenches);

(C) Prevent contamination of water supplies;

(D) Mitigate effects of equipment failure and power outages;

(E) Prevent undue exposure of personnel to dangerous waste (for example, protective clothing); and

(F) Prevent releases to the atmosphere.

(ix) A description of precautions to prevent accidental ignition or reaction of ignitable, reactive, or incompatible wastes as required to demonstrate compliance with WAC 173-303-395 including documentation demonstrating compliance with WAC 173-303-395 (1)(c).

(x) Traffic pattern, estimated volume (number, types of vehicles) and control (for example, show turns across traffic lanes, and stacking lanes (if appropriate); describe access road surfacing and load bearing capacity; show traffic control signals).

(xi) Seismic risk consideration. The owner/operator of a proposed facility or expansion of an existing facility must identify the seismic risk zone in which the facility is intended to be located. Where state or local maps are not available, United States Geological Survey Open File Report number 82-1033 may be used to identify seismic risk zones. The owner/operator must demonstrate that the facility can and will be designed to resist seismic ground motion and that the design is sufficient to withstand the maximum horizontal acceleration of a design earthquake specified in the demonstration.

(xii) An outline of both the introductory and continuing training programs by owners or operators to prepare persons to operate or maintain the TSD facility in a safe manner as required to demonstrate compliance with WAC 173-303-330. A brief description of how training will be designed to meet actual job tasks in accordance with requirements in WAC 173-303-330 (1)(d).

(xiii) A copy of the closure plan and, where applicable, the post-closure plan required by WAC 173-303-610 (3) and (8). Include, where applicable, as part of the plans, specific requirements in WAC 173-303-630(10), 173-303-640(8), 173-303-650(6), 173-303-655(8), 173-303-660(9), 173-303-665(6), 173-303-670(8), and 173-303-680 (2) and (4).

(xiv) For dangerous waste disposal units that have been closed, documentation that notices required under WAC 173-303-610(10) have been filed.

(xv) The most recent closure cost estimate for the facility prepared in accordance with WAC 173-303-620(3) and a copy of the documentation required to demonstrate financial assurance under WAC 173-303-620(4). For a new facility, a copy of the required documentation may be submitted sixty days prior to the initial receipt of dangerous wastes, if that is later than the submission of the Part B.

(xvi) Where applicable, the most recent post-closure cost estimate for the facility prepared in accordance with WAC 173-303-620(5) plus a copy of the documentation required to demonstrate financial assurance under WAC 173-303-620(6). For a new facility, a copy of the required documentation may be submitted sixty days prior to the initial receipt of dangerous wastes, if that is later than the submission of the Part B.

(xvii) Where applicable, a copy of the insurance policy or other documentation which comprises compliance with the requirements of WAC 173-303-620(8). For a new facility, documentation showing the amount of insurance meeting the specification of WAC 173-303-620 (8)(a) and, if applicable, WAC 173-303-620 (8)(b), that the owner or operator plans to have in effect before initial receipt of dangerous waste for treatment, storage, or disposal. A request for a variance in the amount of required coverage, for a new or existing facility, may be submitted as specified in WAC 173-303-620 (8)(c).

(xviii) A topographic map showing a distance of one thousand feet around the facility at a scale of 2.5 centimeters (1 inch) equal to not more than 61.0 meters (200 feet). Contours must be shown on the map. The contour interval must be sufficient to clearly show the pattern of surface water flow in the vicinity of and from each operational unit of the facility. For example, contours with an interval of 1.5 meters (5 feet), if relief is greater than 6.1 meters (20 feet), or an interval of 0.6 meters (2 feet), if relief is less than 6.1 meters (20 feet). Owners and operators of TSD facilities located in mountainous areas should use large contour intervals to adequately show topographic profiles of facilities. The map must clearly show the following:

(A) Map scale and date;

(B) One hundred-year floodplain area;

(C) Surface waters including intermittent streams;

(D) Surrounding land uses (residential, commercial, agricultural, recreational);

(E) A wind rose (i.e., prevailing windspeed and direction);

(F) Orientation of the map (north arrow);

(G) Legal boundaries of the TSD facility site;

(H) Access control (fences, gates);

(I) Injection and withdrawal wells both on-site and off-site;

(J) Buildings; treatment, storage, or disposal operations; or other structure (recreation areas, run-off control systems, access and internal roads, storm, sanitary, and process sewerage systems, loading and unloading areas, fire control facilities, etc.);

(K) Barriers for drainage or flood control;

(L) Location of operational units within the TSD facility site, where dangerous waste is (or will be) treated, stored, or disposed (include equipment clean-up areas); and

(M) For land disposal facilities, if a case-by-case extension has been approved under 40 CFR 268.5 or a

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petition has been approved under 40 CFR 268.6, a copy of the notice of approval for the extension or petition is required.

(Note - For large TSD facilities the department will allow the use of other scales on a case-by-case basis.)

(xix) Applicants may be required to submit such information as may be necessary to enable the department to carry out its duties under other state or federal laws as required.

(xx) Additional information requirements. The following additional information regarding protection of ground water is required from owners or operators of dangerous waste facilities containing a regulated unit except as otherwise provided in WAC 173-303-645 (1)(b):

(A) A summary of the ground water monitoring data obtained during the interim status period under 40 CFR 265.90 through 265.94, where applicable;

(B) Identification of the uppermost aquifer and aquifers hydraulically interconnected beneath the facility property, including ground water flow direction and rate, and the basis for such identification (i.e., the information obtained from hydrogeologic investigations of the facility area);

(C) On the topographic map required under (a)(xviii) of this subsection, a delineation of the waste management area, the property boundary, the proposed "point of compliance" as defined under WAC 173-303-645(6), the proposed location of ground water monitoring wells as required under WAC 173-303-645(8), and, to the extent possible, the information required in (a)(xx)(B) of this subsection;

(D) A description of any plume of contamination that has entered the ground water from a regulated unit at the time that the application was submitted that:

(I) Delineates the extent of the plume on the topographic map required under (a)(xviii) of this subsection;

(II) Identifies the concentration of each constituent throughout the plume or identifies the maximum concentrations of each constituent in the plume. (Constituents are those listed in Appendix IX of 40 CFR Part 264, and any other constituents not listed there which have caused a managed waste to be regulated under this chapter.);

(E) Detailed plans and an engineering report describing the proposed ground water monitoring program to be implemented to meet the requirements of WAC 173-303-645(8);

(F) If the presence of dangerous constituents has not been detected in the ground water at the time of permit application, the owner or operator must submit sufficient information, supporting data, and analyses to establish a detection monitoring program which meets the requirements of WAC 173-303-645(9). This submission must address the following items specified under WAC 173-303-645(9):

(I) A proposed list of indicator parameters, waste constituents, or reaction products that can provide a reliable indication of the presence of dangerous constituents in the ground water;

(II) A proposed ground water monitoring system;

(III) Background values for each proposed monitoring parameter or constituent, or procedures to calculate such values; and

(IV) A description of proposed sampling, analysis and statistical comparison procedures to be utilized in evaluating ground water monitoring data;

(G) If the presence of dangerous constituents has been detected in the ground water at the point of compliance at the time of permit application, the owner or operator must submit sufficient information, supporting data, and analyses to establish a compliance monitoring program which meets the requirements of WAC 173-303-645(10). The owner or operator must also submit an engineering feasibility plan for a corrective action program necessary to meet the requirements of WAC 173-303-645(11) except as provided in WAC 173-303-645 (9)(h)(v). Alternatively, the owner or operator can obtain written authorization in advance from the department to submit a proposed permit schedule for development and submittal of such information. To demonstrate compliance with WAC 173-303-645(10), the owner or operator must address the following items:

(I) A description of the wastes previously handled at the facility;

(II) A characterization of the contaminated ground water, including concentrations of dangerous constituents and parameters;

(III) A list of constituents and parameters for which compliance monitoring will be undertaken in accordance with WAC 173-303-645 (8) and (10);

(IV) Proposed concentration limits for each dangerous constituent and parameter, based on the criteria set forth in WAC 173-303-645 (5)(a), including a justification for establishing any alternate concentration limits;

(V) Detailed plans and an engineering report describing the proposed ground water monitoring system, in accordance with the requirements of WAC 173-303-645(8); and

(VI) A description of proposed sampling, analysis and statistical comparison procedures to be utilized in evaluating ground water monitoring data; and

(H) If dangerous constituents or parameters have been measured in the ground water which exceed the concentration limits established under WAC 173-303-645(5), Table 1, or if ground water monitoring conducted at the time of permit application under 40 CFR 265.90 through 265.94 at the waste boundary indicates the presence of dangerous constituents from the facility in ground water over background concentrations, the owner or operator must submit sufficient information, supporting data, and analyses to establish a corrective action program which meets the requirements of WAC 173-303-645(11). However, an owner or operator is not required to submit information to establish a corrective action program if he demonstrates to the department that alternate concentration limits will protect human health and the environment after considering the criteria listed in WAC 173-303-645(5). An owner or operator who is not required to establish a corrective action program for this reason must instead submit sufficient information to establish a compliance monitoring program which meets the requirements of WAC 173-303-645 (10) and (a)(xx)(F) of this subsection. To demonstrate compliance with WAC 173-303-645(11), the owner or operator must address, at a minimum, the following items:

(I) A characterization of the contaminated ground water, including concentrations of dangerous constituents and parameters;

(II) The concentration limit for each dangerous constituent and parameter found in the ground water as set forth in WAC 173-303-645(5);

(III) Detailed plans and an engineering report describing the corrective action to be taken;

(IV) A description of how the ground water monitoring program will demonstrate the adequacy of the corrective action; and

(V) The permit may contain a schedule for submittal of the information required in (a)(xx)(H)(III) and (IV) of this subsection, provided the owner or operator obtains written authorization from the department prior to submittal of the complete permit application.

(xxi) Contingent ground water protection program. The following actions are required for owners or operators of proposed land-based facilities and may be required for owners/operators of existing land-based facilities, except as provided in WAC 173-303-645 (1)(b).

(A) Contingent ground water protection program. The owner or operator must develop a contingent ground water protection program. The purpose of this program will be to prevent the migration of dangerous waste or dangerous waste constituents from waste management units to the nearest hydraulically downgradient receptor at any time during the life of the facility. For the purposes of this subsection, the downgradient receptor will be the facility property line, perennial surface water or domestic well, whichever is nearest to the dangerous waste management unit. The contingent ground water protection program must at a minimum:

(I) Define the local and regional hydrogeologic characteristics. The contingent ground water protection program must be based on a sufficient understanding of site geology, hydrology, and other factors to allow evaluation of its adequacy by the department. Site characterization must be performed in sufficient detail to provide, at a minimum, the following information: Site geostratigraphy; site hydrostratigraphy; identification of aquifers, aquitards, and aquicludes; flow models for each stratum (i.e., porus media or fracture flow); the distribution of vertical and horizontal hydraulic conductivity; effective porosity; horizontal and vertical hydraulic gradients; ground water travel time to receptors; and heterogeneity for each stratigraphic unit. Site interpretative models must include ranges of tested values: The provisions of WAC 173-303-806 (4)(a)(xx) and 173-303-645, must be used as guidance in the development of the contingent ground water protection program.

(II) Identify the range of potential release scenarios that could occur during facility operation and the postclosure care period. The scenarios must incorporate the intended design(s) of the dangerous waste management unit(s), wastes to be placed in the dangerous waste management unit(s), waste and leachate chemistry, waste, and soil and rock geochemical interactions, and the results of site characterization pursuant to WAC 173-303-806 (4)(a)(xx) and (xxi);

(III) Include specific physical action to be taken if dangerous waste or dangerous waste constituents are detected in one or more of the monitoring wells. The physical actions must be based upon engineering feasibility studies describing remedial actions established from site specific conditions and waste features. Such actions may include installation of a pump and treat system between the monitoring well and the receptor or installation of a section of slurry wall to decrease ground water travel times. The description of the systems must also provide how the remediation system will achieve cleanup, its efficiency, and the timeframes involved;

(IV) Incorporate the design, construction, and sampling methods outlined in WAC 173-303-645 (8)(c), (d), (e), (f), and (g);

(V) Demonstrate to the satisfaction of the department that the owner/operator of the dangerous waste management facility has the financial capability to implement the proposed ground water protection plan; and

(VI) Include reporting procedures to the department.

(B) The response actions identified in WAC 173-303-806 (4)(a)(xxi)(A)(III) must be activated if the presence of dangerous waste or dangerous waste constituents have been detected at the point of compliance in accordance with WAC 173-303-645 (9)(g), and must continue until the concentration of dangerous waste or dangerous waste constituents under WAC 173-303-645(4) are reduced to levels below their respective concentration limits specified in WAC 173-303-645(5).

(C) If the owner/operator does not demonstrate that the ground water protection program will prevent the migration of dangerous waste or its constituents to the nearest receptor, the department will require corrections to be made in the protection program, increase setbacks from the nearest receptor, or deny the permit.

(xxii) Additional requirements for incineration facilities. The following actions regarding the protection of human health and the environment must be taken by owners/operators of proposed hazardous waste incineration facilities and may be required for owners or operators of existing incineration facilities.

(A) Ambient monitoring program. The owner/operator will be required to develop an ambient monitoring program. The purpose of this ambient monitoring program will be to: Gather baseline environmental information characterizing on-site and off-site environmental conditions prior to facility operation; and, to identify and measure changes in the environment which may be linked to the construction and operation of the facility. The ambient monitoring program must, at a minimum:

(I) Include a characterization of facility emission sources and pathways of contaminant transport.

(II) Characterize local and regional ecosystems, including agricultural, and their sensitivity to the potential contaminants from the facility.

(III) Incorporate the findings of the environmental impact statement's health risk assessment and/or other assessments specific to the proposal or available to the scientific community regarding emissions from dangerous waste management facilities and their potential human health and environmental effects.

(IV) Identify sensitive indicator plants and animals for biomonitoring, identify specific chemical constituents of concern, sampling locations, sampling frequency, sampling and analytical methods, chain of custody procedures, quality assurance/quality control procedures, reporting times, recordkeeping procedures, and data evaluation procedures.

(B) Environmental review procedures. The owner/operator must establish procedures to allow for public review of facility operation and all monitoring data required by the facility's permit. In developing this process, the owner/operator must, at a minimum:

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(I) Coordinate this effort with the public and interested local organizations;

(II) Identify the informational needs of the community and develop a public information process which meets these needs; and

(III) Develop procedures allowing full access by the public to all monitoring data required by the permit.

(C) Impact mitigation plan. Prior to the department issuing a permit, the owner/operator must submit an impact mitigation plan which demonstrates to the satisfaction of the department that the owner/operator will mitigate all probable significant adverse impacts, including economic, due to facility location and operations. The owner/operator must use as a basis for identifying probable significant adverse economic impacts those probable economic impacts identified during a public review process, such as the environmental impact statement scoping process, if applicable.

The plan must include, but is not limited to, a description of what the owner/operator will do to reduce or prevent any probable significant impacts before they occur, to mitigate such impacts should they occur, and to ensure the owner/operator has and will have the financial capability to implement such preventative and mitigative measures. Mitigation measures may include, as an element, financial compensation to adversely affected parties.

This plan may be submitted with environmental reports the department requires for compliance with the State Environmental Policy Act, with the written citizen proponent negotiation report and agreements, or with the Part B permit application. If the plan does not demonstrate that the owner/operator is capable of adequately mitigating the identified probable significant adverse economic impacts, the department will require modification of the plan or of the proposed facility location, or will deny the permit application. The department must be satisfied with the plan prior to the issuance of the permit.

(xxiii) Information requirements for solid waste management units.

(A) The following information is required for each solid waste management unit:

(I) The location of the unit on the topographic map required under (a)(xviii) of this subsection.

(II) Designation of type of unit.

(III) General dimensions and structural description (supply any available drawings).

(IV) Time frame over which the unit was operated.

(V) Specification of all wastes that have been managed in the unit, to the extent available.

(B) The owner/operator of any facility containing one or more solid waste management units must submit all available information pertaining to any release of dangerous wastes or dangerous constituents from such unit or units.

(C) The owner/operator must conduct and provide the results of sampling and analysis of ground water, landsurface, and subsurface strata, surface water, or air, which may include the installation of wells, where the department determines it is necessary to complete a RCRA Facility Assessment that will determine if a more complete investigation is necessary.

WAC 173-303-806 (4)(a)(xxiv):

(xxiv) Information requirements for known releases.

(A) In order to provide for corrective action necessary to protect human health and the environment, the following information is required for all known significant releases of dangerous waste and dangerous constituents (as defined by WAC 173-303-646 (2)(c)) at, and from, the facility. A significant release is a release which has affected or has the potential to affect human health or the environment at or beyond the facility.

(I) The location of the release on the topographic map required under (a)(xviii) of this subsection.

(II) General dimensions of the release and any relevant structural description. For example, if the release is from a storage tank, provide a structural description of the tank. Supply any available drawings.

(III) Time frame over which the release occurred.

(IV) Specification of all dangerous waste or dangerous constituents (as defined by WAC 173-303-646 (2)(c)) present in the release, to the extent available.

(b) Specific Part B information requirements for containers. Except as otherwise provided in WAC 173-303-600(3), owners or operators of facilities that store containers of dangerous waste must provide the following additional information:

(i) A description of the containment system to demonstrate compliance with WAC 173-303-630(7). Show at least the following:

(A) Basic design parameters, dimensions, and materials of construction including allowance for a twenty-five-year, twenty-four-hour storm;

(B) How the design promotes positive drainage control or how containers are kept from contact with standing liquids in the containment system;

(C) Capacity of the containment system relative to the volume of the largest container to be stored;

(D) Provisions for preventing or managing run-on;

(E) How accumulated liquids can be analyzed and removed to prevent overflow; and

(F) A description of the building or other protective covering for EHW containers;

(ii) For storage areas that store containers holding wastes that do not contain free liquids, a demonstration of compliance with WAC 173-303-630 (7)(c), including:

(A) Test procedures and results or other documentation or information to show that the wastes do not contain free liquids; and

(B) A description of how the storage area is designed or operated to drain and remove liquids or how containers are kept from contact with standing liquids;

(iii) A description of the procedures for labeling containers;

(iv) Sketches, drawings, or data demonstrating compliance with WAC 173-303-630(8) (location of buffer zone and containers holding ignitable or reactive wastes) and WAC 173-303-630 (9)(c) (location of incompatible wastes), where applicable; and

(v) Where incompatible wastes are stored or otherwise managed in containers, a description of the procedures used to ensure compliance with WAC 173-303-630 (9)(a) and (b), and 173-303-395 (1)(b) and (c).

(c) Specific Part B information requirements for tanks. Except as otherwise provided in WAC 173-303-600(3), owners and operators of facilities that use tanks to store or

treat dangerous waste must provide the following information:

(i) A written assessment that is reviewed and certified by an independent, qualified, registered professional engineer as to the structural integrity and suitability for handling dangerous waste of each tank system, as required under WAC 173-303-640 (2) and (3);

(ii) Dimensions and capacity of each tank;

(iii) Description of feed systems, safety cutoff, bypass systems, and pressure controls (e.g., vents);

(iv) A diagram of piping, instrumentation, and process flow for each tank system;

(v) A description of materials and equipment used to provide external corrosion protection, as required under WAC 173-303-640 (3)(a)(iii)(B);

(vi) For new tank systems, a detailed description of how the tank system(s) will be installed in compliance with WAC 173-303-640 (3)(b), (c), (d), and (e);

(vii) Detailed plans and a description of how the secondary containment system for each tank system is or will be designed, constructed, and operated to meet the requirements of WAC 173-303-640 (4)(a), (b), (c), (d), (e), and (f);

(viii) For tank systems for which a variance from the requirements of WAC 173-303-640(4) is sought (as provided by WAC 173-303-640 (4)(g)):

(A) Detailed plans and engineering and hydrogeologic reports, as appropriate, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any dangerous waste or dangerous constituents into the ground water or surface water during the life of the facility; or

(B) A detailed assessment of the substantial present or potential hazards posed to human health or the environment should a release enter the environment.

(ix) Description of controls and practices to prevent spills and overflows, as required under WAC 173-303-640 (5)(b);

(x) For tank systems in which ignitable, reactive, or incompatible wastes are to be stored or treated, a description of how operating procedures and tank system and facility design will achieve compliance with the requirements of WAC 173-303-640 (9) and (10);

(xi) A description of the marking and/or labeling of tanks; and

(xii) Tank design to prevent escape of vapors and emissions of acutely or chronically toxic (upon inhalation) EHW.

(d) Specific Part B information requirements for surface impoundments. Except as otherwise provided in WAC 173-303-600(3), owners and operators of facilities that store, treat, or dispose of dangerous waste in surface impoundments must provide the following additional information:

(i) A list of the dangerous wastes placed or to be placed in each surface impoundment;

(ii) Detailed plans and an engineering report describing how the surface impoundment is designed, and is or will be constructed, operated and maintained to meet the requirements of WAC 173-303-650 (2)(j), (10), (11), and 173-303-335, addressing the following items:

(A) The liner system (except for an existing portion of a surface impoundment), including the certification required by WAC 173-303-650 (2)(a)(i)(D) for EHW management. If an exemption from the requirement for a liner is sought as provided by WAC 173-303-650 (2)(b), submit detailed plans and engineering and hydrogeologic reports, as appropriate, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any dangerous constituents into the ground water or surface water at any future time;

(B) Prevention of overtopping;

(C) Structural integrity of dikes;

(D) The double liner and leak (leachate) detection, collection, and removal system, if the surface impoundment must meet the requirements of WAC 173-303-650 (2)(j). If an exemption from the requirements for double liners and a leak detection, collection, and removal system or alternative design is sought as provided by WAC 173-303-650 (2)(k), (l), or (m), submit appropriate information;

(E) If the leak detection system is located in a saturated zone, submit detailed plans and an engineering report explaining the leak detection system design and operation, and the location of the saturated zone in relation to the leak detection system;

(F) The construction quality assurance (CQA) plan if required under WAC 173-303-335; and

(G) Proposed action leakage rate, with rationale, if required under WAC 173-303-650(10), and response action plan, if required under WAC 173-303-650(11).

(iii) Reserve.

(iv) A description of how each surface impoundment, including the double liner system, leak detection system, cover systems and appurtenances for control of overtopping, will be inspected in order to meet the requirements of WAC 173-303-650 (4)(a), (b), and (d). This information should be included in the inspection plan submitted under (a)(v) of this subsection;

(v) A certification by a qualified engineer which attests to the structural integrity of each dike, as required under WAC 173-303-650 (4)(c). For new units, the owner or operator must submit a statement by a qualified engineer that he will provide such a certification upon completion of construction in accordance with the plans and specifications;

(vi) A description of the procedure to be used for removing a surface impoundment from service, as required under WAC 173-303-650 (5)(b) and (c). This information should be included in the contingency plan submitted under (a)(vii) of this subsection;

(vii) A description of how dangerous waste residues and contaminated materials will be removed from the unit at closure, as required under WAC 173-303-650 (6)(a)(i). For any wastes not to be removed from the unit upon closure, the owner or operator must submit detailed plans and an engineering report describing how WAC 173-303-650 (6)(a)(ii) and (b) will be complied with. This information should be included in the closure plan and, where applicable, the post-closure plan submitted under (a)(xiii) of this subsection;

(viii) If ignitable or reactive wastes are to be placed in a surface impoundment, an explanation of how WAC 173-303-650(7) will be complied with;

(ix) If incompatible wastes, or incompatible wastes and materials will be placed in a surface impoundment, an

explanation of how WAC 173-303-650(8) will be complied with; and

(x) Where applicable, a waste management plan for Dangerous Waste Nos. F020, F021, F022, F023, F026, or F027 describing how the surface impoundment is or will be designed to meet the requirements of WAC 173-303-650(9).

(e) Specific Part B information requirements for waste piles. Except as otherwise provided in WAC 173-303-600(3), owners and operators of facilities that store or treat dangerous waste in waste piles must provide the following additional information:

(i) A list of dangerous wastes placed or to be placed in each waste pile;

(ii) If an exemption is sought to WAC 173-303-660(2), and 173-303-645 as provided by WAC 173-303-660 (1)(c), an explanation of how the standards of WAC 173-303-660 (1)(c) will be complied with;

(iii) Detailed plans and an engineering report describing how the waste pile is designed, and is or will be constructed, operated, and maintained to meet the requirements of WAC 173-303-335, 173-303-660 (2)(j), (11) and (12), addressing the following items:

(A)(I) The liner system (except for an existing portion of a pile) if the waste pile must meet the requirements of WAC 173-303-660(2), including the licensed engineer's certification when required by WAC 173-303-660 (2)(c). If an exemption from the requirement for a liner is sought, as provided by WAC 173-303-660 (2)(d), submit detailed plans and engineering and hydrogeologic reports, as applicable, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any dangerous constituents into the ground water or surface water at any future time;

(II) The double liner and leak (leachate) detection, collection, and removal system, if the waste pile must meet the requirements of WAC 173-303-660 (2)(j). If an exemption from the requirements for double liners and a leak detection, collection, and removal system or alternative design is sought as provided by WAC 173-303-660 (2)(k), (l), or (m), submit appropriate information;

(III) If the leak detection system is located in a saturated zone, submit detailed plans and an engineering report explaining the leak detection system design and operation, and the location of the saturated zone in relation to the leak detection system;

(IV) The construction quality assurance (CQA) plan if required under WAC 173-303-335;

(V) Proposed action leakage rate, with rationale, if required under WAC 173-303-660(3), and response action plan, if required under WAC 173-303-660(4);

(B) Control of run-on;

(C) Control of run-off;

(D) Management of collection and holding units associated with run-on and run-off control systems; and

(E) Control of wind dispersal of particulate matter, where applicable;

(iv) Reserve.

(v) A description of how each waste pile, including the double liner system, leachate collection and removal system, leak detection system, cover system and appurtenances for control of run-on and run-off, will be inspected in order to meet the requirements of WAC 173-303-660(5). This information should be included in the inspection plan submitted under (a)(v) of this subsection. If an exemption is sought to WAC 173-303-645 pursuant to WAC 173-303-660(4), describe in the inspection plan how the inspection requirements of WAC 173-303-660 (4)(a)(iii) will be complied with;

(vi) If treatment is carried out on or in the pile, details of the process and equipment used, and the nature and quality of the residuals;

(vii) If ignitable or reactive wastes are to be placed in a waste pile, an explanation of how the requirements of WAC 173-303-660(7) will be complied with;

(viii) If incompatible wastes, or incompatible wastes and materials will be placed in a waste pile, an explanation of how WAC 173-303-660(8) will be complied with;

(ix) A description of how dangerous waste, waste residues and contaminated materials will be removed from the waste pile at closure, as required under WAC 173-303-660 (9)(a). For any waste not to be removed from the waste pile upon closure, the owner or operator must submit detailed plans and an engineering report describing how WAC 173-303-665 (6)(a) and (b) will be complied with. This information should be included in the closure plan and, where applicable, the post-closure plan submitted under (a)(xiii) of this subsection;

(x) Where applicable, a waste management plan for Dangerous Waste Nos. F020, F021, F022, F023, F026, or F027 describing how a waste pile that is not enclosed (as defined in WAC 173-303-660 (1)(c)) is or will be designed, constructed, operated, and maintained to meet the requirements of WAC 173-303-660(10).

(f) Specific Part B information requirements for incinerators. Except as WAC 173-303-670(1) provides otherwise, owners and operators of facilities that incinerate dangerous waste must fulfill the informational requirements of (f) of this subsection.

(i) When seeking an exemption under WAC 173-303-670 (1)(b) (ignitable or reactive wastes only):

(A) Documentation that the waste is listed as a dangerous waste in WAC 173-303-080, solely because it is ignitable; or

(B) Documentation that the waste is listed as a dangerous waste in WAC 173-303-080, solely because it is reactive for characteristics other than those listed in WAC 173-303-090 (7)(a)(iv) and (v), and will not be burned when other dangerous wastes are present in the combustion zone; or

(C) Documentation that the waste is a dangerous waste solely because it possesses the characteristic of ignitability, as determined by the tests for characteristics of dangerous waste under WAC 173-303-090; or

(D) Documentation that the waste is a dangerous waste solely because it possesses the reactivity characteristics listed in WAC 173-303-090 (7)(a)(i), (ii), (iii), (vi), (vii), and (viii), and that it will not be burned when other dangerous wastes are present in the combustion zone.

(ii) Submit a trial burn plan or the results of a trial burn, including all required determinations, in accordance with WAC 173-303-807.

(iii) In lieu of a trial burn, the applicant may submit the following information;

(A) An analysis of each waste or mixture of wastes to be burned including:

(I) Heating value of the waste in the form and composition in which it will be burned;

(II) Viscosity (if applicable), or description of physical form of the waste, and specific gravity of the waste;

(III) An identification of any dangerous organic constituents listed in WAC 173-303-9905 or, if not listed, which cause the waste(s) to be regulated, which are present in the waste to be burned, except that the applicant need not analyze for constituents which would reasonably not be expected to be found in the waste. The constituents excluded from analysis must be identified and the basis for their exclusion stated. The waste analysis must rely on analytical techniques specified in WAC 173-303-110 (3)(a), or their equivalent;

(IV) An approximate quantification of the dangerous constituents identified in the waste, within the precision produced by the analytical methods specified in WAC 173-303-110 (3)(a); and

(V) A quantification of those dangerous constituents in the waste which may be designated as principal organic dangerous constituents (PODC's) based on data submitted from other trial or operational burns which demonstrate compliance with the performance standards in WAC 173-303-670(4);

(B) A detailed engineering description of the incinerator, including:

(I) Manufacturer's name and model number of incinerator;

(II) Type of incinerator;

(III) Linear dimension of incinerator unit including cross sectional area of combustion chamber;

(IV) Description of auxiliary fuel system (type/feed);

(V) Capacity of prime mover;

(VI) Description of automatic waste feed cutoff system(s);

(VII) Stack gas monitoring and pollution control monitoring system;

(VIII) Nozzle and burner design;

(IX) Construction materials; and

(X) Location and description of temperature, pressure, and flow indicating devices and control devices;

(C) A description and analysis of the waste to be burned compared with the waste for which data from operational or trial burns are provided to support the contention that a trial burn is not needed. The data should include those items listed in (f)(iii)(A) of this subsection. This analysis should specify the principal organic dangerous constituents (PODC's) which the applicant has identified in the waste for which a permit is sought, and any differences from the PODC's in the waste for which burn data are provided;

(D) The design and operating conditions of the incinerator unit to be used, compared with that for which comparative burn data are available;

(E) A description of the results submitted from any previously conducted trial burn(s) including:

(I) Sampling and analysis techniques used to calculate performance standards in WAC 173-303-670(4); and

(II) Methods and results of monitoring temperatures, waste feed rates, carbon monoxide, and an appropriate indicator of combustion gas velocity (including a statement concerning the precision and accuracy of this measurement);

(F) The expected incinerator operation information to demonstrate compliance with WAC 173-303-670 (4) and (6), including:

(I) Expected carbon monoxide (CO) level in the stack exhaust gas;

(II) Waste feed rate;

(III) Combustion zone temperature;

(IV) Indication of combustion gas velocity;

(V) Expected stack gas volume, flow rate, and temperature;

(VI) Computed residence time for waste in the combustion zone;

(VII) Expected hydrochloric acid removal efficiency;

(VIII) Expected fugitive emissions and their control procedures; and

(IX) Proposed waste feed cutoff limits based on the identified significant operating parameters;

(G) Such supplemental information as the department finds necessary to achieve the purposes of this subsection;

(H) Waste analysis data, including that submitted in (f)(iii)(A) of this subsection, sufficient to allow the department to specify as permit principal organic dangerous constituents (permit PODC's) those constituents for which destruction and removal efficiencies will be required; and

(I) Test protocols and sampling and analytical data to demonstrate the designation status under WAC 173-303-070 of:

(I) Incinerator ash residues, if any; and

(II) Residues from the air pollution control devices.

(iv) The department will approve a permit application without a trial burn if the department finds that:

(A) The wastes are sufficiently similar; and

(B) The incinerator units are sufficiently similar, and the data from other trial burns are adequate to specify (under WAC 173-303-670(6)) operating conditions that will ensure that the performance standards in WAC 173-303-670(4) will be met by the incinerator.

(g) Specific Part B information requirements for land treatment facilities. Except as otherwise provided in WAC 173-303-600(3), owners and operators of facilities that use land treatment to dispose of dangerous waste must provide the following additional information:

(i) A description of plans to conduct a treatment demonstration as required under WAC 173-303-655(3). The description must include the following information:

(A) The wastes for which the demonstration will be made and the potential dangerous constituents in the waste;

(B) The data sources to be used to make the demonstration (e.g., literature, laboratory data, field data, or operating data);

(C) Any specific laboratory or field test that will be conducted, including:

(I) The type of test (e.g., column leaching, degradation);

(II) Materials and methods, including analytical procedures;

(III) Expected time for completion; and

(IV) Characteristics of the unit that will be simulated in the demonstration, including treatment zone characteristics, climatic conditions, and operating practices;

(ii) A description of a land treatment program, as required under WAC 173-303-655(2). This information must be submitted with the plans for the treatment demon-

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stration, and updated following the treatment demonstration. The land treatment program must address the following items:

(A) The wastes to be land treated;

(B) Design measures and operating practices necessary to maximize treatment in accordance with WAC 173-303-655 (4)(a) including:

(I) Waste application method and rate;

(II) Measures to control soil pH;

(III) Enhancement of microbial or chemical reactions; and

(IV) Control of moisture content;

(C) Provisions for unsaturated zone monitoring, including:

(I) Sampling equipment, procedures, and frequency;

(II) Procedures for selecting sampling locations;

(III) Analytical procedures;

(IV) Chain of custody control;

(V) Procedures for establishing background values;

(VI) Statistical methods for interpreting results; and

(VII) The justification for any dangerous constituents recommended for selection as principal dangerous constituents, in accordance with the criteria for such selection in WAC 173-303-655 (6)(a);

(D) A list of dangerous constituents reasonably expected to be in, or derived from, the wastes to be land treated based on waste analysis performed pursuant to WAC 173-303-300;

(E) The proposed dimensions of the treatment zone;

(iii) A description of how the unit is or will be designed, constructed, operated, and maintained in order to meet the requirements of WAC 173-303-655(4). This submission must address the following items:

(A) Control of run-on;

(B) Collection and control of run-off;

(C) Minimization of run-off of dangerous constituents from the treatment zone;

(D) Management of collection and holding facilities associated with run-on and run-off control systems;

(E) Periodic inspection of the unit. This information should be included in the inspection plan submitted under (a)(v) of this subsection; and

(F) Control of wind dispersal of particulate matter, if applicable;

(iv) If food-chain crops are to be grown in or on the treatment zone of the land treatment unit, a description of how the demonstration required under WAC 173-303-655(5) will be conducted including:

(A) Characteristics of the food-chain crop for which the demonstration will be made;

(B) Characteristics of the waste, treatment zone, and waste application method and rate to be used in the demonstration;

(C) Procedures for crop growth, sample collection, sample analysis, and data evaluation;

(D) Characteristics of the comparison crop including the location and conditions under which it was or will be grown; and

(E) If cadmium is present in the land treated waste, a description of how the requirements of WAC 173-303-655 (5)(b) will be complied with;

(v) A description of the vegetative cover to be applied to closed portions of the facility, and a plan for maintaining such cover during the post-closure care period, as required under WAC 173-303-655 (8)(a)(viii) and (c)(ii). This information should be included in the closure plan and, where applicable, the post-closure care plan submitted under (a)(xiii) of this subsection;

(vi) If ignitable or reactive wastes will be placed in or on the treatment zone, an explanation of how the requirements of WAC 173-303-655(9) will be complied with; and

(vii) If incompatible wastes, or incompatible wastes and materials, will be placed in or on the same treatment zone, an explanation of how WAC 173-303-655(10) will be complied with.

(viii) Where applicable, a waste management plan for Dangerous Waste Nos. F020, F021, F022, F023, F026, or F027 describing how a land treatment facility is or will be designed, constructed, operated, and maintained to meet the requirements of WAC 173-303-655(12).

(h) Specific Part B information requirements for landfills. Except as otherwise provided in WAC 173-303-600(3), owners and operators of facilities that dispose of dangerous waste in landfills must provide the following additional information;

(i) A list of the dangerous wastes placed or to be placed in each landfill or landfill cell;

(ii) Detailed plans and an engineering report describing how the landfill is designed, and is or will be constructed, operated and maintained to comply with the requirements of WAC 173-303-335, 173-303-665 (2), (8) and (9) addressing the following items:

(A)(I) The liner system (except for an existing portion of a landfill), if the landfill must meet the requirements of WAC 173-303-665 (2)(a), including the licensed engineer's certification required by WAC 173-303-665 (2)(a)(i). If an exemption from the requirements for a liner and a leachate collection and removal system is sought, as provided by WAC 173-303-665 (2)(b), submit detailed plans and engineering and hydrogeologic reports, as appropriate, describing alternate designs and operating practices that will, in conjunction with location aspects, prevent the migration of any dangerous constituent into the ground water or surface water at any future time;

(II) The double liner and leak (leachate) detection, collection, and removal system, if the landfill must meet the requirements of WAC 173-303-665 (2)(h). If an exemption from the requirements for double liners and a leak detection, collection, and removal system or alternative design is sought as provided by WAC 173-303-665 (2)(j), (k) or (l), submit appropriate information;

(III) If the leak detection system is located in a saturated zone, submit detailed plans and an engineering report explaining the leak detection system design and operation, and the location of the saturated zone in relation to the leak detection system;

(IV) The construction quality assurance (CQA) plan if required under WAC 173-303-335;

(V) Proposed action leakage rate, with rationale, if required under WAC 173-303-665(8), and response action plan, if required under 173-303-665(9);

(B) Control of run-on;

(C) Control of run-off;

(D) Management of collection and holding facilities associated with run-on and run-off control systems; and

(E) Control of wind dispersal of particulate matter, where applicable;

(iii) Reserve.

(iv) A description of how each landfill, including the double liner system, leachate collection and removal system, cover systems, and appurtenances for control for run-on and run-off will be inspected in order to meet the requirements of WAC 173-303-665(4). This information must be included in the inspection plan submitted under (a)(v) of this subsection;

(v) Detailed plans and an engineering report describing the final cover which will be applied to each landfill or landfill cell at closure in accordance with WAC 173-303-665 (6)(a), and a description of how each landfill will be maintained and monitored after closure in accordance with WAC 173-303-665 (6)(b) and (c). This information should be included in the closure and post-closure plans submitted under (a)(xiii) of this subsection;

(vi) If incompatible wastes, or incompatible wastes and materials will be landfilled, an explanation of how WAC 173-303-665(7) will be complied with;

(vii) A description of how each landfill will be designed and operated in order to comply with WAC 173-303-140.

(i) Specific Part B information requirements for miscellaneous units. Except as otherwise provided in WAC 173-303-680(1), owners and operators of facilities that treat, store, or dispose of dangerous waste in miscellaneous units must provide the following additional information:

(i) A detailed description of the unit being used or proposed for use, including the following:

(A) Physical characteristics, materials of construction, and dimensions of the unit;

(B) Detailed plans and engineering reports describing how the unit will be located, designed, constructed, operated, maintained, monitored, inspected, and closed to comply with the requirements of WAC 173-303-680 (2) and (3); and

(C) For disposal units, a detailed description of the plans to comply with the postclosure requirements of WAC 173-303-680(4).

(ii) Detailed hydrologic, geologic, and meteorologic assessments and land-use maps for the region surrounding the site that address and ensure compliance of the unit with each factor in the environmental performance standards of WAC 173-303-680(2). If the applicant can demonstrate that he does not violate the environmental performance standards of WAC 173-303-680(2) and the department agrees with such demonstration, preliminary hydrologic, geologic, and meteorologic assessments will suffice.

(iii) Information on the potential pathways of exposure of humans or environmental receptors to dangerous waste or dangerous constituents and on the potential magnitude and nature of such exposures.

(iv) For any treatment unit, a report on a demonstration of the effectiveness of the treatment based on laboratory or field data.

(v) Any additional information determined by the department to be necessary for evaluation of compliance of the unit with the environmental performance standards of WAC 173-303-680(2).

(j) Specific Part B information requirements for process vents. Except as otherwise provided in WAC 173-303-600(3), owners and operators of facilities that have process vents to which WAC 173-303-690 applies must provide the following additional information:

(i) For facilities that cannot install a closed-vent system and control device to comply with the provisions of WAC 173-303-690 on the effective date that the facility becomes subject to the provisions of WAC 173-303-690 or 40 CFR 265 Subpart AA incorporated by reference at WAC 173-303-400 (3)(a), an implementation schedule as specified in 40 CFR section 264.1033 (a)(2).

(ii) Documentation of compliance with the process vent standards in 40 CFR section 264.1032, including:

(A) Information and data identifying all affected process vents, annual throughput and operating hours of each affected unit, estimated emission rates for each affected vent and for the overall facility (i.e., the total emissions for all affected vents at the facility), and the approximate location within the facility of each affected unit (e.g., identify the dangerous waste management units on a facility plot plan).

(B) Information and data supporting estimates of vent emissions and emission reduction achieved by add-on control devices based on engineering calculations or source tests. For the purpose of determining compliance, estimates of vent emissions and emission reductions must be made using operating parameter values (e.g., temperatures, flow rates, or concentrations) that represent the conditions that exist when the waste management unit is operating at the highest load or capacity level reasonably expected to occur.

(C) Information and data used to determine whether or not a process vent is subject to the requirements of 40 CFR section 264.1032.

(iii) Where an owner or operator applies for permission to use a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system to comply with the requirements of 40 CFR 264.1032, and chooses to use test data to determine the organic removal efficiency or the total organic compound concentration achieved by the control device, a performance test plan as specified in 40 CFR 264.1035 (b)(3).

(iv) Documentation of compliance with 40 CFR 264.1033, including:

(A) A list of all information references and sources used in preparing the documentation.

(B) Records, including the dates, of each compliance test required by 40 CFR 264.1033(k).

(C) A design analysis, specifications, drawings, schematics, and piping and instrumentation diagrams based on the appropriate sections of "APTI Course 415: Control of Gaseous Emissions" (WAC 173-303-110 (3)(g)(viii)) or other engineering texts acceptable to the department that present basic control device design information. The design analysis will address the vent stream characteristics and control device operation parameters as specified in 40 CFR 264.1035 (b)(4)(iii).

(D) A statement signed and dated by the owner or operator certifying that the operating parameters used in the design analysis reasonably represent the conditions that exist when the dangerous waste management unit is or would be operating at the highest load or capacity level reasonably expected to occur.

(E) A statement signed and dated by the owner or operator certifying that the control device is designed to

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operate at an efficiency of 95 weight percent or greater unless the total organic emission limits of 40 CFR 264.1032(a) for affected process vents at the facility can be attained by a control device involving vapor recovery at an efficiency less than 95 weight percent.

(k) Specific Part B information requirements for equipment leaks. Except as otherwise provided in WAC 173-303-600(3), owners and operators of facilities that have equipment to which WAC 173-303-691 applies must provide the following additional information:

(i) For each piece of equipment to which WAC 173-303-691 applies:

(A) Equipment identification number and dangerous waste management unit identification.

(B) Approximate locations within the facility (e.g., identify the dangerous waste management unit on a facility plot plan).

(C) Type of equipment (e.g., a pump or pipeline valve).

(D) Percent by weight total organics in the hazardous waste stream at the equipment.

(E) Hazardous waste state at the equipment (e.g., gas/vapor or liquid).

(F) Method of compliance with the standard (e.g., "monthly leak detection and repair" or "equipped with dual mechanical seals").

(ii) For facilities that cannot install a closed-vent system and control device to comply with the provisions of WAC 173-303-691 on the effective date that the facility becomes subject to the provisions of WAC 173-303-691 or 40 CFR Part 265 Subpart BB incorporated by reference at WAC 173-303-400 (3)(a), an implementation schedule as specified in 40 CFR 264.1033 (a)(2).

(iii) Where an owner or operator applies for permission to use a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system and chooses to use test data to determine the organic removal efficiency or the total organic compound concentration achieved by the control device, a performance test plan as specified in 40 CFR section 264.1035 (b)(3).

(iv) Documentation that demonstrates compliance with the equipment standards in 40 CFR sections 264.1052 to 264.1059. This documentation will contain the records required under 40 CFR 264.1064. The department may request further documentation before deciding if compliance has been demonstrated.

(v) Documentation to demonstrate compliance with 40 CFR section 264.1060 will include the following information:

(A) A list of all information references and sources used in preparing the documentation.

(B) Records, including the dates, of each compliance test required by 40 CFR 264.1033(j).

(C) A design analysis, specifications, drawings, schematics, and piping and instrumentation diagrams based on the appropriate sections of "ATPI Course 415: Control of Gaseous Emissions" (incorporated by reference as specified in WAC 173-303-110 (3)(g)(viii)) or other engineering texts acceptable to the department that present basic control device design information. The design analysis will address the vent stream characteristics and control device operation parameters as specified in 40 CFR 264.1035 (b)(4)(iii).

(D) A statement signed and dated by the owner or operator certifying that the operating parameters used in the design analysis reasonably represent the conditions that exist when the dangerous waste management unit is operating at the highest load or capacity level reasonably expected to occur.

(E) A statement signed and dated by the owner or operator certifying that the control device is designed to operate at an efficiency of 95 weight percent or greater.

(l) Special Part B information requirements for drip pads.

Except as otherwise provided by WAC 173-303-600(3), owners and operators of dangerous waste treatment, storage, or disposal facilities that collect, store, or treat hazardous waste on drip pads must provide the following additional information:

(i) A list of hazardous wastes placed or to be placed on each drip pad.

(ii) If an exemption is sought to WAC 173-303-645, as provided by WAC 173-303-645(1), detailed plans and an engineering report describing how the requirements of WAC 173-303-645 (1)(b) will be met.

(iii) Detailed plans and an engineering report describing how the drip pad is or will be designed, constructed, operated and maintained to meet the requirements of WAC 173-303-675(4), including the as-built drawings and specifications. This submission must address the following items as specified in WAC 173-303-675(2):

(A) The design characteristics of the drip pad;

(B) The liner system;

(C) The leakage detection system, including the leak detection system and how it is designed to detect the failure of the drip pad or the presence of any releases of hazardous waste or accumulated liquid at the earliest practicable time;

(D) Practices designed to maintain drip pads;

(E) The associated collection system;

(F) Control of run-on to the drip pad;

(G) Control of run-off from the drip pad;

(H) The interval at which drippage and other materials will be removed from the associated collection system and a statement demonstrating that the interval will be sufficient to prevent overflow onto the drip pad;

(I) Procedures for cleaning the drip pad at least once every seven days to ensure the removal of any accumulated residues of waste or other materials, including but not limited to rinsing, washing with detergents or other appropriate solvents, or steam cleaning and provisions for documenting the date, time, and cleaning procedure used each time the pad is cleaned.

(J) Operating practices and procedures that will be followed to ensure that tracking of hazardous waste or waste constituents off the drip pad due to activities by personnel or equipment is minimized;

(K) Procedures for ensuring that, after removal from the treatment vessel, treated wood from pressure and nonpressure processes is held on the drip pad until drippage has ceased, including recordkeeping practices;

(L) Provisions for ensuring that collection and holding units associated with the run-on and run-off control systems are emptied or otherwise managed as soon as possible after storms to maintain design capacity of the system;

(M) If treatment is carried out on the drip pad, details of the process equipment used, and the nature and quality of the residuals.

(N) A description of how each drip pad, including appurtenances for control of run-on and run-off, will be inspected in order to meet the requirements of WAC 173-303-675(4). This information should be included in the inspection plan submitted under (a)(v) of this subsection.

(O) A certification signed by an independent qualified, registered professional engineer, stating that the drip pad design meets the requirements of WAC 173-303-675 (4)(a) through (f).

(P) A description of how hazardous waste residues and contaminated materials will be removed from the drip pad at closure, as required under WAC 173-303-675 (6)(a). For any waste not to be removed from the drip pad upon closure, the owner or operator must submit detailed plans and an engineering report describing how WAC 173-303-665(6) will be complied with. This information should be included in the closure plan and, where applicable, the post-closure plan submitted under (a)(xiii) of this subsection.

(5) Construction. A person may begin physical construction of a new facility, or of new portions of an existing facility if the new portions would amount to reconstruction under interim status (WAC 173-303-805(7)), only after complying with WAC 173-303-281, submitting Part A and Part B of the permit application and receiving a final facility permit. All permit applications must be submitted at least one hundred eighty days before physical construction is expected to begin.

(6) Reapplications. Any dangerous waste facility with an effective final facility permit must submit a new application one hundred eighty days prior to the expiration date of the effective permit, unless the department grants a later date provided that such date will never be later than the expiration date of the effective permit.

(7) Continuation of expiring permits.

(a) When the owner/operator submits a timely application for a final facility permit and the application is determined by the department to be complete pursuant to subsection (8) of this section, the facility is allowed to continue operating under the expiring or expired permit until the effective date of the new permit.

(b) When the facility is not in compliance with the conditions of the expiring or expired permit, the department may choose to do any of the following:

(i) Initiate enforcement action based upon the permit which has been continued;

(ii) Issue a notice of intent to deny the new permit. If the permit is denied, the owner or operator would then be required to cease the activities authorized by the continued permit or be subject to enforcement action for operating without a permit;

(iii) Issue a new permit with appropriate conditions; and/or

(iv) Take other actions authorized by this chapter.

(8) Completeness. The department will not issue a final facility permit before receiving a complete application, except for permits by rule or emergency permits. An application for a permit is complete when the application form and any supplemental information has been submitted to the department's satisfaction. The completeness of any application for a permit will be judged independently of the status of any other permit application or permit for the same facility or activity. The department may deny a permit for the active life of a dangerous waste management facility or unit before receiving a complete application for a permit.

(9) Recordkeeping. Applicants must keep records of all data used to complete the permit applications, and any supplemental information submitted to the department for a period of at least three years from the date the application is signed.

(10) General permit conditions. All final facility permits will contain general permit conditions described in WAC 173-303-810.

(11) Permit duration.

(a) Final facility permits will be effective for a fixed term not to exceed ten years.

(b) The department may issue any final facility permit for a duration that is less than the full allowable term.

(c) The term of a final facility permit will not be extended beyond ten years, unless otherwise authorized under subsection (7) of this section.

(d) Each permit for a land disposal facility ((~~may~~)) will be reviewed by the department five years after the date of permit issuance or reissuance and will be modified as necessary, as provided in WAC 173-303-830(3).

(12) ((~~Grounds for termination. The following are causes for terminating a final facility permit during its term:~~

~~(a) Noncompliance by the permittee with any condition of the permit;~~

~~(b) The permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant facts at any time; or~~

~~(c) A determination that the permitted activity endangers public health or the environment and the hazard can only be controlled by permit modification or termination~~)) Reserve.

(13) Grounds for denial. A permit application will be denied pursuant to the procedures in WAC 173-303-840 if it is determined that the proposed location and/or activity endangers public health and the environment as demonstrated by the permit applicant's failure to satisfy the performance standards of WAC 173-303-283.

(14) Permit changes. All final facility permits will be subject to the requirements of permit changes, WAC 173-303-830.

(15) Procedures for decision making. Issuance of final facility permits will be subject to the procedures for decision making described in WAC 173-303-840.

(16) Other requirements for final recycling facility permits. In lieu of issuing a final recycling facility permit, the department may, after providing opportunity for public comment in accordance with WAC 173-303-840, defer to a permit already issued under other statutory authority administered by the department (such as the State Water Pollution Control Act, chapter 90.48 RCW, the State Clean Air Act, chapter 70.94 RCW, etc.) which incorporates the requirements of this section, and WAC 173-303-500 through 173-303-525 for recycling facilities.

PROPOSED

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-807 Trial burns for dangerous waste incinerator final facility permits.** (1) Purpose and applicability. For purposes of determining operational readiness and establishing conditions in final facility permits for dangerous waste incinerators, the department may approve trial burns. Trial burns may not exceed seven hundred twenty hours operating time, except that the department may extend the duration of this operational period once, up to seven hundred twenty additional hours, at the request of the owner/operator of the incinerator when good cause is shown. The permit may be modified to reflect the extension according to WAC 173-303-830(4). The procedures for requesting and approving trial burns are described in:

(a) Subsection (10) of this section for existing incinerators with interim status permits; and

(b) Subsection (11) of this section for new incinerators and for incinerators with final facility permits in which the owner/operator wishes to burn new wastes not currently included in the permit.

(2) Trial burn plan. The trial burn must be conducted in accordance with a trial burn plan prepared by the applicant and approved by the department. The trial burn plan will then become a condition of the permit and will include the following information:

(a) An analysis of each waste or mixture of waste to be burned which includes:

(i) Heating value of the waste in the form and composition in which it will be burned;

(ii) Viscosity (if applicable), or description of physical form of the waste, and specific gravity of the waste;

(iii) An analysis identifying any dangerous organic constituents listed in WAC 173-303-9905, and any other dangerous constituents which, although not listed, caused the waste to be regulated as a dangerous waste, which are reasonably expected to be present in the waste to be burned. The constituents excluded from analysis must be identified and the basis for their exclusion stated. The waste analysis must rely on analytical techniques specified or referenced in WAC 173-303-110 (3)(a), or their equivalent;

(iv) An approximate quantification of the dangerous constituents identified in the waste, within the precision produced by the analytical methods specified or referenced in WAC 173-303-110 (3)(a); and

(v) A quantification of those dangerous constituents in the waste which may be designated as principal organic dangerous constituents (PODC) based on data submitted from other trial or operational burns which demonstrate compliance with the performance standard in WAC 173-303-670(4);

(b) A detailed engineering description of the incinerator for which the trial burn permit is sought including:

(i) Manufacturer's name and model number of incinerator (if available);

(ii) Type of incinerator;

(iii) Linear dimensions of the incinerator unit including the cross sectional area of the combustion chamber;

(iv) Description of the auxiliary fuel system (type/feed);

(v) Capacity of the prime air mover;

(vi) Description of automatic waste feed cutoff system(s);

(vii) Stack gas monitoring and pollution control equipment;

(viii) Nozzle and burner design;

(ix) Construction materials; and

(x) Location and description of temperature, pressure, and flow indicating and control devices;

(c) A detailed description of sampling and monitoring procedures, including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis;

(d) A detailed test schedule for each waste for which the trial burn is planned including date(s), duration, quantity of waste to be burned, and other factors relevant to the department's decision under subsection (5) of this section;

(e) A detailed test protocol, including, for each waste identified, the ranges of temperature, waste feed rate, air feed rate, use of auxiliary fuel, and other relevant parameters that will be varied to affect the destruction and removal efficiency of the incinerator;

(f) A description of, and planned operating conditions for, any emission control equipment which will be used;

(g) Procedures for rapidly stopping waste feed, shutting down the incinerator, and controlling emissions in the event of an equipment malfunction;

(h) A detailed test protocol to sample and analyze the following for designation under WAC 173-303-070:

(i) Any incinerator ash residue collected in the incinerator; and

(ii) Any residues collected in the air pollution control devices; and

(i) Such other information as the department reasonably finds necessary to determine whether to approve the trial burn plan in light of the purposes of this section.

(3) Additional information required. The department, in reviewing the trial burn plan, will evaluate the adequacy of the information provided and may require the applicant to supplement this information, if necessary, to achieve the purposes of this section.

(4) Trial PODCs. Based on the waste analysis data in the trial burn plan, the department will specify as trial principal organic dangerous constituents (trial PODCs) those constituents for which destruction and removal efficiencies must be calculated during the trial burn. These trial PODCs will be specified by the department based on its estimate of the difficulty of incineration of the constituents identified in the waste analysis, the concentration or mass in the waste feed, and the dangerous waste constituent or constituents identified in WAC 173-303-9905, or identified as causing the waste to be regulated as a dangerous waste.

(5) Approval of the plan. The department will approve a trial burn plan if it finds that:

(a) The trial burn is likely to determine whether the incinerator performance standard required by WAC 173-303-670(4) can be met;

(b) The trial burn itself will not present an imminent hazard to public health or the environment;

(c) The trial burn will help the department to determine operating requirements to be specified under WAC 173-303-670(6); and

(d) The information sought in (a), (b), and (c) of this subsection cannot reasonably be developed through other means.

(6) Trial burns. During each approved trial burn (or as soon after the burn as is practicable), the applicant must make the following determinations:

(a) A quantitative analysis of the trial PODCs in the waste feed to the incinerator;

(b) A quantitative analysis of the exhaust gas for the concentration and mass emissions of the trial PODCs, $O_2$, hydrogen chloride (HCl), carbon monoxide (CO) and dangerous combustion byproducts, including the total mass emission rate of byproducts as a percent of the total mass feed rate of PODCs fed to the incinerator;

(c) A quantitative analysis of the scrubber water (if any), ash residues, and other residues, for the purpose of estimating the fate of the trial PODCs and whether they are designated according to WAC 173-303-070;

(d) A total mass balance of the trial PODCs in the waste;

(e) A computation of destruction and removal efficiency (DRE), in accordance with the DRE formula specified in WAC 173-303-670 (4)(a);

(f) If the HCl emission rate exceeds 1.8 kilograms of HCl per hour (4 pounds per hour), a computation of HCl removal efficiency in accordance with WAC 173-303-670 (4)(c)(i);

(g) A computation of particulate emissions, in accordance with WAC 173-303-670 (4)(c)(ii);

(h) An identification of sources of fugitive emissions and their means of control;

(i) A measurement of average, maximum, and minimum temperatures, and combustion gas velocity;

(j) A continuous measurement of carbon monoxide in the exhaust gas;

(k) An identification of any existing air emission standards where a state or local air pollution control authority has established emission standards and such standards are applicable to the incinerator; and

(l) Such other information as the department may specify as necessary to ensure that the trial burn will determine compliance with the performance standard of WAC 173-303-670(4), and to establish the operating conditions required by WAC 173-303-670(6).

(7) Certification. The applicant must submit to the department a certification that the trial burn has been carried out in accordance with the approved trial burn plan, and must submit the results of all determinations required by subsection (6) of this section. This submission must be made within thirty days of the completion of the trial burn, or later if approved by the department.

(8) Submission of data. All data collected during any trial burn must be submitted to the department following the completion of the trial burn.

(9) Signatures required. All submissions required under this section must be certified on behalf of the applicant by the signature of a person authorized to sign a permit application under WAC 173-303-810(12).

(10) Existing incinerators with interim status permits.

(a) The owner/operator of an existing incinerator currently operating under an interim status permit may, when required by the department (or when he chooses) to apply for a final facility permit, request the department to approve of a trial burn. The trial burn may be requested for the purposes of determining feasibility of compliance with the performance standards of WAC 173-303-670(4) and the operating conditions of WAC 173-303-670(6). If a trial burn is requested, the owner/operator must prepare and submit a trial burn plan and, upon approval by the department, perform a trial burn in accordance with subsections (2) through (9) of this section.

(b) If the department approves the trial burn, it will issue a notice of interim status modification granting such approval and specifying the conditions applicable to the trial burn. The notice of modification will be a condition of the interim status permit. Note: The national emission standards for hazardous air pollutants may require review for a notice of construction. Owners and operators should consult chapter 173-400 WAC or local air pollution control agency regulations for applicability.

(c) If the trial burn is approved before submitting a final facility permit application, the owner/operator must complete the trial burn and submit the information described in subsection (6) of this section, with Part B of the permit application. If completion of this process conflicts with the date set for submission of Part B of the final facility permit application, the owner/operator must contact the department to extend the date for submitting the Part B or the trial burn results. If the applicant submits a trial burn plan with Part B of the final facility permit application, the department will specify in the notice of interim status modification issued under (b) of this subsection, a time period for conducting the trial burn and submitting the results. Trial burn results must be submitted prior to the issuance of the permit.

(11) New incinerators and new wastes.

(a)(i) The owner/operator of a new incinerator may submit with Part B of a final facility permit application a request for approval of a trial burn. This request must include a statement of why the trial burn is desirable, and a trial burn plan prepared in accordance with subsection (2) of this section.

(ii) The department will proceed to issue a final facility permit in accordance with WAC 173-303-806. The permit will include the trial burn plan, and will establish operating conditions for the trial burn including but not limited to those described in WAC 173-303-670(6). The time period for conducting the trial burn and submitting the results will also be specified in the permit.

(iii) After the trial burn has been completed and the results submitted to the department, the final facility permit will be modified in accordance with WAC 173-303-830(4) to establish the final operating requirements and performance standards for the incinerator.

(b) The owner/operator of an incinerator with a final facility permit who wishes to burn new wastes not currently included in his permit may request approval of a trial burn for the new wastes. The request and approval will be handled in the same way as described in (a) of this subsection, except that in lieu of issuing an entirely new final facility permit the department will modify the existing final facility permit in accordance with WAC 173-303-830.

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AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-810 General permit conditions.** (1) Purpose and applicability. This section sets forth the general permit conditions that are applicable to all permits, except interim status permits and permits by rule, to assure compliance with this chapter. If the conditions of this section are incorporated in a permit by reference, a specific citation to this section must be given in the permit.

(2) Duty to comply. The permittee must comply with all conditions of his permit. Any permit noncompliance constitutes a violation and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. The permittee need not comply with the conditions of his permit to the extent and for the duration such noncompliance is authorized in an emergency permit.

(3) Duty to reapply. If the permittee wishes to continue an activity regulated by the permit after its expiration date, the permittee must apply for and obtain a new permit.

(4) Duty to halt or reduce activity. A permittee who has not complied with his permit, and who subsequently is subject to enforcement actions, may not argue that it would have been necessary to halt or reduce the permitted activities in order to maintain compliance with the conditions of the permit.

(5) Duty to mitigate. The permittee must take all steps required by the department to minimize or correct any adverse impact on the environment resulting from noncompliance with the permit.

(6) Proper operation and maintenance. The permittee must at all times properly operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the conditions of the permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

(7) Permit actions. The permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, notification of planned changes, or anticipated noncompliance, does not stay any permit condition.

(8) Effect of a permit.

(a) Compliance with a final facility permit during its term constitutes compliance for the purpose of enforcement with chapter 173-303 WAC except for permit modifications and those requirements not included in the permit which:

(i) Become effective by statute;

(ii) Are promulgated under 40 CFR Part 268 restricting the placement of dangerous waste in or on the land; or

(iii) Are promulgated under WAC 173-303-650 through 173-303-665 regarding leak detection systems for new and replacement surface impoundment, waste pile, and landfill units, and lateral expansions of surface impoundment, waste pile, and landfill units. The leak detection system requirements include double liners, CQA programs, monitoring, action leakage rates, and response action plans, and will be implemented through the procedures of WAC 173-303-830 Class *1 permit modifications.

(b) The issuance of a permit does not convey any property rights of any sort, or any exclusive privilege.

(c) The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local laws or regulations.

(9) Duty to provide information. The permittee must furnish to the department, within a reasonable time, any information which it may request to determine whether cause exists for modifying, revoking and reissuing, or terminating a permit, or to determine compliance with a permit. The permittee must also furnish to the department, upon request, copies of records required to be kept by the permit.

(10) Inspection and entry. The permittee must allow representatives of the department, upon the presentation of proper credentials, to:

(a) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;

(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;

(c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under the permit; and

(d) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by chapter 173-303 WAC, any substances or parameters at any location.

(11) Monitoring and monitoring records.

(a) ((~~All permits will specify:~~

~~(i) Requirements concerning the proper use, maintenance, and installation, when appropriate, of monitoring equipment or methods; and~~

~~(ii) Required monitoring including type, intervals, and frequency sufficient to yield data which are representative of the monitored activity including, when appropriate, continuous monitoring.~~)) Reserve.

(b) Samples and measurements taken for the purpose of monitoring must be representative of the monitored activity.

(c) The permittee must retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report, or application. This period may be extended by request of the department at any time.

(d) Records of monitoring information must include:

(i) The date, exact place, and time of sampling or measurements;

(ii) The individual(s) who performed the sampling or measurements;

(iii) The date(s) analyses were performed;

(iv) The individual(s) who performed the analyses;

(v) The analytical techniques or methods used; and

(vi) The results of such analyses.

(e) The permittee must maintain ((~~all~~)) records ((~~of~~)) from all ground water ((~~quality and~~)) monitoring wells and associated ground water surface elevations for the active life of the facility, and for disposal facilities for the post-closure period as well.

(12) Signatory requirement. All applications, reports, or information submitted to the department must be signed in accordance with this subsection and must be certified according to subsection (13) of this section.

(a) Applications. When a dangerous waste facility is owned by one person, but is operated by another person, then the operator will be the permit applicant and responsible for developing the permit application and all accompanying materials, except that the owner must also sign and certify the permit application. Permit applications must be signed as follows:

(i) For a corporation: By a responsible corporate officer. For the purposes of this subsection, a responsible corporate officer means:

(A) A president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or

(B) The manager of one or more manufacturing, production or operating facilities employing more than two hundred fifty persons or having gross annual sales or expenditures exceeding twenty-five million dollars (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

(ii) For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or

(iii) For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this subsection, a principal executive officer of a federal agency includes:

(A) The chief executive officer of the agency; or

(B) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

(b) Reports. All reports required by permits and other information requested by the department must be signed by a person described in (a) of this subsection, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(i) The authorization is made in writing by a person described in (a) of this subsection;

(ii) The authorization specifies either an individual or a position having responsibility for overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

(iii) The written authorization is submitted to the department.

(c) Changes to authorization. If an authorization under (b) of this subsection is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of (b) of this subsection must be submitted to the department prior to or together with any reports, information, or applications to be signed by an authorized representative.

(13) Certification.

(a) Except as provided in (b) of this subsection, any person signing the documents required under (a) or (b) of subsection (12) of this section must make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

(b) When a dangerous waste facility is owned by one person, but is operated by another person, then the permit application must be certified as follows:

(i) The operator must make the certification described under (a) of this subsection; and

(ii) The owner must make the following certification:

"I certify under penalty of law that I own the real property described in, and am aware of the contents of, this permit application, and that I have received a copy of this application. As owner of the real property, I understand that I am responsible for complying with any requirements of chapter 173-303 WAC with which only I am able to comply, and that there are significant penalties for failure to comply with such requirements."

(14) Reporting. The following reports must be provided:

(a) Planned changes. The permittee must give notice to the department as soon as possible of any planned physical alterations or additions to the permitted facility. For a new TSD facility and for a facility being modified, the permittee may not treat, store, or dispose of dangerous waste in the new or modified portion of the facility until:

(i) The permittee has submitted to the department by certified mail or hand delivery a letter signed by the permittee and a registered professional engineer stating that the facility has been constructed or modified in compliance with the permit; and either

(Note: In certifying construction or modification, the independent qualified registered professional engineer is responsible only for certifying those portions of the facility which are identified in chapter 173-303 WAC as specifically requiring certification by an independent registered professional engineer.)

((~~and either~~))

(ii) The department has inspected the modified or newly constructed facility and finds it is in compliance with the conditions of the permit; or

(iii) Within fifteen days of the date of submission of the letter, the permittee has not received notice from the department of its intent to inspect, prior inspection is waived and the permittee may commence treatment, storage, or disposal of dangerous waste.

(b) Anticipated noncompliance. The permittee must give advance notice to the department of any planned changes in the permitted facility or activity which may result

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in noncompliance with permit requirements. For a new facility, the permittee may not treat, store, or dispose of dangerous waste; and for a facility being modified, the permittee may not treat, store, or dispose of dangerous waste in the modified portion of the facility except as provided in WAC 173-303-830(4).

(c) Transfers. The permit is not transferable to any person except after notice to the department. The department may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary.

(d) Monitoring reports. Monitoring results (including monitoring of the facility's impacts as required by the applicable sections of this chapter) must be reported at the intervals specified elsewhere in the permit.

(e) Compliance schedules. Reports of permit compliance or noncompliance or any progress reports on interim and final permit requirements contained in any compliance schedule must be submitted no later than fourteen days following each scheduled date.

(f) Immediate reporting. The permittee must immediately report any noncompliance which may endanger health or the environment. Information must be provided orally to the department as soon as the permittee becomes aware of the circumstances. A written submission must also be provided within five days of the time the permittee becomes aware of the circumstances provided that the department may waive the written submission requirement in favor of a written report, to be submitted within fifteen days. The written submission must contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

Information which must be reported immediately must include:

(i) Release of dangerous waste that may cause an endangerment to drinking water supplies or ground or surface waters;

(ii) Any information of a release or discharge of dangerous waste, fire, or explosion from the permitted facility which could threaten the environment or human health outside the facility;

(iii) The following description of any such occurrence:

(A) Name, address, and telephone number of the owner or operator;

(B) Name, address, and telephone number of the facility;

(C) Date, time, and type of incident;

(D) Name and quantity of material(s) involved;

(E) The extent of injuries, if any;

(F) An assessment of actual or potential hazards to the environment and human health outside the facility, where this is applicable; and

(G) Estimated quantity and disposition of recovered material that resulted from the incident.

(g) Other noncompliance. The permittee must report all instances of noncompliance not reported under (d), (e), and (f) of this subsection, at the time monitoring reports are submitted. The reports shall contain the information listed in (f) of this subsection.

(h) Other information. Where the permittee becomes aware that he failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the department, he must promptly submit this information.

(i) Other reports. In addition, the following reports are required when appropriate:

(i) Manifest discrepancy report as required by WAC 173-303-370(4);

(ii) Unmanifested waste report as required by WAC 173-303-390(1); and

(iii) Annual report as required by WAC 173-303-390(2).

(15) Confidentiality.

(a) Information submitted by the owner/operator of a facility identified as confidential will be treated in accordance with chapter 42.17 RCW and RCW 43.21A.160.

(b) Proprietary information can be held confidential if:

(i) The processes are unique to the owner/operator's business or the owner/operator's competitive position may be adversely affected if the information is released to the public or to a competitor; and

(ii) The director determines that granting the owner/operator's request is not detrimental to the public interest and is in accord with the policies and purposes of chapter 43.21A RCW.

(c) Claims of confidentiality for permit application information must be substantiated at the time the application is submitted and in the manner prescribed in the application instructions. Claims of confidentiality for the name and address of any permit applicant will be denied.

(d) If a submitter does not provide substantiation, the department will notify the owner/operator by certified mail of the requirement to do so. If the department does not receive the substantiation within ten days after the submitter receives the notice, the department will place the unsubstantiated information in the public file.

(e) The department will determine if the owner/operator's request meets the confidential information criteria.

AMENDATORY SECTION (Amending Order DE 83-36, filed 4/18/84)

**WAC 173-303-815 ((~~Reserved.~~)) Facility-specific permit conditions. (1) Requirements for recording and reporting of monitoring results.**

All permits must specify:

(a) Requirements concerning the proper use, maintenance, and installation, when appropriate, of monitoring equipment or methods (including biological monitoring methods when appropriate);

(b) Required monitoring including type, intervals, and frequency sufficient to yield data which are representative of the monitored activity including, when appropriate, continuous monitoring;

(c) Applicable reporting requirements based upon the impact of the regulated activity and as specified in this chapter. Reporting must be no less frequent than specified in this chapter.

(2) **Establishing permit conditions.**

(a) In addition to conditions required in all permits (WAC 173-303-810 (1) through (14)), the director will establish conditions, as required on a case-by-case basis, in

permits under WAC 173-303-806(11) (duration of permits), WAC 173-303-815(3) (Schedules of compliance), and WAC 173-303-815(1) (monitoring).

(b)(i) Each permit must include permit conditions necessary to achieve compliance with the Hazardous Waste Management Act and this chapter. In satisfying this provision, the director may incorporate applicable requirements of this chapter directly into the permit or establish other permit conditions that are based on this chapter.

(ii) Each permit issued under this chapter must contain terms and conditions as the director determines necessary to protect human health and the environment.

(iii) For a state-issued permit, an applicable requirement is a state statutory or regulatory requirement that takes effect prior to final administrative disposition of a permit. (Note: For a permit issued by EPA, an applicable requirement is a statutory or regulatory requirement (including any interim final regulation) which takes effect prior to the issuance of the permit (except as provided in § 124.86(c) for RCRA permits being processed under Subpart E or F of part 124). Section 124.14 (reopening of comment period) provides a means for reopening EPA permit proceedings at the discretion of the director where new requirements become effective during the permitting process and are of sufficient magnitude to make additional proceedings desirable). For state and EPA administered programs, an applicable requirement is also any requirement that takes effect prior to the modification or revocation and reissuance of a permit, to the extent allowed in WAC 173-303-830(3).

(iv) New or reissued permits, and to the extent allowed under WAC 173-303-830(3), modified or revoked and reissued permits, must incorporate each of the applicable requirements referenced in this subsection and in WAC 173-303-810(11).

(v) Incorporation. All permit conditions must be incorporated either expressly or by reference. If incorporated by reference, a specific citation to the applicable regulations or requirements must be given in the permit.

(3) **Schedules of compliance.**

(a) The permit may, when appropriate, specify a schedule of compliance leading to compliance with this chapter.

(i) Time for compliance. Any schedules of compliance under this section require compliance as soon as possible.

(ii) Interim dates. Except as provided in (b)(i)(B) of this subsection, if a permit establishes a schedule of compliance which exceeds one year from the date of permit issuance, the schedule must set forth interim requirements and the dates for their achievement.

(A) The time between interim dates must not exceed one year.

(B) If the time necessary for completion of any interim requirement is more than one year and is not readily divisible into stages for completion, the permit must specify interim dates for the submission of reports of progress toward completion of the interim requirements and indicate a projected completion date.

(iii) Reporting. The permit must be written to require that no later than fourteen days following each interim date and the final date of compliance, the permittee must notify the director in writing, of its compliance or noncompliance with the interim or final requirements.

(b) Alternative schedules of compliance. A dangerous waste permit applicant or permittee may cease conducting regulated activities (by receiving a terminal volume of hazardous waste and, for treatment and storage dangerous waste management facilities, closing pursuant to applicable requirements; and, for disposal dangerous waste management facilities, closing and conducting post-closure care pursuant to applicable requirements) rather than continue to operate and meet permit requirements as follows:

(i) If the permittee decides to cease conducting regulated activities at a given time within the term of a permit which has already been issued:

(A) The permit may be modified to contain a new or additional schedule leading to timely cessation of activities; or

(B) The permittee shall cease conducting permitted activities before noncompliance with any interim or final compliance schedule requirement already specified in the permit.

(ii) If the decision to cease conducting regulated activities is made before issuance of a permit whose term will include the termination date, the permit shall contain a schedule leading to termination which will ensure timely compliance with applicable requirements.

(iii) If the permittee is undecided whether to cease conducting regulated activities, the director may issue or modify a permit to contain two schedules as follows:

(A) Both schedules shall contain an identical interim deadline requiring a final decision on whether to cease conducting regulated activities no later than a date which ensures sufficient time to comply with applicable requirements in a timely manner if the decision is to continue conducting regulated activities;

(B) One schedule shall lead to timely compliance with applicable requirements;

(C) The second schedule shall lead to cessation of regulated activities by a date which will ensure timely compliance with applicable requirements;

(D) Each permit containing two schedules shall include a requirement that after the permittee has made a final decision under (b)(iii)(A) of this subsection it shall follow the schedule leading to compliance if the decision is to continue conducting regulated activities, and follow the schedule leading to termination if the decision is to cease conducting regulated activities.

(iv) The applicant's or permittee's decision to cease conducting regulated activities shall be evidenced by a firm public commitment satisfactory to the director, such as resolution of the board of directors of a corporation.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-830 Permit changes.** (1) Purpose and applicability. This section describes the types of permit changes that may be made to all permits issued by the ((~~department~~)) director. This section does not apply to permits by rule or interim status permits.

(2) Transfer of permits.

(a) A permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued (under (b) of this subsection or

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subsection (3) of this section) to identify the new permittee and incorporate such other requirements as may be necessary under the appropriate act.

(b) Changes in the ownership or operational control of a facility may be made as a Class 1 modification with prior written approval of the ((~~department~~)) director in accordance with subsection (4) of this section. The new owner or operator must submit a revised permit application no later than ninety days prior to the scheduled change. A written agreement containing a specific date for transfer of permit responsibility between the current and new permittees must also be submitted to the ((~~department~~)) director. When a transfer of ownership or operational control occurs, the old owner or operator must comply with the requirements of WAC 173-303-620 (Financial requirements) until the new owner or operator has demonstrated that he or she is complying with the financial requirements. The new owner or operator must demonstrate compliance with the financial requirements within six months of the date of the change of ownership or operational control of the facility. Upon demonstration to the ((~~department~~)) director by the new owner or operator of compliance with the financial requirements, the ((~~department~~)) director will notify the old owner or operator that he or she no longer needs to comply with the financial requirements as of the date of demonstration.

(3) Modification or revocation and reissuance of permits. When the ((~~department~~)) director receives any information (for example, inspects the facility, receives information submitted by the permittee as required in the permit, receives a request for revocation and reissuance, or conducts a review of the permit file), the ((~~department~~)) director may determine whether or not one or more of the causes listed in (a) and (b) of this subsection for modification or revocation and reissuance or both exist. If cause exists, the ((~~department~~)) director may modify or revoke and reissue the permit accordingly, subject to the limitations of (c) of this subsection, and may request an updated application if necessary. When a permit is modified, only the conditions subject to modification are reopened. All other aspects of the existing permit remain in effect for the duration of the unmodified permit. If a permit is revoked and reissued, the entire permit is reopened and subject to revision and the permit is reissued for a new term. During any revocation and reissuance proceeding the permittee must comply with all conditions of the existing permit until a new final permit is reissued. If cause does not exist under this subsection, the ((~~department~~)) director will not modify or revoke and reissue the permit, except on request of the permittee. If a permit modification is requested by the permittee, the ((~~department~~)) director will approve or deny the request according to the procedures of subsection (4) of this section. Otherwise, a draft permit must be prepared and public review provided in accordance with WAC 173-303-840.

(a) Causes for modification. The following are causes for modification, but not revocation and reissuance, of permits((~~, unless agreed to or requested by the permittee~~)); the following may be causes for revocation and reissuance, as well as modification, when the permittee requests or agrees:

(i) Alterations. There are material and substantial alterations or additions to the permitted facility or activity which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit;

(ii) Information. Permits may be modified during their terms if the ((~~department~~)) director receives information that was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of different permit conditions at the time of issuance;

(iii) New statutory requirements or regulations. The standards or regulations on which the permit was based have been changed by statute, through promulgation of new or amended standards or regulations or by judicial decision after the permit was issued. ((~~Permits may be modified during their terms for this cause as follows:~~

~~(A) The department may modify the permit when the standards or regulations on which the permit was based have been changed by statute or amended standards or regulations.~~

~~(B) Permittee may request modification when:~~

~~(I) The permit condition requested to be modified was based on an effective regulation; and~~

~~(II) The department has revised, withdrawn, or modified that portion of the regulation on which the permit condition was based; and either~~

~~a. The department decides to modify the permit because there would be a potential threat to public health or the environment if the permit does not incorporate the requirements of the amended regulation; or~~

~~b. A permittee requests modification within ninety days after the date the regulation amendments are adopted;~~))

(iv) Compliance schedules. The ((~~department~~)) director determines good cause exists for modification of a compliance schedule, such as an act of God, strike, flood, or materials shortage, or other events over which the permittee has little or no control and for which there is no reasonably available remedy;

(v) ((~~Closure plans or postclosure. When modification of a closure or postclosure plan is required under WAC 173-303-610 (3) or (8);~~

~~(vi) Revocation of changes approved prior to notice of closure. After the department receives the notification of expected closure under WAC 173-303-610(3), the department may determine that previously approved changes are no longer warranted. These include:~~

~~(A) Extension of the ninety or one hundred eighty day periods under WAC 173-303-610(4);~~

~~(B) Modification of the thirty year postclosure period under WAC 173-303-610(7);~~

~~(C) Continuation of security requirements under WAC 173-303-610(7); or~~

~~(D) Permission to disturb the integrity of the containment system under WAC 173-303-610(7);~~

~~(vii) When the permittee has filed a request under WAC 173-303-620 for a variance to the level of financial responsibility or when the department demonstrates under WAC 173-303-620 that an upward adjustment of the level of financial responsibility is required;~~

~~(viii) When the corrective action program specified in the permit under WAC 173-303-645 has not brought the regulated unit into compliance with the ground water protection standard within a reasonable period of time;~~

~~(ix) To include a detection monitoring program meeting the requirements of WAC 173-303-645, when the owner or operator has been conducting a compliance monitoring program under WAC 173-303-645 or a corrective action program under WAC 173-303-645 and compliance period ends before the end of the postclosure care period for the unit;~~

~~(x) When a permit requires a compliance monitoring program under WAC 173-303-645, but monitoring data collected prior to permit issuance indicate that the facility is exceeding the ground water protection standard;~~

~~(xi) To include conditions applicable to units at a facility that were not previously included in the facility's permit;~~

~~(xii) When a land treatment unit is not achieving complete treatment of dangerous constituents under its current permit conditions; or~~

~~(xiii)~~)) Notwithstanding any other provision in this section, when a permit for a land disposal facility is reviewed by the ((~~department~~)) director under 173-303-806 (11)(d), the ((~~department~~)) director will modify the permit as necessary to assure that the facility continues to comply with the currently applicable requirements in this chapter.

(b) Causes for modification or revocation and reissuance. The following are causes to modify, or alternatively, revoke and reissue a permit:

(i) Cause exists for termination under WAC ((~~173-303-806(12)~~)) 173-303-830(5) for final facility permits, and the ((~~department~~)) director determines that modification or revocation and reissuance is appropriate; or

(ii) The ((~~department~~)) director has received notification of a proposed transfer of the permit.

(c) ((~~Facility siting. Suitability of the facility location will not be considered at the time of permit modification or revocation and reissuance unless new information or standards indicate that a threat to human health or the environment exists which was unknown at the time of permit issuance.~~)) Reserve.

(4) Permit modification at the request of the permittee.

(a) Class 1 modifications.

(i) Except as provided in (a)(ii) of this subsection, the permittee may put into effect Class 1 modifications listed in Appendix I of this section under the following conditions:

(A) The permittee must notify the ((~~department~~)) director concerning the modification by certified mail or other means that establish proof of delivery within seven calendar days after the change is put into effect. This notice must specify the changes being made to permit conditions or supporting documents referenced by the permit and must explain why they are necessary. Along with the notice, the permittee must provide the applicable information required by WAC 173-303-805, 173-303-806, 173-303-807, and 173-303-808.

(B) The permittee must send a notice of the modification to all persons on the facility mailing list, maintained by the ((~~department~~)) director in accordance with WAC 173-303-840 (3)(e)(i)(D), and the appropriate units of state and local government, as specified in WAC 173-303-840 (3)(e)(i)(E). This notification must be made within ninety calendar days after the change is put into effect. For the Class 1 modifications that require prior ((~~department~~)) director approval, the notification must be made within ninety calendar days after the ((~~department~~)) director approves the request.

(C) Any person may request the ((~~department~~)) director to review, and the ((~~department~~)) director may for cause reject, any Class 1 modification. The ((~~department~~)) director must inform the permittee by certified mail that a Class 1 modification has been rejected, explaining the reasons for the rejection. If a Class 1 modification has been rejected, the permittee must comply with the original permit conditions.

(ii) Class 1 permit modifications identified in Appendix I by an asterisk may be made only with the prior written approval of the ((~~department~~)) director.

(iii) For a Class 1 permit modification, the permittee may elect to follow the procedures in (b) of this subsection for Class 2 modifications instead of the Class 1 procedures. The permittee must inform the ((~~department~~)) director of this decision in the notice required in (b)(i) of this subsection.

(b) Class 2 modifications.

(i) For Class 2 modifications, listed in Appendix I of this section, the permittee must submit a modification request to the ((~~department~~)) director that:

(A) Describes the exact change to be made to the permit conditions and supporting documents referenced by the permit;

(B) Identifies that the modification is a Class 2 modification;

(C) Explains why the modification is needed; and

(D) Provides the applicable information required by WAC 173-303-805, 173-303-806, 173-303-807, and 173-303-808.

(ii) The permittee must send a notice of the modification request to all persons on the facility mailing list maintained by the ((~~department~~)) director and to the appropriate units of state and local government as specified in WAC 173-303-840 (3)(e)(i)(((~~D~~))) (E) and must publish this notice in a major local newspaper of general circulation. This notice must be mailed and published within seven days before or after the date of submission of the modification request, and the permittee must provide to the ((~~department~~)) director evidence of the mailing and publication. The notice must include:

(A) Announcement of a sixty-day comment period, in accordance with (b)(v) of this subsection, and the name and address of a departmental contact to whom comments must be sent;

(B) Announcement of the date, time, and place for a public meeting held in accordance with (b)(iv) of this subsection;

(C) Name and telephone number of the permittee's contact person;

(D) Name and telephone number of a departmental contact person;

(E) Location where copies of the modification request and any supporting documents can be viewed and copied; and

(F) The following statement: "The permittee's compliance history during the life of the permit being modified is available from the department of ecology contact person."

(iii) The permittee must place a copy of the permit modification request and supporting documents in a location accessible to the public in the vicinity of the permitted facility.

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(iv) The permittee must hold a public meeting no earlier than fifteen days after the publication of the notice required in (b)(ii) of this subsection and no later than fifteen days before the close of the sixty-day comment period. The meeting must be held to the extent practicable in the vicinity of the permitted facility.

(v) The public will be provided sixty days to comment on the modification request. The comment period will begin on the date the permittee publishes the notice in the local newspaper. Comments should be submitted to the department of ecology contact identified in the public notice.

(vi)(A) No later than ninety days after receipt of the notification request, the ((~~department~~)) director must:

(I) Approve the modification request, with or without changes, and modify the permit accordingly;

(II) Deny the request;

(III) Determine that the modification request must follow the procedures in (c) of this subsection for Class 3 modifications for the following reasons:

(AA) There is significant public concern about the proposed modification; or

(BB) The complex nature of the change requires the more extensive procedures of Class 3;

(IV) Approve the request, with or without changes, as a temporary authorization having a term of up to one hundred eighty days; or

(V) Notify the permittee that he or she will decide on the request within the next thirty days.

(B) If the ((~~department~~)) director notifies the permittee of a thirty-day extension for a decision, the ((~~department~~)) director must, no later than one hundred twenty days after receipt of the modification request:

(I) Approve the modification request, with or without changes, and modify the permit accordingly;

(II) Deny the request; or

(III) Determine that the modification request must follow the procedures in (c) of this subsection for Class 3 modifications for the following reasons:

(AA) There is significant public concern about the proposed modification; or

(BB) The complex nature of the change requires the more extensive procedures of Class 3.

(IV) Approve the request, with or without changes, as a temporary authorization having a term of up to one hundred eighty days.

(C) If the ((~~department~~)) director fails to make one of the decisions specified in (b)(vi)(B) of this subsection by the one hundred twentieth day after receipt of the modification request, the permittee is automatically authorized to conduct the activities described in the modification request for up to one hundred eighty days, without formal departmental action. The authorized activities must be conducted as described in the permit modification request and must be in compliance with all appropriate standards of 40 CFR Part 265 (as referenced by WAC 173-303-400). If the ((~~department~~)) director approves, with or without changes, or denies the modification request during the term of the temporary or automatic authorization provided for in (b)(vi)(A), (B), or (C) of this subsection, such action cancels the temporary or automatic authorization.

(D)(I) In the case of an automatic authorization under (b)(vi)(C) of this subsection, or a temporary authorization under (b)(vi)(A)(IV) or (B)(IV) of this subsection, if the ((~~department~~)) director has not made a final approval or denial of the modification request by the date fifty days prior to the end of the temporary or automatic authorization, the permittee must within seven days of that time send a notification to persons on the facility mailing list, and make a reasonable effort to notify other persons who submitted written comments on the modification request, that:

(AA) The permittee has been authorized temporarily to conduct the activities described in the permit modification request; and

(BB) Unless the ((~~department~~)) director acts to give final approval or denial of the request by the end of the authorization period, the permittee will receive authorization to conduct such activities for the life of the permit.

(II) If the owner/operator fails to notify the public by the date specified in (b)(vi)(D)(I) of this subsection, the effective date of the permanent authorization will be deferred until fifty days after the owner/operator notifies the public.

(E) Except as provided in (b)(vi)(G) of this subsection, if the ((~~department~~)) director does not finally approve or deny a modification request before the end of the automatic or temporary authorization period or reclassify the modification as a Class 3, the permittee is authorized to conduct the activities described in the permit modification request for the life of the permit unless modified later under subsection (3) or (4) of this section. The activities authorized under this subsection (b)(vi)(E) must be conducted as described in the permit modification request and must be in compliance with all appropriate standards of 40 CFR Part 265 (as referenced by WAC 173-303-400).

(F) In making a decision to approve or deny a modification request, including a decision to issue a temporary authorization or to reclassify a modification as a Class 3, the ((~~department~~)) director must consider all written comments submitted during the public comment period and must respond in writing to all significant comments in his or her decision.

(G) With the written consent of the permittee, the ((~~department~~)) director may extend indefinitely or for a specified period the time periods for final approval or denial of a modification request or for reclassifying a modification as a Class 3.

(vii) The ((~~department~~)) director may deny or change the terms of a Class 2 permit modification request under (b)(6)(i) through (iii) of this subsection for the following reasons:

(A) The modification request is incomplete;

(B) The requested modification does not comply with the appropriate requirements of WAC 173-303-280 through 173-303-395 and 173-303-600 through 173-303-680 or other applicable requirements; or

(C) The conditions of the modification fail to protect human health and the environment.

(viii) The permittee may perform any construction associated with a Class 2 permit modification request beginning sixty days after the submission of the request unless the ((~~department~~)) director establishes a later date for commencing construction and informs the permittee in writing before day sixty.

(c) Class 3 modifications.

(i) For Class 3 modifications listed in Appendix I of this section, the permittee must submit a modification request to the ((~~department~~)) director that:

(A) Describes the exact change to be made to the permit conditions and supporting documents referenced by the permit;

(B) Identifies that the modification is a Class 3 modification;

(C) Explains why the modification is needed; and

(D) Provides the applicable information required by WAC 173-303-805, 173-303-806, 173-303-807, and 173-303-808.

(ii) The permittee must send a notice of the modification request to all persons on the facility mailing list maintained by the ((~~department~~)) director and to the appropriate units of state and local government as specified in WAC 173-303-840 (3)(e)(i)(D) and must publish this notice in a major local newspaper of general circulation. This notice must be mailed and published within seven days before or after the date of submission of the modification request, and the permittee must provide to the ((~~department~~)) director evidence of the mailing and publication. The notice must include:

(A) Announcement of a sixty-day comment period, and a name and address of an agency contact to whom comments must be sent;

(B) Announcement of the date, time, and place for a public meeting on the modification request, in accordance with (c)(4) of this subsection;

(C) Name and telephone number of the permittee's contact person;

(D) Name and telephone number of a departmental contact person;

(E) Location where copies of the modification request and any supporting documents can be viewed and copied; and

(F) The following statement: "The permittee's compliance history during the life of the permit being modified is available from the department of ecology contact person."

(iii) The permittee must place a copy of the permit modification request and supporting documents in a location accessible to the public in the vicinity of the permitted facility.

(iv) The permittee must hold a public meeting no earlier than fifteen days after the publication of the notice required in (c)(ii) of this subsection and no later than fifteen days before the close of the sixty-day comment period. The meeting must be held to the extent practicable in the vicinity of the permitted facility.

(v) The public will be provided at least sixty days to comment on the modification request. The comment period will begin on the date the permittee publishes the notice in the local newspaper. Comments should be submitted to the department of ecology contact identified in the notice.

(vi) After the conclusion of the sixty-day comment period, the ((~~department~~)) director must grant or deny the permit modification request according to the permit modification procedures of WAC 173-303-840. In addition, the ((~~department~~)) director must consider and respond to all significant written comments received during the sixty-day comment period.

(d) Other modifications.

(i) In the case of modifications not explicitly listed in Appendix I of this section, the permittee may submit a Class 3 modification request to the department, or he or she may request a determination by the ((~~department~~)) director that the modification should be reviewed and approved as a Class 1 or Class 2 modification. If the permittee requests that the modification be classified as a Class 1 or 2 modification, he or she must provide the department with the necessary information to support the requested classification.

(ii) The ((~~department~~)) director will make the determination described in (d)(i) of this subsection as promptly as practicable. In determining the appropriate class for a specific modification, the ((~~department~~)) director will consider the similarity of the modification to other modifications codified in Appendix I and the following criteria:

(A) Class 1 modifications apply to minor changes that keep the permit current with routine changes to the facility or its operation. These changes do not substantially alter the permit conditions or reduce the capacity of the facility to protect human health or the environment. In the case of Class 1 modifications, the ((~~department~~)) director may require prior approval.

(B) Class 2 modifications apply to changes that are necessary to enable a permittee to respond, in a timely manner, to:

(I) Common variations in the types and quantities of the wastes managed under the facility permit;

(II) Technological advancements; and

(III) Changes necessary to comply with new regulations, where these changes can be implemented without substantially changing design specifications or management practices in the permit.

(C) Class 3 modifications substantially alter the facility or its operation.

(e) Temporary authorizations.

(i) Upon request of the permittee, the ((~~department~~)) director may, without prior public notice and comment, grant the permittee a temporary authorization in accordance with this subsection. Temporary authorizations must have a term of not more than one hundred eighty days.

(ii)(A) The permittee may request a temporary authorization for:

(I) Any Class 2 modification meeting the criteria in (e)(iii)(B) of this subsection; and

(II) Any Class 3 modification that meets the criteria in (e)(iii)(B)(I) or (II) of this subsection; or that meets the criteria in (e)(iii)(B)(III) through (V) of this subsection and provides improved management or treatment of a dangerous waste already listed in the facility permit.

(B) The temporary authorization request must include:

(I) A description of the activities to be conducted under the temporary authorization;

(II) An explanation of why the temporary authorization is necessary; and

(III) Sufficient information to ensure compliance with the standards in WAC 173-303-280 through 173-303-395 and 173-303-600 through 173-303-680.

(C) The permittee must send a notice about the temporary authorization request to all persons on the facility mailing list maintained by the ((~~department~~)) director and to appropriate units of state and local governments as specified in WAC 173-303-840 (3)(e)(i)(D). This notification must be

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made within seven days of submission of the authorization request.

(iii) The ((~~department~~)) director will approve or deny the temporary authorization as quickly as practical. To issue a temporary authorization, the ((~~department~~)) director must find:

(A) The authorized activities are in compliance with the standards of WAC 173-303-280 through 173-303-395 and 173-303-600 through 173-303-680.

(B) The temporary authorization is necessary to achieve one of the following objectives before action is likely to be taken on a modification request:

(I) To facilitate timely implementation of closure or corrective action activities;

(II) To allow treatment or storage in tanks, containers, or in containment buildings in accordance with 40 CFR Part 268;

(III) To prevent disruption of ongoing waste management activities;

(IV) To enable the permittee to respond to sudden changes in the types or quantities of the wastes managed under the facility permit; or

(V) To facilitate other changes to protect human health and the environment.

(iv) A temporary authorization may be reissued for one additional term of up to one hundred eighty days provided that the permittee has requested a Class 2 or 3 permit modification for the activity covered in the temporary authorization, and:

(A) The reissued temporary authorization constitutes the ((~~department's~~)) director's decision on a Class 2 permit modification in accordance with (b)(vi)(A)(IV) or (B)(IV) of this subsection; or

(B) The ((~~department~~)) director determines that the reissued temporary authorization involving a Class 3 permit modification request is warranted to allow the authorized activities to continue while the modification procedures of (c) of this subsection are conducted.

(f) Public notice and appeals of permit modification decisions.

(i) The ((~~department~~)) director will notify persons on the facility mailing list and appropriate units of state and local government within ten days of any decision under this section to grant or deny a Class 2 or 3 permit modification request. The ((~~department~~)) director will also notify such persons within ten days after an automatic authorization for a Class 2 modification goes into effect under (b)(vi)(C) or (E) of this subsection.

(ii) The ((~~department's~~)) director's decision to grant or deny a Class 2 or 3 permit modification request under this section may be appealed under the permit appeal procedures of WAC 173-303-845.

(iii) An automatic authorization that goes into effect under (b)(vi)(C) or (E) of this subsection may be appealed under the permit appeal procedures of WAC 173-303-845; however, the permittee may continue to conduct the activities pursuant to the automatic authorization until the appeal has been granted pursuant to WAC 173-303-845, notwithstanding the provisions of WAC 173-303-840 (8)(b).

(g) Newly regulated wastes and units.

(i) The permittee is authorized to continue to manage wastes listed or identified as dangerous under WAC 173-303-070, or to continue to manage dangerous waste in units newly regulated as dangerous waste management units, if:

(A) The unit was in existence as a dangerous waste facility with respect to the newly listed or identified waste or newly regulated waste management unit on the effective date of the final rule listing or identifying the waste, or regulating the unit;

(B) The permittee submits a Class 1 modification request on or before the date on which the waste or unit becomes subject to the new requirements;

(C) The permittee is in compliance with the applicable standards of 40 CFR Part 265 (as referenced in WAC 173-303-400) and Part 266 (as referenced in WAC 173-303-510);

(D) The permittee also submits a complete Class 2 or 3 permit modification request within one hundred eighty days of the effective date of the rule listing or identifying the waste, or subjecting the unit to management standards under this chapter; and

(E) In the case of land disposal units, the permittee certifies that each such unit is in compliance with all applicable requirements of 40 CFR Part 265 for ground water monitoring and financial responsibility (as referenced in WAC 173-303-400) on the date twelve months after the effective date of the rule identifying or listing the waste as dangerous, or regulating the unit as a dangerous waste management unit. If the owner or operator fails to certify compliance with all these requirements, he or she will lose authority to operate under this section.

(ii) New wastes or units added to a facility's permit under this subsection do not constitute expansions for the purpose of the twenty-five percent capacity expansion limit for Class 2 modifications.

(h) Permit modification list. The ((~~department~~)) director must maintain a list of all approved permit modifications and must publish a notice once a year in a state-wide newspaper that an updated list is available for review.

APPENDIX I

| Modifications | Class |
|---|---|
| A. General Permit Provisions | |
| 1. Administrative and informational changes | 1 |
| 2. Correction of typographical errors | 1 |
| 3. Equipment replacement or upgrading with functionally equivalent components (e.g., pipes, valves, pumps, conveyors, controls) | 1 |
| 4. Changes in the frequency of or procedures for monitoring, reporting, sampling, or maintenance activities by the permittee: | |
| a. To provide for more frequent monitoring, reporting, sampling, or maintenance | 1 |
| b. Other changes | 2 |
| 5. Schedule of compliance: | |
| a. Changes in interim compliance dates, with prior approval of the director | [1] |
| b. Extension of final compliance date | 3 |
| 6. Changes in expiration date of permit to allow earlier permit termination, with prior approval of the director | [1] |

7. Changes in ownership or operational control of a facility, provided the procedures of subsection (2)(b) of this section are followed ..... [1]1

B. General Facility Standards

1. Changes to waste sampling or analysis methods:

a. To conform with agency guidance or regulations ..... 1

b. To incorporate changes associated with F039 (multi-source leachate) sampling or analysis methods ..... [1]1

c. To incorporate changes associated with underlying dangerous constituents in ignitable or corrosive wastes . [1]1

d. Other changes ..... 2

2. Changes to analytical quality assurance/control plan:

a. To conform with agency guidance or regulations 1

b. Other changes ..... 2

3. Changes in procedures for maintaining the operating record ..... 1

4. Changes in frequency or content of inspection schedules ..... 2

5. Changes in the training plan:

a. That affect the type or decrease the amount of training given to employees ..... 2

b. Other changes ..... 1

6. Contingency plan:

a. Changes in emergency procedures (i.e., spill or release response procedures) ..... 2

b. Replacement with functionally equivalent equipment, upgrade, or relocate emergency equipment listed ..... 1

c. Removal of equipment from emergency equipment list ..... 2

d. Changes in name, address, or phone number of coordinators or other persons or agencies identified in the plan ..... 1

7. Construction quality assurance plan:

a. Changes that the CQA officer certifies in the operating record will provide equivalent or better certainty that the unit components meet the design specification ..... 1

b. Other changes ..... 2

Note: When a permit modification (such as introduction of a new unit) requires a change in facility plans or other general facility standards, that change will be reviewed under the same procedures as the permit modification.

C. Ground Water Protection

1. Changes to wells:

a. Changes in the number, location, depth, or design of upgradient or downgradient wells of permitted ground water monitoring system ..... 2

b. Replacement of an existing well that has been damaged or rendered inoperable, without change to location, design, or depth of the well ..... 1

2. Changes in ground water sampling or analysis procedures or monitoring schedule, with prior approval of the director ..... [1]1

3. Changes in statistical procedure for determining whether a statistically significant change in ground water quality between upgradient and downgradient wells has occurred, with prior approval of the director ..... [1]1

4. Changes in point of compliance ..... [1]2

5. Changes in indicator parameters, hazardous constituents, or concentration limits (including ACLs):

a. As specified in the ground water protection standard ..... 3

b. As specified in the detection monitoring program ..... 2

6. Changes to a detection monitoring program as required by WAC 173-303-645 (9)(j), unless otherwise specified in this appendix ..... 2

7. Compliance monitoring program:

a. Addition of compliance monitoring program as required by WAC 173-303-645 (9)(h)(iv) and (10) .... 3

b. Changes to a compliance monitoring program as required by WAC 173-303-645 (10)(k), unless otherwise specified in this appendix ..... 2

8. Corrective action program:

a. Addition of a corrective action program as required by WAC 173-303-645 (10)(i)(ii) and (11) ..... 3

b. Changes to a corrective action program as required by WAC 173-303-645 (11)(h), unless otherwise specified in this appendix ..... 2

D. Closure

1. Changes to the closure plan:

a. Changes in estimate of maximum extent of operations or maximum inventory of waste on-site at any time during the active life of the facility, with prior approval of the director ..... [1]1

b. Changes in the closure schedule for any unit, changes in the final closure schedule for the facility, or extension of the closure period, with prior approval of the director ..... [1]1

c. Changes in the expected year of final closure, where other permit conditions are not changed, with prior approval of the director ..... [1]1

d. Changes in procedures for decontamination of facility equipment or structures, with prior approval of the director

e. Changes in approved closure plan resulting from unexpected events occurring during partial or final closure, unless otherwise specified in this appendix ..... 2

f. Extension of the closure period to allow a landfill, surface impoundment, or land treatment unit to receive nondangerous wastes after final receipt of dangerous wastes under WAC 173-303-610 (4)(d) and (e) ..... 2

2. Creation of a new landfill unit as part of closure ..... 3

3. Addition of the following new units to be used temporarily for closure activities:

a. Surface impoundments ..... 3

b. Incinerators ..... 3

c. Waste piles that do not comply with WAC 173-303-660 (1)(c) ..... 3

d. Waste piles that comply with WAC 173-303-660 (1)(c) ..... 2

e. Tanks or containers (other than specified below) ..... 2

f. Tanks used for neutralization, dewatering, phase separation, or component separation, with prior approval of the director ..... [1]1

E. Post-Closure

1. Changes in name, address, or phone number of contact in post-closure plan ..... 1

2. Extension of post-closure care period ..... 2

3. Reduction in the post-closure care period ..... 3

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4. Changes to the expected year of final closure, where other permit conditions are not changed ..... 1

5. Changes in post-closure plan necessitated by events occurring during the active life of the facility, including partial and final closure ..... 2

F. Containers

1. Modification or addition of container units:

a. Resulting in greater than 25% increase in the facility's container storage capacity, except as provided in F (1)(c) and F (4)(a) below ..... 3

b. Resulting in up to 25% increase in the facility's container storage capacity, except as provided in F (1)(c) and F (4)(a) below ..... 2

c. Or treatment processes necessary to treat wastes that are restricted from land disposal to meet some or all of the applicable treatment standards or to treat wastes to satisfy (in whole or in part) the standard of "use of practically available technology that yields the greatest environmental benefit" contained in 40 CFR 268.8 (a)(2)(ii), with prior approval of the ((~~department~~)) director. This modification may also involve addition of new waste codes or narrative descriptions of wastes. It is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027, and 028) ..... [1]1

2:

a. Modification of a container unit without increasing the capacity of the unit ..... 2

b. Addition of a roof to a container unit without alteration of the containment system ..... 1

3. Storage of different wastes in containers:

a. That require additional or different management practices from those authorized in the permit, except as provided in F(4) below ..... 3

b. That do not require additional or different management practices from those authorized in the permit ..... 2

Note: See (g) of this subsection for modification procedures to be used for the management of newly listed or identified wastes.

4. Storage of treatment of different wastes in containers:

a. That require addition of units or change in treatment process or management standards, provided that the wastes are restricted from land disposal and are to be treated to meet some or all of the applicable treatment standards, or that are to be treated to satisfy (in whole or in part) the standard of "use of practically available technology that yields the greatest environmental benefit" contained in 40 CFR 268.8 (a)(2)(ii). This modification is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027, and 028) ..... 1

b. That do not require the addition of units or a change in the treatment process or management standards, and provided that the units have previously received wastes of the same type (e.g., incinerator scrubber water). This modification is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027, and 028) ..... [1]1

G. Tanks

1:

a. Modification or addition of tank units resulting in greater than 25% increase in the facility's tank capacity, except as provided in G (1)(c), G (1)(d), and G (1)(e) below ..... 3

b. Modification or addition of tank units resulting in up to 25% increase in the facility's tank capacity, except as provided in G (1)(d) and G (1)(e) below ..... 2

c. Addition of a new tank that will operate for more than 90 days using any of the following physical or chemical treatment technologies: neutralization, dewatering, phase separation, or component separation ..... 2

d. After prior approval of the ((~~department~~)) director, addition of a new tank that will operate for up to 90 days using any of the following physical or chemical treatment technologies: neutralization, dewatering, phase separation, or component separation ..... [1]1

e. Modification or addition of tank units or treatment processes necessary to treat wastes that are restricted from land disposal to meet some or all of the applicable treatment standards or to treat wastes to satisfy (in whole or in part) the standard of "use of practically available technology that yields the greatest environmental benefit" contained in 40 CFR 268.8 (a)(2)(ii), with prior approval of the ((~~department~~)) director. This modification may also involve addition of new waste codes. It is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027, and 028) .... [1]1

2. Modification of a tank unit or secondary containment system without increasing the capacity of the unit .... 2

3. Replacement of a tank with a tank that meets the same design standards and has a capacity within +/- 10% of the replaced tank provided ..... 1

-The capacity difference is no more than 1500 gallons,

-The facility's permitted tank capacity is not increased, and

-The replacement tank meets the same conditions in the permit.

4. Modification of a tank management practice ... 2

5. Management of different wastes in tanks:

a. That require additional or different management practices, tank design, different fire protection specifications, or significantly different tank treatment process from that authorized in the permit, except as provided in G (5)(c) below ..... 3

b. That do not require additional or different management practices, tank design, different fire protection specifications, or significantly different tank treatment process than authorized in the permit, except as provided in G (5)(d) 2

c. That require addition of units or change in treatment processes or management standards, provided that the wastes are restricted from land disposal and are to be treated to meet some or all of the applicable treatment standards or that are to be treated to satisfy (in whole or in part) the standard of "use of practically available technology that yields the greatest environmental benefit" contained in 40 CFR 268.8 (a)(2)(ii). The modification is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027, and 028) ..... [1]1

(d) That do not require the addition of units or a change in the treatment process or management standards, and provided that the units have previously received waste of the same type (e.g., incinerator scrubber water). This modification is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027, and 028) ..... 1

Note: See (g) of this subsection for modification procedures to be used for the management of newly listed or identified wastes.

H. Surface Impoundments

1. Modification or addition of surface impoundment units that result in increasing the facility's surface impoundment storage or treatment capacity . . . . . 3

2. Replacement of a surface impoundment unit . . . 3

3. Modification of a surface impoundment unit without increasing the facility's surface impoundment storage or treatment capacity and without modifying the unit's liner, leak detection system, or leachate collection system . . . 2

4. Modification of a surface impoundment management practice . . . . . 2

5. Treatment, storage, or disposal of different wastes in surface impoundments:

a. That require additional or different management practices or different design of the liner or leak detection system than authorized in the permit . . . . . 3

b. That do not require additional or different management practices or different design of the liner or leak detection system than authorized in the permit . . . . . 2

c. That are wastes restricted from land disposal that meet the applicable treatment standards or that are treated to satisfy the standard of "use of practically available technology that yields the greatest environmental benefit" contained in 40 CFR 268.8 (a)(2)(ii), and provided that the unit meets the minimum technological requirements stated in 40 CFR 268.5 (h)(2). This modification is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027, and 028) . . . . . 1

d. That are residues from wastewater treatment or incineration, provided that disposal occurs in a unit that meets the minimum technological requirements stated in 40 CFR 268.5 (h)(2), and provided further that the surface impoundment has previously received wastes of the same type (for example, incinerator scrubber water). This modification is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027, and 028) . . . . . 1

6. Modifications of unconstructed units to comply with WAC 173-303-650 (2)(j), (10), (11), and (4)(d) . . . . . *1

7. Changes in response action plan:

a. Increase in action leakage rate . . . . . 3

b. Change in a specific response reducing its frequency or effectiveness . . . . . 3

c. Other changes . . . . . 2

Note: See (g) of this subsection for modification procedures to be used for the management of newly listed or identified wastes.

I. Enclosed Waste Piles. For all waste piles except those complying with WAC 173-303-660 (1)(c), modifications are treated the same as for a landfill. The following modifications are applicable only to waste piles complying with WAC 173-303-660 (1)(c).

1. Modification or addition of waste pile units:

a. Resulting in greater than 25% increase in the facility's waste pile storage or treatment capacity . . . . 3

b. Resulting in up to 25% increase in the facility's waste pile storage or treatment capacity . . . . . 2

2. Modification of waste pile unit without increasing the capacity of the unit . . . . . 2

3. Replacement of a waste pile unit with another waste pile unit of the same design and capacity and meeting all waste pile conditions in the permit . . . . . 1

4. Modification of a waste pile management practice 2

5. Storage or treatment of different wastes in waste piles:

a. That require additional or different management practices or different design of the unit . . . . . 3

b. That do not require additional or different management practices or different design of the unit . . . . . 2

6. Conversion of an enclosed waste pile to a containment building unit . . . . . 2

Note: See (g) of this subsection for modification procedures to be used for the management of newly listed or identified wastes.

J. Landfills and Unenclosed Waste Piles

1. Modification or addition of landfill units that result in increasing the facility's disposal capacity . . . . . 3

2. Replacement of a landfill . . . . . 3

3. Addition or modification of a liner, leachate collection system, leachate detection system, run-off control, or final cover system . . . . . 3

4. Modification of a landfill unit without changing a liner, leachate collection system, leachate detection system, run-off control, or final cover system . . . . . 2

5. Modification of a landfill management practice . . . . . 2

6. Landfill different wastes:

a. That require additional or different management practices, different design of the liner, leachate collection system, or leachate detection system . . . . . 3

b. That do not require additional or different management practices, different design of the liner, leachate collection system, or leachate detection system . . . . . 2

c. That are wastes restricted from land disposal that meet the applicable treatment standards or that are treated to satisfy the standard of "use of practically available technology that yields the greatest environmental benefit" contained in 40 CFR 268.8 (a)(2)(ii), and provided that the landfill unit meets the minimum technological requirements stated in 40 CFR 268.5 (h)(2). This modification is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027, and 028) . . . . . 1

d. That are residues from wastewater treatment or incineration, provided that disposal occurs in a landfill unit that meets the minimum technological requirements stated in 40 CFR 268.5 (h)(2), and provided further that the landfill has previously received wastes of the same type (for example, incinerator ash). This modification is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027, and 028) . . . . . 1

7. Modifications of unconstructed units to comply with WAC 173-303-660 (2)(j), (11), (12), (5)(c), 173-303-665 (2)(h), (8), (4)(c), and (9). . . . . *1

8. Changes in response action plan:

a. Increase in action leakage rate . . . . . 3

b. Change in a specific response reducing its frequency or effectiveness. . . . . 3

c. Other changes . . . . . 2

Note: See (g) of this subsection for modification procedures to be used for the management of newly listed or identified wastes.

K. Land Treatment

1. Lateral expansion of or other modification of a land treatment unit to increase areal extent . . . . . 3

2. Modification of run-on control system . . . . . 2

3. Modify run-off control system . . . . . 3

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4. Other modifications of land treatment unit component specifications or standards required in permit ..... 2

5. Management of different wastes in land treatment units:

a. That require a change in permit operating conditions or unit design specifications ..... 3

b. That do not require a change in permit operating conditions or unit design specifications ..... 2

Note: See (g) of this subsection for modification procedures to be used for the management of newly listed or identified wastes.

6. Modification of a land treatment unit management practice to:

a. Increase rate or change method of waste application ..... 3

b. Decrease rate of waste application ..... 2

7. Modification of a land treatment unit management practice to change measures of pH or moisture content, or to enhance microbial or chemical reactions ..... 2

8. Modification of a land treatment unit management practice to grow food chain crops, to add to or replace existing permitted crops with different food chain crops, or to modify operating plans for distribution of animal feeds resulting from such crops ..... 3

9. Modification of operating practice due to detection of releases from the land treatment unit pursuant to WAC 173-303-655 (6)(g)(ii) ..... 3

10. Changes in the unsaturated zone monitoring system, resulting in a change to the location, depth, number of sampling points, or replace unsaturated zone monitoring devices or components of devices with devices or components that have specifications different from permit requirements ..... 3

11. Changes in the unsaturated zone monitoring system that do not result in a change to the location, depth, number of sampling points, or that replace unsaturated zone monitoring devices or components of devices with devices or components having specifications different from permit requirements ..... 2

12. Changes in background values for hazardous constituents in soil and soil-pore liquid ..... 2

13. Changes in sampling, analysis, or statistical procedure ..... 2

14. Changes in land treatment demonstration program prior to or during the demonstration ..... 2

15. Changes in any condition specified in the permit for a land treatment unit to reflect results of the land treatment demonstration, provided performance standards are met, and the director's prior approval has been received ..... 2

16. Changes to allow a second land treatment demonstration to be conducted when the results of the first demonstration have not shown the conditions under which the wastes can be treated completely, provided the conditions for the second demonstration are substantially the same as the conditions for the first demonstration and have received the prior approval of the director ..... 2

17. Changes to allow a second land treatment demonstration to be conducted when the results of the first demonstration have not shown the conditions under which the wastes can be treated completely, where the conditions for the second demonstration are not substantially the same as the conditions for the first demonstration ..... 3

18. Changes in vegetative cover requirements for closure ..... 2

L. Incinerators, Boilers, and Industrial Furnaces

1. Changes to increase by more than 25% any of the following limits authorized in the permit: A thermal feed rate limit, a feedstream feed rate limit, a chlorine/chloride feed rate limit, a metal feed rate limit, or an ash feed rate limit. The ((~~department~~)) director will require a new trial burn to substantiate compliance with the regulatory performance standards unless this demonstration can be made through other means ..... 3

2. Changes to increase by up to 25% any of the following limits authorized in the permit: A thermal feed rate limit, a feedstream feed rate limit, a chlorine/chloride feed rate limit, a metal feed rate limit, or an ash feed rate limit. The ((~~department~~)) director will require a new trial burn to substantiate compliance with the regulatory performance standards unless this demonstration can be made through other means ..... 2

3. Modification of an incinerator, boiler, or industrial furnace unit by changing the internal size or geometry of the primary or secondary combustion units, by adding a primary or secondary combustion unit, by substantially changing the design of any component used to remove HC1/$C1_2$, metals, or particulate from the combustion gases, or by changing other features of the incinerator, boiler, or industrial furnace that could affect its capability to meet the regulatory performance standards. The ((~~department~~)) director will require a new trial burn to substantiate compliance with the regulatory performance standards unless this demonstration can be made through other means ..... 3

4. Modification of an incinerator, boiler, or industrial furnace unit in a manner that would not likely affect the capability of the unit to meet the regulatory performance standards but which would change the operating conditions or monitoring requirements specified in the permit. The ((~~department~~)) director may require a new trial burn to demonstrate compliance with the regulatory performance standards ..... 2

5. Operating requirements:

a. Modification of the limits specified in the permit for minimum or maximum combustion gas temperature, minimum combustion gas residence time, oxygen concentration in the secondary combustion chamber flue gas carbon monoxide and hydrocarbon concentration, maximum temperature at the inlet to the particulate matter emission control system, or operating parameters for the air pollution control system. The ((~~department~~)) director will require a new trial burn to substantiate compliance with the regulatory performance standards unless this demonstration can be made through other means ..... 3

b. Modification of any stack gas emission limits specified in the permit, or modification of any conditions in the permit concerning emergency shutdown or automatic waste feed cutoff procedures or controls ..... 3

c. Modification of any other operating condition or any inspection or recordkeeping requirement specified in the permit ..... 2

6. Burning different wastes:

a. If the waste contains a POHC that is more difficult to burn than authorized by the permit or if burning of the waste requires compliance with different regulatory performance

standards than specified in the permit. The ((~~department~~)) director will require a new trial burn to substantiate compliance with the regulatory performance standards unless this demonstration can be made through other means ..... 3

b. If the waste does not contain a POHC that is more difficult to burn than authorized by the permit and if burning of the waste does not require compliance with different regulatory performance standards than specified in the permit ..... 2

Note: See (g) of this subsection for modification procedures to be used for the management of newly listed or identified wastes.

7. Shakedown and trial burn:

a. Modification of the trial burn plan or any of the permit conditions applicable during the shakedown period for determining operational readiness after construction, the trial burn period, or the period immediately following the trial burn ..... 2

b. Authorization of up to an additional 720 hours of waste burning during the shakedown period for determining operational readiness after construction, with the prior approval of the ((~~department~~)) director ..... [1]1

c. Changes in the operating requirements set in the permit for conducting a trial burn, provided the change is minor and has received the prior approval of the ((~~department~~)) director ..... [1]1

d. Changes in the ranges of the operating requirements set in the permit to reflect the results of the trial burn, provided the change is minor and has received the prior approval of the ((~~department~~)) director ..... [1]1

8. Substitution of an alternate type of nondangerous fuel that is not specified in the permit ..... 1

M. Containment Buildings

1. Modification or addition of containment building units:

a. Resulting in greater than 25% increase in the facility's containment building storage or treatment capacity. ..... 3

b. Resulting in up to 25% increase in the facility's containment building storage or treatment capacity. ... 2

2. Modification of a containment building unit or secondary containment system without increasing the capacity of the unit. ..... 2

3. Replacement of a containment building with a containment building that meets the same design standards provided:

a. The unit capacity is not increased. ..... 1

b. The replacement containment building meets the same conditions in the permit. ..... 1

4. Modification of a containment building management practice. ..... 2

5. Storage or treatment of different wastes in containment buildings:

a. That require additional or different management practices. ..... 3

b. That do not require additional or different management practices. ..... 2

N. Corrective Action

1. Approval of a corrective action management unit pursuant to WAC 173-303-646 (4), (5), and (6) ..... 3

2. Approval of a temporary unit or time extension for a temporary unit pursuant to WAC 173-303-646(7) .... 2

3. Modification to incorporate a corrective action order issued pursuant to MTCA ..... 3

4. Modification or amendment of a corrective action order issued pursuant to MTCA when the MTCA public participation requirements are met and order has already been incorporated by reference into the permit ..... 1

[1] Class 1 modifications requiring prior Agency approval.

(5) Permit termination. The ((~~department~~)) director will follow the applicable procedures in WAC 173-303-840, procedures for decision making, in terminating any permit. The following are causes for terminating a permit during its term or for denying a permit renewal application:

(a) Noncompliance by the permittee with any condition of the permit;

(b) The permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant facts at any time; or

(c) A determination that the permitted activity endangers public health or the environment and can only be regulated to acceptable levels by permit modification or termination.

((~~(6) Schedules of compliance.~~

~~(a) General. The permit may, when appropriate, specify a schedule of compliance leading to compliance with chapter 173-303 WAC.~~

~~(b) Time for compliance. Any schedules of compliance under this section will require compliance as soon as possible.~~

~~(c) Interim dates. If a permit establishes a schedule of compliance which exceeds one year from the date of permit issuance, the schedule will set forth interim requirements and the dates for their achievement as follows:~~

~~(i) The time between interim dates will not exceed one year; or~~

~~(ii) If the time necessary for completion of any interim requirement (such as the construction of a control facility) is more than one year and is not readily divisible into stages for completion, the permit will specify interim dates for the submission of reports of progress toward completion of the interim requirements and indicate a projected completion date.~~

~~(d) Reporting. The permit will be written to require that no later than fourteen days following each interim date and the final date of compliance, the permittee must notify the department in writing of its compliance or noncompliance with the interim or final requirements.~~))

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-840 Procedures for decision making.** (1) Application and completeness.

(a) The department will not begin the processing of a permit until the applicant has fully complied with the application requirements for the permit. Permit applications must comply with the signature and certification requirements of WAC 173-303-810 (12) and (13).

(b) The department will review for completeness each application for a permit under this chapter. Each application for a permit should be reviewed for completeness within sixty days of its receipt. Upon completing the review, the



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department will notify the applicant in writing whether or not the application is complete. If the application is incomplete, the department will list the information necessary to make the application complete, and will specify in the notice of deficiency a date for submitting the necessary information. After the application is completed, the department may request additional information from an applicant but only when necessary to clarify, modify, or supplement previously submitted material. Requests for such additional information will not render an application incomplete.

(c) If an applicant fails or refuses to correct deficiencies in the application, the permit may be denied and appropriate enforcement actions may be taken under chapter 70.105 RCW.

(d) If the department decides that a site visit is necessary for any reason in conjunction with the processing of an application, then the department will notify the applicant and a date will be scheduled.

(e) The effective date of an application is the date on which the department notifies the applicant that the application is complete as provided in (b) of this subsection.

(2) Draft permits.

(a) A draft permit is a document prepared by the department indicating the tentative decision to issue, deny, modify, revoke and reissue, or terminate a permit.

(b) When an application is complete, the department will tentatively decide whether to prepare a draft permit, or to deny the application.

(c) If the department tentatively decides to deny the permit application, then the department will issue a notice of intent to deny. A notice of intent to deny the permit application is a type of draft permit which follows the same procedures as any draft permit prepared under this subsection. If the department's final decision is that the tentative decision to deny was incorrect, then the department will withdraw the notice of intent to deny and proceed to prepare a draft permit under this subsection.

(d) If the department decides to prepare a draft permit, it will contain the following information:

(i) All conditions applicable to permits under WAC 173-303-810 and 173-303-815 including compliance and monitoring requirements;

(ii) Applicable conditions under WAC 173-303-830 and 173-303-815; and

(iii) All applicable standards for storage, treatment and disposal, and other permit conditions.

(e) All draft permits must be accompanied by a fact sheet that is supported by administrative record and made available for public comment.

(f) Fact sheet; statement of basis.

(i) A fact sheet will be prepared for every draft permit for a major dangerous waste management facility, and for every draft permit which the department finds is the subject of wide-spread public interest or raises major issues.

(ii) The fact sheet will briefly set forth the principal facts and the significant factual, legal, methodological, and policy questions considered in preparing the draft permit. The department will send this fact sheet to the applicant and, on request, to any other person.

(iii) The fact sheet will include, when applicable:

(A) A brief description of the type of facility or activity which is the subject of the draft permit;

(B) The type and quantity of wastes, fluids, or pollutants which are proposed to be or are being treated, stored, disposed, injected, emitted, or discharged;

(C) A brief summary of the basis for the draft permit conditions including supporting references;

(D) Reasons why any requested variances or alternatives to required standards do or do not appear justified; and

(E) A description of the procedures for reaching a final decision on the draft permit including:

(I) The beginning and ending dates of the comment period and the address where comments will be received;

(II) Procedures for requesting a hearing and the nature of that hearing;

(III) Any other procedures by which the public may participate in the final decision; and

(IV) Name and telephone number of a person to contact for additional information.

(iv) The department will prepare a statement of basis for every draft permit for which a fact sheet is not prepared. The statement of basis will briefly describe the derivation of the conditions of the draft permit and the reasons for them or, in the case of notices of intent to deny or terminate, reasons supporting the tentative decision. The statement of basis will be sent to the applicant and, on request, to any other person.

(3) Public notice and involvement.

(a) The department will give public notice that the following actions have occurred:

(i) A draft permit has been prepared or an application is tentatively being denied;

(ii) A hearing on a permit has been scheduled; or

(iii) An appeal on a permit has been filed with the pollution control hearings board.

(b) No public notice is required when a request for permit modification, revocation and reissuance, or termination is denied. A written notice of the denial will be given to the person who requested the permit change and to the permittee.

(c) The public notice may describe more than one permit or permit action.

(d) Public notice of the preparation of a draft permit, including a notice of intent to deny a permit application will allow at least forty-five days for public comment. Public notice of a public hearing will be given at least thirty days before the hearing.

(e) Public notice of activities described in this subsection will be given by the following methods:

(i) By mailing a copy of a notice to the following persons (any person otherwise entitled to receive notice under this paragraph may waive his or her rights to receive notice for any classes and categories of permits):

(A) The applicant;

(B) Any other agency which the department knows has issued or is required to issue a permit for the same activity or facility;

(C) Federal and state agencies with jurisdiction over fish, shellfish, and wildlife resources and over coastal zone management plans, the advisory council on historic preservation, state historic preservation officers, ((~~and other appropriate government authorities,~~)) including any affected state (Indian tribes) (for purposes of this paragraph and in the

context of the Underground Injection Control Program only, the term state includes Indian tribes treated as states);

(D) Persons on the mailing list developed by:

(I) Including those who request in writing to be on the list;

(II) Soliciting persons for an area list from participants in past permit proceedings in that area; and

(III) Notifying the public of the opportunity to be put on the mailing list through periodic publications in the public press and in appropriate publications of the department;

(E) Any unit of local government having jurisdiction over the area where the facility is proposed to be located, and each state agency having any authority under state law with respect to construction or operation of such facility;

(ii) For major permits, by publication of a notice in a daily or weekly newspaper within the area affected by the facility;

(iii) For all permits, by publication of notice in a daily or weekly major local newspaper of general circulation, and local radio broadcast of the public notice; and

(iv) By any other method reasonably calculated to give notice of the action in question to the persons potentially affected by it, including press releases or any other forum or medium to elicit public participation.

(4) Contents of the public notice.

(a) All public notices issued will contain the following minimum information:

(i) Name and address of the office processing the permit action for which notice is being given;

(ii) Name and address of the permittee or permit applicant and, if different, of the facility or activity regulated by the permit;

(iii) A brief description of the business conducted at the facility or activity described in the permit application or the draft permit;

(iv) Name, address, and telephone number of a person from whom interested persons may obtain further information, including copies of the draft permit, fact sheet or statement of basis, and the application;

(v) A brief description of the comment procedures and the time and place of any hearing that will be held, including a statement of procedures to request a hearing (unless a hearing has already been scheduled) and other procedures by which the public may participate in the final permit decision;

(vi) And any additional information considered necessary or proper.

(b) In addition to the general public notice described in (a) of this subsection, public notice of a hearing under subsection (5) of this section will contain the following information:

(i) Date, time, and place of the hearing;

(ii) Reference to the date of the previous public notice relating to the permit; and

(iii) A brief description of the nature and purpose of the hearing including the applicable rules and procedures.

(c) In addition to the general public notice all persons identified in WAC 173-303-840 (3)(e)(i)(A), (B), and (C) will be mailed a copy of the fact sheet, the permit application (if any), and the draft permit (if any).

(d) Public comments and request for public hearings. During the public comment period any interested person may submit written comments on the draft permit and may request a public hearing, if no hearing has already been scheduled. A request for a public hearing must be in writing and must state the nature of the issues proposed to be raised in the hearing. All comments will be considered in making the final decision and will be answered according to WAC 173-303-840(9).

(5) Public hearings.

(a) The department will hold a public hearing whenever, on the basis of requests, there is a significant degree of public interest in a draft permit or there is written notice of opposition and the director receives a request for a hearing during the forty-five day comment period. The department also may hold a public hearing at its discretion, whenever, for instance, such a hearing might clarify one or more issues involved in the permit decision. Public notice of the hearing will be given as specified in WAC 173-303-840(3). Whenever possible, the department will schedule a public hearing under this subsection at a location convenient to the nearest population center to the proposed facility.

(b) Any person may submit oral or written statements and data concerning the draft permit. Reasonable limits may be set upon the time allowed for oral statements, and the submission of statements in writing may be required. The public comment period under WAC 173-303-840(3) will automatically be extended to the close of any public hearing under this subsection. The hearing officer may also extend the comment period by so stating at the hearing.

(c) A tape recording or written transcript of the hearing will be made available to the public.

(6) Obligation to raise issues and provide information during the public comment period.

(a) All persons, including applicants, who believe any condition of a draft permit is inappropriate, or that the department's tentative decision to deny an application, terminate a permit, or prepare a draft permit is inappropriate, must raise all reasonably ascertainable issues and submit all reasonably available arguments and factual grounds supporting their position, including all supporting material, by the close of the public comment period (including any public hearing) under WAC 173-303-840(3).

(b) All supporting materials will be included in full and may not be incorporated by reference, unless they are already part of the administrative record in the same proceeding, or consist of state or federal statutes and regulations, documents of general applicability, or other generally available reference materials. Commenters must make supporting material not already included in the administrative record available to the department. A comment period longer than ((~~thirty~~)) forty-five days will often be necessary in complicated proceedings to give commenters a reasonable opportunity to comply with the requirements of this subsection. Commenters may request a longer comment period.

(7) Reopening of the public comment period. If any data, information, or arguments submitted during the public comment period, including information or arguments required under subsection (6) of this section, appear to raise substantial new questions concerning a permit, the department may take one or more of the following actions:

(a) Prepare a new draft permit, appropriately modified;

(b) Prepare a revised statement of basis, a fact sheet or revised fact sheet, and reopen the comment period; or

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(c) Reopen or extend the comment period to give interested persons an opportunity to comment on the information or arguments submitted.

Comments filed during the reopened comment period will be limited to the substantial new questions that caused its reopening. The public notice will define the scope of the reopening.

(8) Issuance and effective date of permit.

(a) After the close of the public comment period under WAC 173-303-840(5) on a draft permit, the department will issue a final permit decision (or a decision to deny a permit for the active life of a RCRA dangerous waste facility or unit under WAC 173-303-840). The department will notify the applicant and each person who has submitted written comments or requested notice of the final permit decision. For purposes of this section, a final permit means a final decision to issue, deny, modify, revoke and reissue, or terminate a permit.

(b) A final permit decision will become effective thirty days after the service of notice of the decision, unless:

(i) A later effective date is specified in the decision; or

(ii) No comments requested a change in the draft permit, in which case the permit will become effective immediately upon issuance; or

(iii) Review is requested under chapter 43.21B RCW or an evidentiary hearing is requested under RCW 43.21B.160.

(9) Response to comments. At the time that any final permit is issued, the department will issue a response to comments. This response will specify which provisions, if any, of the draft permit have been changed in the final permit decision and the reason for the change, and briefly describe and respond to all significant comments of the draft permit raised during the public comment period or during any hearing. The response to comments shall be available to the public.

(10) Decision-making procedure for modification, revocation and reissuance, or termination of permits.

(a) Permits may be modified, revoked and reissued, or terminated either at the request of any interested person (including the permittee) or upon the department's initiative. However, permits may only be modified or revoked and reissued for the reasons specified in WAC 173-303-830(3) ((~~and (4)~~)), or terminated for the reasons specified in WAC 173-303-805 or ((~~173-303-806~~)) 173-303-830(5). All requests must be in writing and must contain facts or reasons supporting the request.

(b) If the department tentatively decides to modify or revoke and reissue a permit under WAC 173-303-830 (3) or (4)(c), it will prepare the draft permit under WAC 173-303-840(2), incorporating the proposed changes. The department may request additional information and, in the case of a modified permit, may require the submission of an updated permit application. In the case of revoked and reissued permits, the department will require the submission of a new application.

(c) In a permit modification under this ((~~section~~)) subsection, only those conditions to be modified will be reopened when a new draft permit is prepared. All other aspects of the existing permit will remain in effect for the duration of the unmodified permit. When a permit is revoked and reissued under this section, the entire permit is reopened just as if the permit had expired and was being reissued. During any revocation and reissuance proceeding the permittee must comply with all conditions of the existing permit until a new final permit is reissued.

(d) ((~~"Minor modifications"~~)) "Class 1 and class 2 modifications" as defined in WAC 173-303-830 (4)(a) and (b) are not subject to the requirements of this ((~~section~~)) subsection.

(e) If the department tentatively decides to terminate an interim status permit under WAC 173-303-805 or a final permit under WAC 173-303-806, it will issue a notice of intent to terminate. A notice of intent to terminate is a type of draft permit which follows the same procedures as any draft permit prepared under WAC 173-303-840(2).

AMENDATORY SECTION (Amending Order 92-33, filed 12/8/93, effective 1/8/94)

**WAC 173-303-900 Public involvement and participation.** (1) Intent. Public involvement and participation plays a significant role in the decision making process. The department intends to foster public awareness, information and consultation, and to respond actively to public concerns. The department will inform the public of major issues, proposed projects, and regulatory changes, and will consult interested and affected segments of the public before making important decisions. The overall goal of the department is to provide knowledge to the public about dangerous waste issues that vitally affect the state, to encourage broader understanding of the public role in dangerous wastes and their proper management, and to promote an open dialogue between the public, industry, and government.

(2) Applicable requirements. In fulfilling the intent of public involvement and participation in the decision making process, the department will refer to and, where applicable, follow the requirements and guidance set forth in the following:

(a) Chapter 34.04 RCW, Administrative Procedure Act;

(b) Chapter 34.08 RCW, Washington State Register Act of 1977;

(c) Chapter 42.17 RCW, Public Records Act;

(d) Chapter 197-11 WAC, Guidelines interpreting and implementing the State Environmental Policy Act;

(e) 40 CFR Part 25, Public Participation in Programs Under the Resource Conservation and Recovery Act, the Safe Drinking Water Act, and the Clean Water Act; and

(f) ((~~The Washington state solid waste management plan, December 1980.~~)) Reserve.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-910 Petitions.** (1) General petitions.

(a) Any person may petition the department to modify or revoke any provision in this chapter. This subsection sets forth general requirements which apply to all such petitions. The remaining subsections of this section describe additional requirements for specific types of petitions.

(b) Each petition must be submitted to the department by certified mail and must include:

(i) The petitioner's name and address;

(ii) A statement of the petitioner's interest in the proposed action;

(iii) A description of the proposed action, including (where appropriate) suggested regulatory language; and

(iv) A statement of the need and justification for the proposed action, including any supporting tests, studies, or other information.

(c) The department will make a tentative decision to grant or deny the petition and give public notice of the tentative decision in writing. The notice will be distributed to interested persons on a mailing list developed specifically for petitions and persons expressing interest in amendments to this chapter. The public comment period will be a minimum of forty-five days.

(d) Upon the written request of any interested person, the director may, at his discretion, hold a conference to consider oral comments on the action proposed in the petition. A person requesting a conference must state the issues to be raised and explain why written comments would not suffice to communicate the person's views. The director may in any case decide on his own motion to hold a conference.

(e) After evaluating all public comments the department will make a final decision in accordance with RCW 34.05.330 or 34.05.240. The department will either deny the petition in writing (stating its reasons for denial), or grant the petition and, when appropriate, initiate rule-making proceedings in accordance with RCW 34.05.330.

(2) Petitions for equivalent testing or analytical methods.

(a) Any person seeking to add a testing or analytical method to WAC 173-303-110 may petition for a regulatory amendment under this section. To be successful, the person must demonstrate to the satisfaction of the department that the proposed method is equal to or superior to the corresponding method prescribed in WAC 173-303-110, in terms of its sensitivity, accuracy, and precision (i.e., reproducibility).

(b) Each petition must include, in addition to the information required by subsection (1) of this section:

(i) A full description of the proposed method, including all procedural steps and equipment used in the method;

(ii) A description of the types of wastes or waste matrices for which the proposed method may be used;

(iii) Comparative results obtained from using the proposed method with those obtained from using the relevant or corresponding methods prescribed in WAC 173-303-110;

(iv) An assessment of any factors which may interfere with, or limit the use of, the proposed method; and

(v) A description of the quality control procedures necessary to ensure the sensitivity, accuracy and precision of the proposed method.

(c) After receiving a petition for an equivalent testing or analytical method, the department may request any additional information on the proposed method which it may reasonably require to evaluate the proposal.

(d) If the department amends the regulations to permit use of a new testing method, the method will be incorporated in a document which will be available from the department.

(3) Petitions for exempting dangerous wastes from a particular generator.

(a) Any generator seeking to exempt his dangerous waste may petition the department for exemption from the requirements of WAC 173-303-070 through 173-303-100.

(b) To be successful, the generator must make the demonstrations required in WAC 173-303-072(3) and, where applicable, (4) ((~~and (5)~~)).

(c) Each petition must include, in addition to the information required by subsection (1) of this section:

(i) The name and address of the laboratory facility performing the sampling or tests of the waste;

(ii) The names and qualifications of the persons sampling and testing the waste;

(iii) The dates of sampling and testing;

(iv) The location of the generating facility;

(v) A description of the manufacturing processes or other operations and feed materials producing the waste and an assessment of whether such processes, operations, or feed materials can or might produce a waste that is not covered by the demonstration;

(vi) A description of the waste and an estimate of the average and maximum monthly and annual quantities of waste covered by the demonstration;

(vii) Pertinent data on and discussion of the factors delineated in WAC 173-303-072(3) and, where applicable, (4) ((~~and (5)~~));

(viii) A description of the methodologies and equipment used to obtain the representative samples;

(ix) A description of the sample handling and preparation techniques, including techniques used for extraction, containerization and preservation of the samples;

(x) A description of the tests performed (including results);

(xi) The names and model numbers of the instruments used in performing the tests and the date of the last calibration for instruments which must be calibrated according to manufacturer's instructions; and

(xii) The following statement signed by the generator of the waste or his authorized representative:

> I certify under penalty of law that I have personally examined and am familiar with the information submitted in this demonstration and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(d) After receiving a petition for a dangerous waste exemption, the department may request any additional information which it may reasonably require to evaluate the petition.

(e) An exemption will only apply to the waste generated by the particular generator covered by the demonstration and will not apply to waste from any other generator.

(f) The department may exempt only part of the waste for which the demonstration is submitted where there is reason to believe that variability of the waste justifies a partial exemption.

(g) The department may (but will not be required to) grant a temporary exemption before making a final decision under subsection (1) of this section, whenever it finds that there is a substantial likelihood that an exemption will be finally granted.

(h) Any waste for which an exemption is sought will remain designated and be subject to the applicable requirements of this chapter until the generator of the waste is notified by the department that his waste is exempt.

(4) Petition for exclusion.

(a) Any generators seeking exclusion of a class of similar or identical wastes under WAC 173-303-071, excluded categories of waste, may petition the department for exclusion. To be successful, the generator(s) must make the demonstrations required in WAC 173-303-072(6) for all those wastes generated in the state which might be excluded pursuant to granting a petition submitted under this subsection. No class of wastes will be excluded if any of the wastes are regulated as hazardous waste under 40 CFR Part 261.

(b) Each petition for exclusion must include the information required by subsections (1) and (3)(c) of this section and any other information required by the department.

(c) After receiving a petition for exclusion, the department may request any additional information it deems necessary to evaluate the petition.

(5) Petition for designation change. The provisions of (a)(i) of this subsection do not apply to any dangerous waste which is also designated as a hazardous waste under 40 CFR Part 261 Subpart D.

(a) A generator may petition the department to change the designation of his waste as follows:

(i) A waste which is designated only for toxicity pursuant to WAC 173-303-100 but which is toxic solely because it is highly acidic or basic (i.e., due to high or low pH) may be subject only to the requirements for corrosive dangerous wastes, provided that the generator can demonstrate this fact to the department's satisfaction through information provided under (b) of this subsection; and

(ii) A waste which is designated EHW may be redesignated DW, provided that the generator can demonstrate that such redesignation is appropriate through information provided under (b) of this subsection.

(b) A petition under this subsection must include:

(i) The information required by subsections (1) and (3)(c) of this section; and

(ii) Such other information as required by the department.

(c) A designation change under this subsection will become effective only after the department has approved the change and notified the generator of such approval.

(6) Petitions to allow land disposal of a waste restricted under WAC 173-303-140.

(a) Any person seeking a land disposal restriction exemption allowed under WAC 173-303-140(6) must submit a petition to the department. The petition must include the following general information:

(i) The petitioner's name and address;

(ii) A statement of the petitioner's interest in the proposed action;

(iii) A description of the proposed action;

(iv) A statement of the need and justification for the proposed action;

(v) An identification of the specific waste and the specific land disposal unit for which the exemption is desired;

(vi) A waste analysis to describe fully the chemical and physical characteristics of the subject waste. All waste and environmental sampling, test, and analysis data must be accurate and reproducible to the extent that state-of-the-art techniques allow; and

(vii) A quality assurance and quality control plan that addresses all sampling and testing aspects of the information provided in the petition.

(b) In addition to the general information requirements in subsection (a) of this section, the following specific information must be provided in the petition for individual case-by-case exemptions.

(i) Petition for land disposal exemption for treatment residuals. Petitions for exemption of treatment residuals, as allowed under WAC 173-303-140 (6)(a), must:

(A) Provide the type of waste management or treatment method applied to the waste and the rationale for selecting this method as the best achievable management method; and

(B) Document that the land disposal of the treatment residual would not pose a greater risk to public health and the environment than land disposal of the original wastes, including an analysis of the treatment residuals to fully describe their chemical and physical characteristics; and

(C) Provide the management alternatives for the treatment residuals and the factors which, if an exemption is not granted, would prevent the utilization of the best achievable management method for the original dangerous waste.

(ii) Petition for economic hardship exemption. Petitions for exemption on the basis of economic hardship, as allowed under WAC 173-303-140 (6)(b), must:

(A) Supply the current management costs and the projected management costs to comply with the requirements of WAC 173-303-140; and

(B) Provide the source of information utilized in determining the economic estimates; and

(C) Provide a discussion of how the projected compliance costs would impose an unreasonable economic burden.

(iii) Petition for leachable inorganic waste exemption. Petitions for exemption of leachable inorganic wastes, as allowed under WAC 173-303-140 (6)(c), must:

(A) Provide information demonstrating that the stabilization of the dangerous waste is less protective of public health and the environment than landfilling; or

(B) Provide a list of stabilization facilities that could accept the dangerous waste and information demonstrating that they do not have available capacity to stabilize the waste; or

(C) Provide information describing the types of stabilization utilized which did not reduce the solubility and mobility of the dangerous waste constituents and describe any other stabilization methods that have been considered but not utilized.

(iv) Petition for organic/carbonaceous waste exemption. Petitions for exemption of organic/carbonaceous wastes, as allowed under WAC 173-303-140 (6)(d), must:

(A) Provide information demonstrating that recycling, treatment and incineration facilities are unavailable for the waste, including a map marked both with the point of waste generation and the point(s) of the nearest treatment, recycling and incineration facility(s) that could manage the dangerous waste; or

(B) Provide information demonstrating that the alternative management methods for organic/carbonaceous waste are less protective of public health and the environment than stabilization and landfilling; or

(C) Provide information demonstrating that:

(I) Recycling and treatment facilities are unavailable for the waste, including a map marked both with the point of waste generation and the point(s) of the nearest treatment, recycling and incineration facility(s) that could manage the dangerous waste; and

(II) The organic/carbonaceous waste has a heat content less than 3,000 BTU/LB or a moisture content greater than sixty-five percent.

(c) Each petition must include the following statement signed by the petitioner or an authorized representative:

> I certify under penalty of law that I have personally examined and am familiar with the information submitted in this petition and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(d) Each petition must be submitted to:

> Department of Ecology
> HWTR Program
> ATTN Land Disposal Exemption
> PO BOX 47600
> Olympia, WA 98504-7600

(e) After receiving a petition, the department may request any additional information that reasonably may be required to evaluate the petition and accompanying demonstration, such as a comprehensive characterization of the disposal unit site including an analysis of background air, soil, and water quality. Simulation models must be calibrated for the specific waste and site conditions, and verified for accuracy by comparison with actual measurements.

(f)(i) The department will make a tentative decision to grant or deny the petition and give public notice of the tentative decision in writing. The notice will be distributed to interested persons on a mailing list developed specifically for petitions and persons expressing interest in amendments to this chapter. The public comment period will be a minimum of forty-five days.

(ii) Upon the written request of any interested person, the department may, at its discretion, hold a conference to consider oral comments on the action proposed in the petition. A person requesting a conference must state the issues to be raised and explain why written comments would not suffice to communicate the person's views. The department may in any case decide on its own motion to hold a conference.

(iii) After evaluating all public comments the department will make a final decision in accordance with RCW 34.04.060 or 34.04.080. The department will either deny the petition in writing (stating its reasons for denial), or grant the petition.

(g) Prior to the department's decision, the applicant is required to comply with all restrictions on land disposal under WAC 173-303-140. The department should respond to a petition within ninety days.

(h) If an exemption is granted, the department may include specific conditions as deemed necessary by the department to protect public health and the environment.

(i) If granted, the exemption will apply to land disposal of the specific restricted waste at the individual disposal unit described in the petition and accompanying demonstration. The exemption will not apply to any other restricted waste at that disposal unit, nor will it apply to that specific restricted waste at any other disposal unit.

(j) If an exemption is granted, the department may withdraw the exemption on the following bases:

(i) If there is a threat to public health and the environment; or

(ii) If there is migration of dangerous waste constituents from the land disposal unit or site for as long as the waste remains dangerous; or

(iii) If the department finds reason to believe that the information submitted in a petition is inaccurate or has been falsified such that the petition should have been denied.

(k) The term of an exemption granted under this subsection will be established by the department at the time of issuance.

(l) Any exemption granted by the department does not relieve the petitioner of his responsibilities in the management of dangerous waste under chapter 173-303 WAC.

(m) The department may (but will not be required to) grant a temporary exemption before making a final decision, whenever it finds that there is a substantial likelihood that an exemption will be finally granted. Temporary exemptions will not be subject to the procedures of (f) of this subsection. Temporary exemptions will not be a cause of delaying final decision making on the petition request.

(7) Petitions to amend WAC 173-303-573 to include additional dangerous wastes.

(a) Any person seeking to add a dangerous waste or a category of dangerous waste to the universal waste regulations of WAC 173-303-573 may petition for a regulatory amendment under this section and WAC 173-303-573 (39) and (40).

(b) To be successful, the petitioner must demonstrate to the satisfaction of the department that regulation under the universal waste regulations of WAC 173-303-573: Is appropriate for the waste or category of waste; will improve management practices for the waste or category of waste; and will improve implementation of the dangerous waste program. The petition must include the information required by subsection (1) of this section. The petition should also address as many of the factors listed in WAC 173-303-573(40) as are appropriate for the waste or category of waste addressed in the petition.

(c) The department will grant or deny a petition using the factors listed in WAC 173-303-573(40). The decision will be based on the weight of evidence showing that regulation under WAC 173-303-573 is appropriate for the waste or category of waste, will improve management practices for the waste or category of waste, and will improve implementation of the dangerous waste program.

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(d) The department may request additional information needed to evaluate the merits of the petition.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-9903 Discarded chemical products list.**

Discarded Chemical Products List

"P" Chemical Products

Comment: For the convenience of the regulated community, the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), and R (Reactivity). Absence of a letter indicates that the compound is only listed for acute toxicity.

**The "P" wastes and their corresponding Dangerous Waste Numbers are:**

| Dangerous Waste No. | Chemical Abstracts No. | Substance |
|---|---|---|
| P023 | 107-20-0 | Acetaldehyde, chloro- |
| P002 | 591-08-2 | Acetamide, N-(aminothioxomethyl)- |
| P057 | 640-19-7 | Acetamide, 2-fluoro- |
| P058 | 62-74-8 | Acetic acid, fluoro-, sodium salt |
| P002 | 591-08-2 | 1-Acetyl-2-thiourea |
| P003 | 107-02-8 | Acrolein |
| P070 | 116-06-3 | Aldicarb |
| P203 | 1646-88-4 | Aldicarb sulfone |
| P004 | 309-00-2 | Aldrin |
| P005 | 107-18-6 | Allyl alcohol |
| P006 | 20859-73-8 | Aluminum phosphide (R,T) |
| P007 | 2763-96-4 | 5-(Aminomethyl)-3-isoxazolol |
| P008 | 504-24-5 | 4-Aminopyridine |
| P009 | 131-74-8 | Ammonium picrate (R) |
| P119 | 7803-55-6 | Ammonium vanadate |
| P099 | 506-61-6 | Argentate(1-), bis(cyano-C)-, potassium |
| P010 | 7778-39-4 | Arsenic acid $H_3AsO_4$ |
| P012 | 1327-53-3 | Arsenic oxide $As_2O_3$ |
| P011 | 1303-28-2 | Arsenic oxide $As_2O_5$ |
| P011 | 1303-28-2 | Arsenic pentoxide |
| P012 | 1327-53-3 | Arsenic trioxide |
| P038 | 692-42-2 | Arsine, diethyl- |
| P036 | 696-28-6 | Arsonous dichloride, phenyl- |
| P054 | 151-56-4 | Aziridine |
| P067 | 75-55-8 | Aziridine, 2-methyl- |
| P013 | 542-62-1 | Barium cyanide |
| P024 | 106-47-8 | Benzenamine, 4-chloro- |
| P077 | 100-01-6 | Benzenamine, 4-nitro- |
| P028 | 100-44-7 | Benzene, (chloromethyl)- |
| P042 | 51-43-4 | 1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)- |
| P046 | 122-09-8 | Benzeneethanamine, alpha,alpha-dimethyl- |
| P014 | 108-98-5 | Benzenethiol |
| P127 | 1563-66-2 | 7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-, methylcarbamate |
| P188 | 57-64-7 | Benzoic acid, 2-hydroxy-, compd. with (3aS-cis)-1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethylpyrrolo[2,3-b]indol-5-yl methylcarbamate ester (1:1) |
| P001 | [1]81-81-2 | 2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations greater than 0.3% |
| P028 | 100-44-7 | Benzyl chloride |
| P015 | 7440-41-7 | Beryllium powder |
| P017 | 598-31-2 | Bromoacetone |
| P018 | 357-57-3 | Brucine |
| P045 | 39196-18-4 | 2-Butanone, 3,3-dimethyl-1-(methylthio)-, O-[methylamino)carbonyl] oxime |
| P021 | 592-01-8 | Calcium cyanide |
| P189 | 55285-14-8 | Carbamic acid, [(dibutylamino)-thio]methyl-, 2,3-dihydro-2,2-dimethyl- 7-benzofuranyl ester |
| P191 | 644-64-4 | Carbamic acid, dimethyl-, 1-[(dimethyl-amino)carbonyl]- 5-methyl- 1H-pyrazol-3-yl ester |
| P192 | 119-38-0 | Carbamic acid, dimethyl-, 3-methyl-1- (1-methylethyl)-1H- pyrazol-5-yl ester |
| P190 | 1129-41-5 | Carbamic acid, methyl-, 3-methylphenyl ester |
| P127 | 1563-66-2 | Carbofuran |
| P021 | 592-01-8 | Calcium cyanide $Ca(CN)_2$ |
| P022 | 75-15-0 | Carbon disulfide |
| P189 | 55285-14-8 | Carbosulfan |
| P095 | 75-44-5 | Carbonic dichloride |
| P023 | 107-20-0 | Chloroacetaldehyde |
| P024 | 106-47-8 | p-Chloroaniline |
| P026 | 5344-82-1 | 1-(o-Chlorophenyl)thiourea |
| P027 | 542-76-7 | 3-Chloropropionitrile |
| P029 | 544-92-3 | Copper cyanide |
| P029 | 544-92-3 | Copper cyanide Cu(CN) |
| P202 | 64-00-6 | m-Cumenyl methylcarbamate |
| P030 | | Cyanides (soluble cyanide salts), not otherwise specified |
| P031 | 460-19-5 | Cyanogen |
| P033 | 506-77-4 | Cyanogen chloride |
| P033 | 506-77-4 | Cyanogen chloride (CN)Cl |
| P034 | 131-89-5 | 2-Cyclohexyl-4,6-dinitrophenol |
| P016 | 542-88-1 | Dichloromethyl ether |
| P036 | 696-28-6 | Dichlorophenylarsine |
| P037 | 60-57-1 | Dieldrin |
| P038 | 692-42-2 | Diethylarsine |
| P041 | 311-45-5 | Diethyl-p-nitrophenyl phosphate |
| P040 | 297-97-2 | O,O-Diethyl O-pyrazinyl phosphorothioate |
| P043 | 55-91-4 | Diisopropylfluorophosphate (DFP) |
| P191 | 644-64-4 | Dimetilan |
| P004 | 309-00-2 | 1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa- chloro-1,4,4a,5,8,8a,-hexahydro-, (1alpha,4alpha,4abeta,5alpha, 8alpha,8abeta)- |
| P060 | 465-73-6 | 1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa- chloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5beta, 8beta,8abeta)- |
| P037 | 60-57-1 | 2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta, 6beta,6aalpha,7beta, 7aalpha)- |
| P051 | [1]72-20-8 | 2,7:3,6-Dimethanonaphth [2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2abeta,3alpha, 6alpha,6abeta,7beta, 7aalpha)-, & metabolites |
| P044 | 60-51-5 | Dimethoate |
| P046 | 122-09-8 | alpha,alpha-Dimethylphenethylamine |
| P047 | [1]534-52-1 | 4,6-Dinitro-o-cresol, & salts |
| P048 | 51-28-5 | 2,4-Dinitrophenol |
| P020 | 88-85-7 | Dinoseb |
| P085 | 152-16-9 | Diphosphoramide, octamethyl- |
| P111 | 107-49-3 | Diphosphoric acid, tetraethyl ester |
| P039 | 298-04-4 | Disulfoton |
| P049 | 541-53-7 | Dithiobiuret |

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|---|---|---|
| P185 | 26419-73-8 | 1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O- [(methylamino)-carbonyl]oxime |
| P050 | 115-29-7 | Endosulfan |
| P088 | 145-73-3 | Endothall |
| P051 | 72-20-8 | Endrin |
| P051 | 72-20-8 | Endrin, & metabolites |
| P042 | 51-43-4 | Epinephrine |
| P031 | 460-19-5 | Ethanedinitrile |
| P194 | 23135-22-0 | Ethanimidothioc acid, 2-(dimethylamino)-N-[[(methylamino) carbonyl]oxy]-2-oxo-, methyl ester |
| P066 | 16752-77-5 | Ethanimidothioic acid, N-[[(methylamino)carbonyl]oxy]-, methyl ester |
| P101 | 107-12-0 | Ethyl cyanide |
| P054 | 151-56-4 | Ethyleneimine |
| P097 | 52-85-7 | Famphur |
| P056 | 7782-41-4 | Fluorine |
| P057 | 640-19-7 | Fluoroacetamide |
| P058 | 62-74-8 | Fluoroacetic acid, sodium salt |
| P198 | 23422-53-9 | Formetanate hydrochloride |
| P197 | 17702-57-7 | Formparanate |
| P065 | 628-86-4 | Fulminic acid, mercury(2+) salt (R,T) |
| P059 | 76-44-8 | Heptachlor |
| P062 | 757-58-4 | Hexaethyl tetraphosphate |
| P116 | 79-19-6 | Hydrazinecarbothioamide |
| P068 | 60-34-4 | Hydrazine, methyl- |
| P063 | 74-90-8 | Hydrocyanic acid |
| P063 | 74-90-8 | Hydrogen cyanide |
| P096 | 7803-51-2 | Hydrogen phosphide |
| P060 | 465-73-6 | Isodrin |
| P192 | 119-38-0 | Isolan |
| P202 | 64-00-6 | 3-Isopropylphenyl N-methylcarbamate |
| P007 | 2763-96-4 | 3(2H)-Isoxazolone, 5-(aminomethyl)- |
| P196 | 15339-36-3 | Manganese, bis(dimethylcarbamodithioato-S,S')- |
| P196 | 15339-36-3 | Manganese dimethyldithiocarbamate |
| P092 | 62-38-4 | Mercury, (acetato-O)phenyl- |
| P065 | 628-86-4 | Mercury fulminate (R,T) |
| P198 | 23422-53-9 | Methanimidamide, N,N-dimethyl-N'-[3-[[(methylamino)-carbonyl]oxy]phenyl]-, monohydrochloride |
| P197 | 17702-57-7 | Methanimidamide, N,N-dimethyl-N'-[2-methyl-4-[[(methylamino)carbonyl]oxy] phenyl]- |
| P082 | 62-75-9 | Methanamine, N-methyl-N-nitroso- |
| P064 | 624-83-9 | Methane, isocyanato- |
| P016 | 542-88-1 | Methane, oxybis[chloro- |
| P112 | 509-14-8 | Methane, tetranitro- (R) |
| P118 | 75-70-7 | Methanethiol, trichloro- |
| P050 | 115-29-7 | 6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide |
| P059 | 76-44-8 | 4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- |
| P199 | 2032-65-7 | Methiocarb |
| P066 | 16752-77-5 | Methomyl |
| P068 | 60-34-4 | Methyl hydrazine |
| P064 | 624-83-9 | Methyl isocyanate |
| P069 | 75-86-5 | 2-Methyllactonitrile |
| P071 | 298-00-0 | Methyl parathion |
| P190 | 1129-41-5 | Metolcarb |
| P128 | 315-18-4 | Mexacarbate |
| P072 | 86-88-4 | alpha-Naphthylthiourea |
| P073 | 13463-39-3 | Nickel carbonyl |
| P073 | 13463-39-3 | Nickel carbonyl $Ni(CO)_4$, (T-4)- |
| P074 | 557-19-7 | Nickel cyanide |
| P074 | 557-19-7 | Nickel cyanide $Ni(CN)_2$ |
| P075 | 154-11-5 | Nicotine, & salts |
| P076 | 10102-43-9 | Nitric oxide |
| P077 | 100-01-6 | p-Nitroaniline |
| P078 | 10102-44-0 | Nitrogen dioxide |
| P076 | 10102-43-9 | Nitrogen oxide NO |
| P078 | 10102-44-0 | Nitrogen oxide $NO_2$ |
| P081 | 55-63-0 | Nitroglycerine (R) |
| P082 | 62-75-9 | N-Nitrosodimethylamine |
| P084 | 4549-40-0 | N-Nitrosomethylvinylamine |
| P085 | 152-16-9 | Octamethylpyrophosphoramide |
| P087 | 20816-12-0 | Osmium oxide $OsO_4$, (T-4)- |
| P087 | 20816-12-0 | Osmium tetroxide |
| P088 | 145-73-3 | 7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid |
| P194 | 23135-22-0 | Oxamyl |
| P089 | 56-38-2 | Parathion |
| P034 | 131-89-5 | Phenol, 2-cyclohexyl-4,6-dinitro- |
| P128 | 315-18-4 | Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester) |
| P199 | 2032-65-7 | Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate |
| P048 | 51-28-5 | Phenol, 2,4-dinitro- |
| P047 | 1534-52-1 | Phenol, 2-methyl-4,6-dinitro-, & salts |
| P202 | 64-00-6 | Phenol, 3-(1-methylethyl)-, methyl carbamate |
| P201 | 2631-37-0 | Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate |
| P020 | 88-85-7 | Phenol, 2-(1-methylpropyl)-4,6-dinitro- |
| P009 | 131-74-8 | Phenol, 2,4,6-trinitro-, ammonium salt (R) |
| P092 | 62-38-4 | Phenylmercury acetate |
| P093 | 103-85-5 | Phenylthiourea |
| P094 | 298-02-2 | Phorate |
| P095 | 75-44-5 | Phosgene |
| P096 | 7803-51-2 | Phosphine |
| P041 | 311-45-5 | Phosphoric acid, diethyl 4-nitrophenyl ester |
| P039 | 298-04-4 | Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester |
| P094 | 298-02-2 | Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester |
| P044 | 60-51-5 | Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester |
| P043 | 55-91-4 | Phosphorofluoridic acid, bis(1-methylethyl) ester |
| P089 | 56-38-2 | Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester |
| P040 | 297-97-2 | Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester |
| P097 | 52-85-7 | Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl] O,O-dimethyl ester |
| P071 | 298-00-0 | Phosphorothioic acid, O,O,-dimethyl O-(4-nitrophenyl) ester |
| P204 | 57-47-6 | Physostigmine |
| P188 | 57-64-7 | Physostigmine salicylate |
| P110 | 78-00-2 | Plumbane, tetraethyl- |
| P098 | 151-50-8 | Potassium cyanide |
| P098 | 151-50-8 | Potassium cyanide K(CN) |
| P099 | 506-61-6 | Potassium silver cyanide |
| P201 | 2631-37-0 | Promecarb |
| P203 | 1646-88-4 | Propanal, 2-methyl-2-(methylsulfonyl)-, O-[(methylamino)carbonyl] oxime |
| P070 | 116-06-3 | Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime |
| P101 | 107-12-0 | Propanenitrile |
| P027 | 542-76-7 | Propanenitrile, 3-chloro- |
| P069 | 75-86-5 | Propanenitrile, 2-hydroxy-2-methyl- |
| P081 | 55-63-0 | 1,2,3-Propanetriol, trinitrate (R) |

PROPOSED

PROPOSED

| | | |
|---|---|---|
| P017 | 598-31-2 | 2-Propanone, 1-bromo- |
| P102 | 107-19-7 | Propargyl alcohol |
| P003 | 107-02-8 | 2-Propenal |
| P005 | 107-18-6 | 2-Propen-1-ol |
| P067 | 75-55-8 | 1,2-Propylenimine |
| P102 | 107-19-7 | 2-Propyn-1-ol |
| P008 | 504-24-5 | 4-Pyridinamine |
| P075 | [1]54-11-5 | Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, & salts |
| P204 | 57-47-6 | Pyrrolo[2,3-b]indol-5-ol, 1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethyl-, methylcarbamate (ester), (3aS-cis)- |
| P114 | 12039-52-0 | Selenious acid, dithallium(1+) salt |
| P103 | 630-10-4 | Selenourea |
| P104 | 506-64-9 | Silver cyanide |
| P104 | 506-64-9 | Silver cyanide Ag(CN) |
| P105 | 26628-22-8 | Sodium azide |
| P106 | 143-33-9 | Sodium cyanide |
| P106 | 143-33-9 | Sodium cyanide Na(CN) |
| P108 | [1]57-24-9 | Strychnidin-10-one, & salts |
| P018 | 357-57-3 | Strychnidin-10-one, 2,3-dimethoxy- |
| P108 | [1]57-24-9 | Strychnine, & salts |
| P115 | 7446-18-6 | Sulfuric acid, dithallium(1+) salt |
| P109 | 3689-24-5 | Tetraethyldithiopyrophosphate |
| P110 | 78-00-2 | Tetraethyl lead |
| P111 | 107-49-3 | Tetraethyl pyrophosphate |
| P112 | 509-14-8 | Tetranitromethane (R) |
| P062 | 757-58-4 | Tetraphosphoric acid, hexaethyl ester |
| P113 | 1314-32-5 | Thallic oxide |
| P113 | 1314-32-5 | Thallium oxide $Tl_2O_3$ |
| P114 | 12039-52-0 | Thallium(I) selenite |
| P115 | 7446-18-6 | Thallium(I) sulfate |
| P109 | 3689-24-5 | Thiodiphosphoric acid, tetraethyl ester |
| P045 | 39196-18-4 | Thiofanox |
| P049 | 541-53-7 | Thioimidodicarbonic diamide $[(H_2N)C(S)]_2NH$ |
| P014 | 108-98-5 | Thiophenol |
| P116 | 79-19-6 | Thiosemicarbazide |
| P026 | 5344-82-1 | Thiourea, (2-chlorophenyl)- |
| P072 | 86-88-4 | Thiourea, 1-naphthalenyl- |
| P093 | 103-85-5 | Thiourea, phenyl- |
| P185 | 26419-73-8 | Tirpate |
| P123 | 8001-35-2 | Toxaphene |
| P118 | 75-70-7 | Trichloromethanethiol |
| P119 | 7803-55-6 | Vanadic acid, ammonium salt |
| P120 | 1314-62-1 | Vanadium oxide $V_2O_5$ |
| P120 | 1314-62-1 | Vanadium pentoxide |
| P084 | 4549-40-0 | Vinylamine, N-methyl-N-nitroso- |
| P001 | [1]81-81-2 | Warfarin, & salts, when present at concentrations greater than 0.3% |
| P205 | 137-30-4 | Zinc, bis(dimethylcarbamodithioato-S,S')- |
| P121 | 557-21-1 | Zinc cyanide |
| P121 | 557-21-1 | Zinc cyanide $Zn(CN)_2$ |
| P122 | 1314-84-7 | Zinc phosphide $Zn_3P_2$, when present at concentrations greater than 10% (R,T) |
| P205 | 137-30-4 | Ziram |

FOOTNOTE: [1]CAS Number given for parent compound only.

"U" Chemical Products

Comment: For the convenience of the regulated community, the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), R (Reactivity), I (Ignitability) and C (Corrosivity). Absence of a letter indicates that the compound is only listed for toxicity.

**The "U" wastes and their corresponding Dangerous Waste Numbers are:**

| Hazardous Waste No. | Chemical Abstracts No. | Substance |
|---|---|---|
| U394 | 30558-43-1 | A2213 |
| U001 | 75-07-0 | Acetaldehyde (I) |
| U034 | 75-87-6 | Acetaldehyde, trichloro- |
| U187 | 62-44-2 | Acetamide, N-(4-ethoxyphenyl)- |
| U005 | 53-96-3 | Acetamide, N-9H-fluoren-2-yl- |
| U240 | [1]94-75-7 | Acetic acid, (2,4-dichlorophenoxy)-, salts & esters |
| U112 | 141-78-6 | Acetic acid ethyl ester (I) |
| U144 | 301-04-2 | Acetic acid, lead(2+) salt |
| U214 | 563-68-8 | Acetic acid, thallium(1+) salt |
| See F027 | 93-76-5 | Acetic acid, (2,4,5-trichlorophenoxy)- |
| U002 | 67-64-1 | Acetone (I) |
| U003 | 75-05-8 | Acetonitrile (I,T) |
| U004 | 98-86-2 | Acetophenone |
| U005 | 53-96-3 | 2-Acetylaminofluorene |
| U006 | 75-36-5 | Acetyl chloride (C,R,T) |
| U007 | 79-06-1 | Acrylamide |
| U008 | 79-10-7 | Acrylic acid (I) |
| U009 | 107-13-1 | Acrylonitrile |
| U011 | 61-82-5 | Amitrole |
| U012 | 62-53-3 | Aniline (I,T) |
| U136 | 75-60-5 | Arsinic acid, dimethyl- |
| U014 | 492-80-8 | Auramine |
| U015 | 115-02-6 | Azaserine |
| U010 | 50-07-7 | Azirino[2',3':3,4]pyrrolo[1,2-a]indole-4,7-dione, 6-amino-8-[[(aminocarbonyl)oxy]methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-, [1aS-(1aalpha, 8beta,8aalpha,8balpha)]- |
| U280 | 101-27-9 | Barban |
| U278 | 22781-23-3 | Bendiocarb |
| U364 | 22961-82-6 | Bendiocarb phenol |
| U271 | 17804-35-2 | Benomyl |
| U157 | 56-49-5 | Benz[j]aceanthrylene, 1,2-dihydro-3-methyl- |
| U016 | 225-51-4 | Benz[c]acridine |
| U017 | 98-87-3 | Benzal chloride |
| U192 | 23950-58-5 | Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)- |
| U018 | 56-55-3 | Benz[a]anthracene |
| U094 | 57-97-6 | Benz[a]anthracene, 7,12-dimethyl- |
| U012 | 62-53-3 | Benzenamine (I,T) |
| U014 | 492-80-8 | Benzenamine, 4,4'-carbonimidoylbis[N,N-dimethyl- |
| U049 | 3165-93-3 | Benzenamine, 4-chloro-2-methyl-, hydrochloride |
| U093 | 60-11-7 | Benzenamine, N,N-dimethyl-4-(phenylazo)- |
| U328 | 95-53-4 | Benzenamine, 2-methyl- |
| U353 | 106-49-0 | Benzenamine, 4-methyl- |
| U158 | 101-14-4 | Benzenamine, 4,4'-methylenebis[2-chloro- |
| U222 | 636-21-5 | Benzenamine, 2-methyl-, hydrochloride |
| U181 | 99-55-8 | Benzenamine, 2-methyl-5-nitro- |
| U019 | 71-43-2 | Benzene (I,T) |
| U038 | 510-15-6 | Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester |
| U030 | 101-55-3 | Benzene, 1-bromo-4-phenoxy- |
| U035 | 305-03-3 | Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]- |
| U037 | 108-90-7 | Benzene, chloro- |
| U221 | 25376-45-8 | Benzenediamine, ar-methyl- |
| U028 | 117-81-7 | 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester |
| U069 | 84-74-2 | 1,2-Benzenedicarboxylic acid, dibutyl ester |

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|---|---|---|
| U088 | 84-66-2 | 1,2-Benzenedicarboxylic acid, diethyl ester |
| U102 | 131-11-3 | 1,2-Benzenedicarboxylic acid, dimethyl ester |
| U107 | 117-84-0 | 1,2-Benzenedicarboxylic acid, dioctyl ester |
| U070 | 95-50-1 | Benzene, 1,2-dichloro- |
| U071 | 541-73-1 | Benzene, 1,3-dichloro- |
| U072 | 106-46-7 | Benzene, 1,4-dichloro- |
| U060 | 72-54-8 | Benzene, 1,1'-(2,2-dichloroethylidene)bis[4-chloro- |
| U017 | 98-87-3 | Benzene, (dichloromethyl)- |
| U223 | 26471-62-5 | Benzene, 1,3-diisocyanatomethyl- (R,T) |
| U239 | 1330-20-7 | Benzene, dimethyl- (I,T) |
| U201 | 108-46-3 | 1,3-Benzenediol |
| U127 | 118-74-1 | Benzene, hexachloro- |
| U056 | 110-82-7 | Benzene, hexahydro- (I) |
| U220 | 108-88-3 | Benzene, methyl- |
| U105 | 121-14-2 | Benzene, 1-methyl-2,4-dinitro- |
| U106 | 606-20-2 | Benzene, 2-methyl-1,3-dinitro- |
| U055 | 98-82-8 | Benzene, (1-methylethyl)- (I) |
| U169 | 98-95-3 | Benzene, nitro- |
| U183 | 608-93-5 | Benzene, pentachloro- |
| U185 | 82-68-8 | Benzene, pentachloronitro- |
| U020 | 98-09-9 | Benzenesulfonic acid chloride (C,R) |
| U020 | 98-09-9 | Benzenesulfonyl chloride (C,R) |
| U207 | 95-94-3 | Benzene, 1,2,4,5-tetrachloro- |
| U061 | 50-29-3 | Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- |
| U247 | 72-43-5 | Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy- |
| U023 | 98-07-7 | Benzene, (trichloromethyl)- |
| U234 | 99-35-4 | Benzene, 1,3,5-trinitro- |
| U021 | 92-87-5 | Benzidine |
| U202 | [1]81-07-2 | 1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, & salts |
| U278 | 22781-23-3 | 1,3-Benzodioxol-4-ol, 2,2-dimethyl-, methyl carbamate |
| U364 | 22961-82-6 | 1,3-Benzodioxol-4-ol, 2,2-dimethyl- |
| U203 | 94-59-7 | 1,3-Benzodioxole, 5-(2-propenyl)- |
| U141 | 120-58-1 | 1,3-Benzodioxole, 5-(1-propenyl)- |
| U090 | 94-58-6 | 1,3-Benzodioxole, 5-propyl- |
| U367 | 1563-38-8 | 7-Benzofuranol, 2,3-dihydro-2,2-dimethyl- |
| U064 | 189-55-9 | Benzo[rst]pentaphene |
| U248 | [1]81-81-2 | 2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenyl-butyl)-, & salts, when present at concentrations of 0.3% or less |
| U022 | 50-32-8 | Benzo[a]pyrene |
| U197 | 106-51-4 | p-Benzoquinone |
| U023 | 98-07-7 | Benzotrichloride (C,R,T) |
| U085 | 1464-53-5 | 2,2'-Bioxirane |
| U021 | 92-87-5 | [1,1'-Biphenyl]-4,4'-diamine |
| U073 | 91-94-1 | [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro- |
| U091 | 119-90-4 | [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy- |
| U095 | 119-93-7 | [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl- |
| U225 | 75-25-2 | Bromoform |
| U030 | 101-55-3 | 4-Bromophenyl phenyl ether |
| U128 | 87-68-3 | 1,3-Butadiene, 1,1,2,3,4,4-hexachloro- |
| U172 | 924-16-3 | 1-Butanamine, N-butyl-N-nitroso- |
| U031 | 71-36-3 | 1-Butanol (I) |
| U159 | 78-93-3 | 2-Butanone (I,T) |
| U160 | 1338-23-4 | 2-Butanone, peroxide (R,T) |
| U053 | 4170-30-3 | 2-Butenal |
| U074 | 764-41-0 | 2-Butene, 1,4-dichloro- (I,T) |
| U143 | 303-34-4 | 2-Butenoic acid, 2-methyl-, 7-[[2,3-dihydroxy- 2-(1-methoxyethyl)-3-methyl-1-oxobutoxy]methyl]- 2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester, [1S-[1alpha(Z),7(2S*,3R*), 7aalpha]]- |
| U031 | 71-36-3 | n-Butyl alcohol (I) |
| U136 | 75-60-5 | Cacodylic acid |
| U032 | 13765-19-0 | Calcium chromate |
| U238 | 51-79-6 | Carbamic acid, ethyl ester |
| U178 | 615-53-2 | Carbamic acid, methylnitroso-, ethyl ester |
| U372 | 10605-21-7 | Carbamic acid, 1H-benzimidazol-2-yl, methyl ester |
| U271 | 17804-35-2 | Carbamic acid, [1-[(butylamino)carbonyl] -1H-benzimidazol-2-yl]-, methyl ester |
| U280 | 101-27-9 | Carbamic acid, (3-chlorophenyl)-, 4-chloro-2-butynyl ester |
| U373 | 122-42-9 | Carbamic acid, phenyl-, 1-methylethyl ester |
| U409 | 23564-05-8 | Carbamic acid, [1,2-phenylenebis (iminocarbonothioyl)]bis-, dimethyl ester |
| U097 | 79-44-7 | Carbamic chloride, dimethyl- |
| U114 | [1]111-54-6 | Carbamodithioic acid, 1,2-ethanediylbis-, salts & esters |
| U062 | 2303-16-4 | Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester |
| U389 | 2303-17-5 | Carbamothioic acid, bis(1-methylethyl)-, S-(2,3,3-trichloro-2-propenyl) ester |
| U387 | 52888-80-9 | Carbamothioic acid, dipropyl-, S-(phenylmethyl) ester |
| U279 | 63-25-2 | Carbaryl |
| U372 | 10605-21-7 | Carbendazim |
| U367 | 1563-38-8 | Carbofuran phenol |
| U215 | 6533-73-9 | Carbonic acid, dithallium(1+) salt |
| U033 | 353-50-4 | Carbonic difluoride |
| U156 | 79-22-1 | Carbonochloridic acid, methyl ester (I,T) |
| U033 | 353-50-4 | Carbon oxyfluoride (R,T) |
| U211 | 56-23-5 | Carbon tetrachloride |
| U034 | 75-87-6 | Chloral |
| U035 | 305-03-3 | Chlorambucil |
| U036 | 57-74-9 | Chlordane, alpha & gamma isomers |
| U026 | 494-03-1 | Chlornaphazin |
| U037 | 108-90-7 | Chlorobenzene |
| U038 | 510-15-6 | Chlorobenzilate |
| U039 | 59-50-7 | p-Chloro-m-cresol |
| U042 | 110-75-8 | 2-Chloroethyl vinyl ether |
| U044 | 67-66-3 | Chloroform |
| U046 | 107-30-2 | Chloromethyl methyl ether |
| U047 | 91-58-7 | beta-Chloronaphthalene |
| U048 | 95-57-8 | o-Chlorophenol |
| U049 | 3165-93-3 | 4-Chloro-o-toluidine, hydrochloride |
| U032 | 13765-19-0 | Chromic acid $H_2CrO_4$, calcium salt |
| U050 | 218-01-9 | Chrysene |
| U051 | | Creosote |
| U052 | 1319-77-3 | Cresol (Cresylic acid) |
| U053 | 4170-30-3 | Crotonaldehyde |
| U055 | 98-82-8 | Cumene (I) |
| U246 | 506-68-3 | Cyanogen bromide (CN)Br |
| U197 | 106-51-4 | 2,5-Cyclohexadiene-1,4-dione |
| U056 | 110-82-7 | Cyclohexane (I) |
| U129 | 58-89-9 | Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha, 3beta,4alpha,5alpha,6beta)- |
| U057 | 108-94-1 | Cyclohexanone (I) |
| U130 | 77-47-4 | 1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro- |
| U058 | 50-18-0 | Cyclophosphamide |
| U240 | [1]94-75-7 | 2,4-D, salts & esters |

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|---|---|---|
| U059 | 20830-81-3 | Daunomycin |
| U060 | 72-54-8 | DDD |
| U061 | 50-29-3 | DDT |
| U062 | 2303-16-4 | Diallate |
| U063 | 53-70-3 | Dibenz[a,h]anthracene |
| U064 | 189-55-9 | Dibenzo[a,i]pyrene |
| U066 | 96-12-8 | 1,2-Dibromo-3-chloropropane |
| U069 | 84-74-2 | Dibutyl phthalate |
| U070 | 95-50-1 | o-Dichlorobenzene |
| U071 | 541-73-1 | m-Dichlorobenzene |
| U072 | 106-46-7 | p-Dichlorobenzene |
| U073 | 91-94-1 | 3,3'-Dichlorobenzidine |
| U074 | 764-41-0 | 1,4-Dichloro-2-butene (I,T) |
| U075 | 75-71-8 | Dichlorodifluoromethane |
| U078 | 75-35-4 | 1,1-Dichloroethylene |
| U079 | 156-60-5 | 1,2-Dichloroethylene |
| U025 | 111-44-4 | Dichloroethyl ether |
| U027 | 108-60-1 | Dichloroisopropyl ether |
| U024 | 111-91-1 | Dichloromethoxy ethane |
| U081 | 120-83-2 | 2,4-Dichlorophenol |
| U082 | 87-65-0 | 2,6-Dichlorophenol |
| U084 | 542-75-6 | 1,3-Dichloropropene |
| U085 | 1464-53-5 | 1,2:3,4-Diepoxybutane (I,T) |
| U395 | 5952-26-1 | Diethylene glycol, dicarbamate |
| U108 | 123-91-1 | 1,4-Diethyleneoxide |
| U028 | 117-81-7 | Diethylhexyl phthalate |
| U086 | 1615-80-1 | N,N'-Diethylhydrazine |
| U087 | 3288-58-2 | O,O-Diethyl S-methyl dithiophosphate |
| U088 | 84-66-2 | Diethyl phthalate |
| U089 | 56-53-1 | Diethylstilbesterol |
| U090 | 94-58-6 | Dihydrosafrole |
| U091 | 119-90-4 | 3,3'-Dimethoxybenzidine |
| U092 | 124-40-3 | Dimethylamine (I) |
| U093 | 60-11-7 | p-Dimethylaminoazobenzene |
| U094 | 57-97-6 | 7,12-Dimethylbenz[a]anthracene |
| U095 | 119-93-7 | 3,3'-Dimethylbenzidine |
| U096 | 80-15-9 | alpha,alpha-Dimethylbenzylhydroperoxide (R) |
| U097 | 79-44-7 | Dimethylcarbamoyl chloride |
| U098 | 57-14-7 | 1,1-Dimethylhydrazine |
| U099 | 540-73-8 | 1,2-Dimethylhydrazine |
| U101 | 105-67-9 | 2,4-Dimethylphenol |
| U102 | 131-11-3 | Dimethyl phthalate |
| U103 | 77-78-1 | Dimethyl sulfate |
| U105 | 121-14-2 | 2,4-Dinitrotoluene |
| U106 | 606-20-2 | 2,6-Dinitrotoluene |
| U107 | 117-84-0 | Di-n-octyl phthalate |
| U108 | 123-91-1 | 1,4-Dioxane |
| U109 | 122-66-7 | 1,2-Diphenylhydrazine |
| U110 | 142-84-7 | Dipropylamine (I) |
| U111 | 621-64-7 | Di-n-propylnitrosamine |
| U041 | 106-89-8 | Epichlorohydrin |
| U001 | 75-07-0 | Ethanal (I) |
| U174 | 55-18-5 | Ethanamine, N-ethyl-N-nitroso- |
| U404 | 121-44-8 | Ethanamine, N,N-diethyl- |
| U155 | 91-80-5 | 1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)- |
| U067 | 106-93-4 | Ethane, 1,2-dibromo- |
| U076 | 75-34-3 | Ethane, 1,1-dichloro- |
| U077 | 107-06-2 | Ethane, 1,2-dichloro- |
| U131 | 67-72-1 | Ethane, hexachloro- |
| U024 | 111-91-1 | Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro- |
| U117 | 60-29-7 | Ethane, 1,1'-oxybis-(I) |
| U025 | 111-44-4 | Ethane, 1,1'-oxybis[2-chloro- |
| U184 | 76-01-7 | Ethane, pentachloro- |
| U208 | 630-20-6 | Ethane, 1,1,1,2-tetrachloro- |
| U209 | 79-34-5 | Ethane, 1,1,2,2-tetrachloro- |
| U218 | 62-55-5 | Ethanethioamide |
| U226 | 71-55-6 | Ethane, 1,1,1-trichloro- |
| U227 | 79-00-5 | Ethane, 1,1,2-trichloro- |
| U410 | 59669-26-0 | Ethanimidothioic acid, N,N'-[thiobis[(methylimino) carbonyloxy]]bis-, dimethyl ester |
| U394 | 30558-43-1 | Ethanimidothioic acid, 2-(dimethylamino) -N-hydroxy-2-oxo-, methyl ester |
| U359 | 110-80-5 | Ethanol, 2-ethoxy- |
| U173 | 1116-54-7 | Ethanol, 2,2'-(nitrosoimino)bis- |
| U395 | 5952-26-1 | Ethanol, 2,2'-oxybis-, dicarbamate |
| U004 | 98-86-2 | Ethanone, 1-phenyl- |
| U043 | 75-01-4 | Ethene, chloro- |
| U042 | 110-75-8 | Ethene, (2-chloroethoxy)- |
| U078 | 75-35-4 | Ethene, 1,1-dichloro- |
| U079 | 156-60-5 | Ethene, 1,2-dichloro-, (E)- |
| U210 | 127-18-4 | Ethene, tetrachloro- |
| U228 | 79-01-6 | Ethene, trichloro- |
| U112 | 141-78-6 | Ethyl acetate (I) |
| U113 | 140-88-5 | Ethyl acrylate (I) |
| U238 | 51-79-6 | Ethyl carbamate (urethane) |
| U117 | 60-29-7 | Ethyl ether (I) |
| U114 | [1]111-54-6 | Ethylenebisdithiocarbamic acid, salts & esters |
| U067 | 106-93-4 | Ethylene dibromide |
| U077 | 107-06-2 | Ethylene dichloride |
| U359 | 110-80-5 | Ethylene glycol monoethyl ether |
| U115 | 75-21-8 | Ethylene oxide (I,T) |
| U116 | 96-45-7 | Ethylenethiourea |
| U076 | 75-34-3 | Ethylidene dichloride |
| U118 | 97-63-2 | Ethyl methacrylate |
| U119 | 62-50-0 | Ethyl methanesulfonate |
| U120 | 206-44-0 | Fluoranthene |
| U122 | 50-00-0 | Formaldehyde |
| U123 | 64-18-6 | Formic acid (C,T) |
| U124 | 110-00-9 | Furan (I) |
| U125 | 98-01-1 | 2-Furancarboxaldehyde (I) |
| U147 | 108-31-6 | 2,5-Furandione |
| U213 | 109-99-9 | Furan, tetrahydro-(I) |
| U125 | 98-01-1 | Furfural (I) |
| U124 | 110-00-9 | Furfuran (I) |
| U206 | 18883-66-4 | Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-, D- |
| U206 | 18883-66-4 | D-Glucose, 2-deoxy-2-[[(methylnitrosoamino)-carbonyl]amino]- |
| U126 | 765-34-4 | Glycidylaldehyde |
| U163 | 70-25-7 | Guanidine, N-methyl-N'-nitro-N-nitroso- |
| U127 | 118-74-1 | Hexachlorobenzene |
| U128 | 87-68-3 | Hexachlorobutadiene |
| U130 | 77-47-4 | Hexachlorocyclopentadiene |
| U131 | 67-72-1 | Hexachloroethane |
| U132 | 70-30-4 | Hexachlorophene |
| U243 | 1888-71-7 | Hexachloropropene |
| U133 | 302-01-2 | Hydrazine (R,T) |
| U086 | 1615-80-1 | Hydrazine, 1,2-diethyl- |
| U098 | 57-14-7 | Hydrazine, 1,1-dimethyl- |
| U099 | 540-73-8 | Hydrazine, 1,2-dimethyl- |
| U109 | 122-66-7 | Hydrazine, 1,2-diphenyl- |
| U134 | 7664-39-3 | Hydrofluoric acid (C,T) |
| U134 | 7664-39-3 | Hydrogen fluoride (C,T) |
| U135 | 7783-06-4 | Hydrogen sulfide |
| U135 | 7783-06-4 | Hydrogen sulfide $H_2S$ |
| U096 | 80-15-9 | Hydroperoxide, 1-methyl-1-phenylethyl- (R) |
| U116 | 96-45-7 | 2-Imidazolidinethione |
| U137 | 193-39-5 | Indeno[1,2,3-cd]pyrene |
| U190 | 85-44-9 | 1,3-Isobenzofurandione |
| U140 | 78-83-1 | Isobutyl alcohol (I,T) |
| U141 | 120-58-1 | Isosafrole |
| U142 | 143-50-0 | Kepone |
| U143 | 303-34-4 | Lasiocarpine |
| U144 | 301-04-2 | Lead acetate |
| U146 | 1335-32-6 | Lead, bis(acetato-O)tetrahydroxytri- |
| U145 | 7446-27-7 | Lead phosphate |
| U146 | 1335-32-6 | Lead subacetate |
| U129 | 58-89-9 | Lindane |
| U163 | 70-25-7 | MNNG |

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|---|---|---|
| U147 | 108-31-6 | Maleic anhydride |
| U148 | 123-33-1 | Maleic hydrazide |
| U149 | 109-77-3 | Malononitrile |
| U150 | 148-82-3 | Melphalan |
| U151 | 7439-97-6 | Mercury |
| U152 | 126-98-7 | Methacrylonitrile (I, T) |
| U092 | 124-40-3 | Methanamine, N-methyl- (I) |
| U029 | 74-83-9 | Methane, bromo- |
| U045 | 74-87-3 | Methane, chloro- (I, T) |
| U046 | 107-30-2 | Methane, chloromethoxy- |
| U068 | 74-95-3 | Methane, dibromo- |
| U080 | 75-09-2 | Methane, dichloro- |
| U075 | 75-71-8 | Methane, dichlorodifluoro- |
| U138 | 74-88-4 | Methane, iodo- |
| U119 | 62-50-0 | Methanesulfonic acid, ethyl ester |
| U211 | 56-23-5 | Methane, tetrachloro- |
| U153 | 74-93-1 | Methanethiol (I, T) |
| U225 | 75-25-2 | Methane, tribromo- |
| U044 | 67-66-3 | Methane, trichloro- |
| U121 | 75-69-4 | Methane, trichlorofluoro- |
| U036 | 57-74-9 | 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- |
| U154 | 67-56-1 | Methanol (I) |
| U155 | 91-80-5 | Methapyrilene |
| U142 | 143-50-0 | 1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro- |
| U247 | 72-43-5 | Methoxychlor |
| U154 | 67-56-1 | Methyl alcohol (I) |
| U029 | 74-83-9 | Methyl bromide |
| U186 | 504-60-9 | 1-Methylbutadiene (I) |
| U045 | 74-87-3 | Methyl chloride (I,T) |
| U156 | 79-22-1 | Methyl chlorocarbonate (I,T) |
| U226 | 71-55-6 | Methyl chloroform |
| U157 | 56-49-5 | 3-Methylcholanthrene |
| U158 | 101-14-4 | 4,4'-Methylenebis(2-chloroaniline) |
| U068 | 74-95-3 | Methylene bromide |
| U080 | 75-09-2 | Methylene chloride |
| U159 | 78-93-3 | Methyl ethyl ketone (MEK) (I,T) |
| U160 | 1338-23-4 | Methyl ethyl ketone peroxide (R,T) |
| U138 | 74-88-4 | Methyl iodide |
| U161 | 108-10-1 | Methyl isobutyl ketone (I) |
| U162 | 80-62-6 | Methyl methacrylate (I,T) |
| U161 | 108-10-1 | 4-Methyl-2-pentanone (I) |
| U164 | 56-04-2 | Methylthiouracil |
| U010 | 50-07-7 | Mitomycin C |
| U059 | 20830-81-3 | 5,12-Naphthacenedione, 8-acetyl-10-[(3-amino-2,3,6-trideoxy)-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)- |
| U167 | 134-32-7 | 1-Naphthalenamine |
| U168 | 91-59-8 | 2-Naphthalenamine |
| U026 | 494-03-1 | Naphthalenamine, N,N'-bis(2-chloroethyl)- |
| U165 | 91-20-3 | Naphthalene |
| U047 | 91-58-7 | Naphthalene, 2-chloro- |
| U166 | 130-15-4 | 1,4-Naphthalenedione |
| U236 | 72-57-1 | 2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'- dimethyl[1,1'-biphenyl]-4,4'-diyl)bis(azo)bis[5-amino-4-hydroxy]-, tetrasodium salt |
| U279 | 63-25-2 | 1-Naphthalenol, methylcarbamate |
| U166 | 130-15-4 | 1,4-Naphthoquinone |
| U167 | 134-32-7 | alpha-Naphthylamine |
| U168 | 91-59-8 | beta-Naphthylamine |
| U217 | 10102-45-1 | Nitric acid, thallium(1+) salt |
| U169 | 98-95-3 | Nitrobenzene (I,T) |
| U170 | 100-02-7 | p-Nitrophenol |
| U171 | 79-46-9 | 2-Nitropropane (I,T) |
| U172 | 924-16-3 | N-Nitrosodi-n-butylamine |
| U173 | 1116-54-7 | N-Nitrosodiethanolamine |
| U174 | 55-18-5 | N-Nitrosodiethylamine |
| U176 | 759-73-9 | N-Nitroso-N-ethylurea |
| U177 | 684-93-5 | N-Nitroso-N-methylurea |
| U178 | 615-53-2 | N-Nitroso-N-methylurethane |
| U179 | 100-75-4 | N-Nitrosopiperidine |
| U180 | 930-55-2 | N-Nitrosopyrrolidine |
| U181 | 99-55-8 | 5-Nitro-o-toluidine |
| U193 | 1120-71-4 | 1,2-Oxathiolane, 2,2-dioxide |
| U058 | 50-18-0 | 2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide |
| U115 | 75-21-8 | Oxirane (I,T) |
| U126 | 765-34-4 | Oxiranecarboxyaldehyde |
| U041 | 106-89-8 | Oxirane, (chloromethyl)- |
| U182 | 123-63-7 | Paraldehyde |
| U183 | 608-93-5 | Pentachlorobenzene |
| U184 | 76-01-7 | Pentachloroethane |
| U185 | 82-68-8 | Pentachloronitrobenzene (PCNB) |
| See F027 | 87-86-5 | Pentachlorophenol |
| U161 | 108-10-1 | Pentanol, 4-methyl- |
| U186 | 504-60-9 | 1,3-Pentadiene (I) |
| U187 | 62-44-2 | Phenacetin |
| U188 | 108-95-2 | Phenol |
| U048 | 95-57-8 | Phenol, 2-chloro- |
| U039 | 59-50-7 | Phenol, 4-chloro-3-methyl- |
| U081 | 120-83-2 | Phenol, 2,4-dichloro- |
| U082 | 87-65-0 | Phenol, 2,6-dichloro- |
| U089 | 56-53-1 | Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis-, (E)- |
| U101 | 105-67-9 | Phenol, 2,4-dimethyl- |
| U052 | 1319-77-3 | Phenol, methyl- |
| U132 | 70-30-4 | Phenol, 2,2'-methylenebis[3,4,6-trichloro- |
| U411 | 114-26-1 | Phenol, 2-(1-methylethoxy)-, methylcarbamate |
| U170 | 100-02-7 | Phenol, 4-nitro- |
| See F027 | 87-86-5 | Phenol, pentachloro- |
| See F027 | 58-90-2 | Phenol, 2,3,4,6-tetrachloro- |
| See F027 | 95-95-4 | Phenol, 2,4,5-trichloro- |
| See F027 | 88-06-2 | Phenol, 2,4,6-trichloro- |
| U150 | 148-82-3 | L-Phenylalanine, 4-[bis(2-chloroethyl)amino]- |
| U145 | 7446-27-7 | Phosphoric acid, lead(2+) salt (2:3) |
| U087 | 3288-58-2 | Phosphorodithioic acid, O,O-diethyl S-methyl ester |
| U189 | 1314-80-3 | Phosphorus sulfide (R) |
| U190 | 85-44-9 | Phthalic anhydride |
| U191 | 109-06-8 | 2-Picoline |
| U179 | 100-75-4 | Piperidine, 1-nitroso- |
| U192 | 23950-58-5 | Pronamide |
| U194 | 107-10-8 | 1-Propanamine (I,T) |
| U111 | 621-64-7 | 1-Propanamine, N-nitroso-N-propyl- |
| U110 | 142-84-7 | 1-Propanamine, N-propyl- (I) |
| U066 | 96-12-8 | Propane, 1,2-dibromo-3-chloro- |
| U083 | 78-87-5 | Propane, 1,2-dichloro- |
| U149 | 109-77-3 | Propanedinitrile |
| U171 | 79-46-9 | Propane, 2-nitro- (I,T) |
| U027 | 108-60-1 | Propane, 2,2'-oxybis[2-chloro- |
| U193 | 1120-71-4 | 1,3-Propane sultone |
| See F027 | 93-72-1 | Propanoic acid, 2-(2,4,5-trichlorophenoxy)- |
| U235 | 126-72-7 | 1-Propanol, 2,3-dibromo-, phosphate (3:1) |
| U140 | 78-83-1 | 1-Propanol, 2-methyl- (I,T) |
| U002 | 67-64-1 | 2-Propanone (I) |
| U007 | 79-06-1 | 2-Propenamide |
| U084 | 542-75-6 | 1-Propene, 1,3-dichloro- |
| U243 | 1888-71-7 | 1-Propene, 1,1,2,3,3,3-hexachloro- |
| U009 | 107-13-1 | 2-Propenenitrile |
| U152 | 126-98-7 | 2-Propenenitrile, 2-methyl- (I,T) |
| U008 | 79-10-7 | 2-Propenoic acid (I) |
| U113 | 140-88-5 | 2-Propenoic acid, ethyl ester (I) |

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| U118 | 97-63-2 | 2-Propenoic acid, 2-methyl-, ethyl ester |
| U162 | 80-62-6 | 2-Propenoic acid, 2-methyl-, methyl ester (I,T) |
| U373 | 122-42-9 | Propham |
| U411 | 114-26-1 | Propoxur |
| U194 | 107-10-8 | n-Propylamine (I,T) |
| U083 | 78-87-5 | Propylene dichloride |
| U148 | 123-33-1 | 3,6-Pyridazinedione, 1,2-dihydro- |
| U196 | 110-86-1 | Pyridine |
| U191 | 109-06-8 | Pyridine, 2-methyl- |
| U237 | 66-75-1 | 2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2- chloroethyl)amino]- |
| U164 | 56-04-2 | 4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo- |
| U180 | 930-55-2 | Pyrrolidine, 1-nitroso- |
| U200 | 50-55-5 | Reserpine |
| U201 | 108-46-3 | Resorcinol |
| U202 | [1]81-07-2 | Saccharin, & salts |
| U203 | 94-59-7 | Safrole |
| U204 | 7783-00-8 | Selenious acid |
| U204 | 7783-00-8 | Selenium dioxide |
| U205 | 7488-56-4 | Selenium sulfide |
| U205 | 7488-56-4 | Selenium sulfide $SeS_2$ (R,T) |
| U015 | 115-02-6 | L-Serine, diazoacetate (ester) |
| See F027 | 93-72-1 | Silvex (2,4,5-TP) |
| U206 | 18883-66-4 | Streptozotocin |
| U103 | 77-78-1 | Sulfuric acid, dimethyl ester |
| U189 | 1314-80-3 | Sulfur phosphide (R) |
| See F027 | 93-76-5 | 2,4,5-T |
| U207 | 95-94-3 | 1,2,4,5-Tetrachlorobenzene |
| U208 | 630-20-6 | 1,1,1,2-Tetrachloroethane |
| U209 | 79-34-5 | 1,1,2,2-Tetrachloroethane |
| U210 | 127-18-4 | Tetrachloroethylene |
| See F027 | 58-90-2 | 2,3,4,6-Tetrachlorophenol |
| U213 | 109-99-9 | Tetrahydrofuran (I) |
| U214 | 563-68-8 | Thallium(I) acetate |
| U215 | 6533-73-9 | Thallium(I) carbonate |
| U216 | 7791-12-0 | Thallium(I) chloride |
| U216 | 7791-12-0 | Thallium chloride TlCl |
| U217 | 10102-45-1 | Thallium(I) nitrate |
| U218 | 62-55-5 | Thioacetamide |
| U410 | 59669-26-0 | Thiodicarb |
| U153 | 74-93-1 | Thiomethanol (I,T) |
| U244 | 137-26-8 | Thioperoxydicarbonic diamide $[(H_2N)C(S)]_2S_2$, tetramethyl- |
| U409 | 23564-05-8 | Thiophanate-methyl |
| U219 | 62-56-6 | Thiourea |
| U244 | 137-26-8 | Thiram |
| U220 | 108-88-3 | Toluene |
| U221 | 25376-45-8 | Toluenediamine |
| U223 | 26471-62-5 | Toluene diisocyanate (R,T) |
| U328 | 95-53-4 | o-Toluidine |
| U353 | 106-49-0 | p-Toluidine |
| U222 | 636-21-5 | o-Toluidine hydrochloride |
| U389 | 2303-17-5 | Triallate |
| U011 | 61-82-5 | 1H-1,2,4-Triazol-3-amine |
| U227 | 79-00-5 | 1,1,2-Trichloroethane |
| U228 | 79-01-6 | Trichloroethylene |
| U121 | 75-69-4 | Trichloromonofluoromethane |
| See F027 | 95-95-4 | 2,4,5-Trichlorophenol |
| See F027 | 88-06-2 | 2,4,6-Trichlorophenol |
| U404 | 121-44-8 | Triethylamine |
| U234 | 99-35-4 | 1,3,5-Trinitrobenzene (R,T) |
| U182 | 123-63-7 | 1,3,5-Trioxane, 2,4,6-trimethyl- |
| U235 | 126-72-7 | Tris(2,3-dibromopropyl) phosphate |
| U236 | 72-57-1 | Trypan blue |
| U237 | 66-75-1 | Uracil mustard |
| U176 | 759-73-9 | Urea, N-ethyl-N-nitroso- |
| U177 | 684-93-5 | Urea, N-methyl-N-nitroso- |
| U043 | 75-01-4 | Vinyl chloride |
| U248 | [1]81-81-2 | Warfarin, & salts, when present at concentrations of 0.3% or less |
| U239 | 1330-20-7 | Xylene (I) |
| U200 | 50-55-5 | Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-, methyl ester, (3beta,16beta,17alpha, 18beta,20alpha)- |
| U249 | 1314-84-7 | Zinc phosphide $Zn_3P_2$, when present at concentrations of 10% or less |

FOOTNOTE: [1]CAS Number given for parent compound only.

**Reviser's note:** The brackets and enclosed material in the text of the above section occurred in the copy filed by the agency and appear in the Register pursuant to the requirements of RCW 34.08.040.

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-9904 Dangerous waste sources list.** The following Hazard Codes are used to indicate the basis EPA used for listing the classes or types of wastes listed in this section:

| | |
|---|---|
| Ignitable Waste | (I) |
| Corrosive Waste | (C) |
| Reactive Waste | (R) |
| Toxicity Characteristic Waste | (E) |
| Acute Hazardous Waste | (H) |
| Toxic Waste | (T) |

DANGEROUS WASTE SOURCES LIST

| Dangerous Waste No. | Sources |
|---|---|
| **Nonspecific Sources** | |
| **Generic:** | |
| F001 | The following spent halogenated solvents used in degreasing: Tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures. (T) |
| F002 | The following spent halogenated solvents: Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro- 1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane and 1,1,2 trichloroethane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those listed in F001, F004, or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures. (T) |
| F003 | The following spent non-halogenated solvents: Xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/blends containing, before use, only the |

above spent non-halogenated solvents; and all spent solvent mixtures/blends containing, before use, one or more of the above non-halogenated solvents, and, a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures. (I)

F004 The following spent non-halogenated solvents: Cresols and cresylic acid, nitrobenzene; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above nonhalogenated solvents or those solvents listed in F001, F002, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures. (T)

F005 The following spent non-halogenated solvents: Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures. (I,T)

F006 Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc, and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum. (T)

F007 Spent cyanide plating bath solutions from electroplating operations. (R,T)

F008 Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process. (R,T)

F009 Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process. (R,T)

F010 Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process. (R,T)

F011 Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations. (R,T)

F012 Quenching wastewater treatment sludges from metal heat-treating operations where cyanides are used in the process. (T)

F019 Wastewater treatment sludges from the chemical conversion coating of aluminum except from zirconium phosphating in aluminum can washing when such phosphating is an exclusive conversion coating process. (T)

F020 Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives. (This listing does not include wastes from the production of hexachlorophene from highly purified 2,4,5-trichlorophenol.) (See footnote 1, below.) (H)

F021 Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of pentachlorophenol, or of intermediates used to produce its derivatives. (See footnote 1, below.) (H)

F022 Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzenes under alkaline conditions. (See footnote 1, below.) (H)

F023 Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- and tetrachlorophenols. (See footnote 1, below.) (This listing does not include wastes from equipment used only for the production or use of hexachlorophene from highly purified 2,4,5-trichlorophenol.) (H)

F024 Process wastes, including but not limited to, distillation residues, heavy ends, tars, and reactor ((~~cleanout~~)) clean-out wastes, from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution. (This listing does not include wastewaters, wastewater treatment sludges, spent catalysts, and wastes listed ((~~under specific sources, below~~)) in this section.) (T)

F025 Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution. (T)

F026 Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of

tetra-, penta-, or hexachlorobenzene under alkaline conditions. (See footnote 1, below.) (H)

F027 Discarded unused formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols. (See footnote 1, below.) (This listing does not include formulations containing hexachlorophene synthesized from prepurified 2,4,5-trichlorophenol as the sole component.) (H)

F028 Residues resulting from the incineration or thermal treatment of soil contaminated with nonspecific sources wastes F020, F021, F022, F023, F026 and F027. (T)

F032 Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that currently use or have previously used chlorophenolic formulations (except potentially cross-contaminated wastes that have had the F032 waste code deleted in accordance with WAC 173-303-083 or potentially cross-contaminated wastes that are otherwise currently regulated as dangerous wastes (i.e., F034 or F035), and where the generator does not resume or initiate use of chlorophenolic formulations). This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol. (T)

F034 Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use creosote formulations. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol. (T)

F035 Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use inorganic preservatives containing arsenic or chromium. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol. (T)

F037 Petroleum refinery primary oil/water/solids separation sludge-Any sludge generated from the gravitational separation of oil/water/solids during the storage or treatment of process wastewaters and oily cooling wastewaters from petroleum refineries. Such sludges include, but are not limited to, those generated in: Oil/water/solids separators; tanks and impoundments; ditches and other conveyances; sumps; and stormwater units receiving dry weather flow. Sludge generated in stormwater units that do not receive dry weather flow, sludges generated from noncontact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges generated in aggressive biological treatment units as defined in footnote 2 below (including sludges generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and K051 wastes are not included in this listing. (See footnote 2, below.) (T)

F038 Petroleum refinery secondary (emulsified) oil/water/solids separation sludge-Any sludge and/or float generated from the physical and/or chemical separation of oil/water/solids in process wastewaters and oily cooling wastewaters from petroleum refineries. Such wastes include, but are not limited to, all sludges and floats generated in: Induced air flotation (IAF) units, tanks and impoundments, and all sludges generated in DAF units. Sludges generated in stormwater units that do not receive dry weather flow, sludges generated from noncontact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges and floats generated in aggressive biological treatment units as defined in footnote 2, below (including sludges and floats generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and F037, K048, and K051 wastes are not included in this listing. (See footnote 2, below.) (T)

F039 Leachate (liquids that have percolated through land disposed wastes) resulting from the disposal of more than one restricted waste classified as dangerous under WAC 173-303-9903, 173-303-9904, and 173-303-9905. (Leachate resulting from the disposal of one or more of the following dangerous wastes, and no other dangerous wastes, retains its Dangerous Waste Number(s): F020, F021, F022, F026, F027, and/or F028.) (T)

**Specific Sources**

**Wood Preservation:**

K001 Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol. (T)

**Inorganic Pigments:**

K002 Wastewater treatment sludge from the production of chrome yellow and orange pigments. (T)

K003 Wastewater treatment sludge from the production of molybdate orange pigments. (T)

K004 Wastewater treatment sludge from the production of zinc yellow pigments. (T)

K005 Wastewater treatment sludge from the production of chrome green pigments. (T)

K006 Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated). (T)

K007 Wastewater treatment sludge from the production of iron blue pigments. (T)

K008 Oven residue from the production of chrome oxide green pigments. (T)

**Organic Chemicals:**

K009 Distillation bottoms from the production of acetaldehyde from ethylene. (T)

K010 Distillation side cuts from the production of acetaldehyde from ethylene. (T)

K011 Bottom stream from the wastewater stripper in the production of acrylonitrile. (R,T)

K013 Bottom stream from the acetonitrile column in the production of acrylonitrile. (R,T)

K014 Bottoms from the acetonitrile purification column in the production of acrylonitrile. (T)

K015 Still bottoms from the distillation of benzyl chloride. (T)

K016 Heavy ends or distillation residues from the production of carbon tetrachloride. (T)

K017 Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin. (T)

K018 Heavy ends from the fractionation column in ethyl chloride production. (T)

K019 Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production. (T)

K020 Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production. (T)

K021 Aqueous spent antimony catalyst waste from fluoromethanes production. (T)

K022 Distillation bottom tars from the production of phenol/acetone from cumene. (T)

K023 Distillation light ends from the production of phthalic anhydride from naphthalene. (T)

K024 Distillation bottoms from the production of phthalic anhydride from naphthalene. (T)

K093 Distillation light ends from the production of phthalic anhydride from ortho-xylene. (T)

K094 Distillation bottoms from the production of phthalic anhydride from ortho-xylene. (T)

K025 Distillation bottoms from the production of nitrobenzene by the nitration of benzene. (T)

K026 Stripping still tails from the production of methyl ethyl pyridines. (T)

K027 Centrifuge and distillation residues from toluene diisocyanate production. (R,T)

K028 Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane. (T)

K029 Waste from the product steam stripper in the production of 1,1,1-trichloroethane. (T)

K095 Distillation bottoms from the production of 1,1,1-trichloroethane. (T)

K096 Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane. (T)

K030 Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene. (T)

K083 Distillation bottoms from aniline production. (T)

K103 Process residues from aniline extraction from the production of aniline. (T)

K104 Combined wastewater streams generated from nitrobenzene/aniline production. (T)

K085 Distillation of fractionation column bottoms from the production of chlorobenzenes. (T)

K105 Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes. (T)

K107 Column bottoms from product separation from the production of 1,1-dimethyl-hydrazine (UDMH) from carboxylic acid hydrazines. (C,T)

K108 Condensed column overheads from product separation and condensed reactor vent gases from the production of 1,1-dimethylhydrazine (UDMH) from the carboxylic acid hydrazides. (I,T)

K109 Spent filter cartridges from product purification from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides. (T)

K110 Condensed column overheads from intermediate separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides. (T)

K111 Product washwaters from the production of dinitrotoluene via nitration of toluene. (C,T)

K112 Reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene. (T)

K113 Condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene. (T)

K114 Vicinals from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene. (T)

K115 Heavy ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene. (T)

K116 Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine. (T)

K117 Wastewater from the reactor vent gas scrubber in the production of ethylene dibromide via bromination of ethene. (T)

K118 Spent adsorbent solids from purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene. (T)

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K136 Still bottoms from the purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene. (T)

K149 Distillation bottoms from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups. (This waste does not include still bottoms from the distillation of benzyl chloride.) (T)

K150 Organic residuals, excluding spent carbon adsorbent, from the spent chlorine gas and hydrochloric acid recovery processes associated with the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups. (T)

K151 Wastewater treatment sludges, excluding neutralization and biological sludges, generated during the treatment of wastewaters from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups. (T)

K156 Organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.) (T)

K157 Wastewaters (including scrubber waters, condenser waters, washwaters, and separation waters) from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.) (T)

K158 Bag house dusts and filter/separation solids from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.) (T)

K159 Organics from the treatment of thiocarbamate wastes. (T)

K161 Purification solids (including filtration, evaporation, and centrifugation solids), bag house dust and floor sweepings from the production of dithiocarbamate acids and their salts. (R,T)

**Explosives:**

K044 Wastewater treatment sludges from the manufacturing and processing of explosives. (R)

K045 Spent carbon from the treatment of wastewater containing explosives. (R)

K046 Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds. (T)

K047 Pink/red water from TNT operations. (R)

**Inorganic Chemicals:**

K071 Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used. (T)

K073 Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production. (T)

K106 Wastewater treatment sludge from the mercury cell process in chlorine production. (T)

**Petroleum Refining:**

K048 Dissolved air flotation (DAF) float from the petroleum refining industry. (T)

K049 Slop oil emulsion solids from the petroleum refining industry. (T)

K050 Heat exchanger bundle cleaning sludge from the petroleum refining industry. (T)

K051 API separator sludge from the petroleum refining industry. (T)

K052 Tank bottoms (leaded) from the petroleum refining industry. (T)

**Iron and Steel:**

K061 Emission control dust/sludge from the primary production of steel in electric furnaces. (T)

K062 Spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332). (C,T)

**Pesticides:**

K031 Byproduct salts generated in the production of MSMA and cacodylic acid. (T)

K032 Wastewater treatment sludge from the production of chlordane. (T)

K033 Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane. (T)

K034 Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane. (T)

K097 Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane. (T)

K035 Wastewater treatment sludges generated in the production of creosote. (T)

K036 Still bottoms from toluene reclamation distillation in the production of disulfoton. (T)

K037 Wastewater treatment sludges from the production of disulfoton. (T)

K038 Wastewater from the washing and stripping of phorate production. (T)

K039 Filter cake from the filtration of diethylphosphorodithioic acid in the production of phorate. (T)

K040 Wastewater treatment sludge from the production of phorate. (T)

K041 Wastewater treatment sludge from the production of toxaphene. (T)

K098 Untreated process wastewater from the production of toxaphene. (T)

K042 Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T. (T)

K043 2,6-Dichlorophenol waste from the production of 2,4-D. (T)

K099 Untreated wastewater from the production of 2,4-D. (T)

K123 Process wastewater (including supernates, filtrates, and wastewaters) from the production of ethylenebisdithiocarbamic acid and its salts. (T)

K124 Reactor vent scrubber water from the production of ethylenebisdithiocarbamic acid and its salts. (C,T)

K125 Filtration, evaporation, and centrifugation solids from the production of ethylenebisdithiocarbamic acid and its salts. (T)

K126 Baghouse dust and floor sweepings in milling and packaging operations from the production or formulation of ethylenebisdithiocarbamic acid and its salts. (T)

K131 Wastewater from the reactor and spent sulfuric acid from the acid dryer from the production of methyl bromide. (C,T)

K132 Spent absorbent and wastewater separator solids from the production of methyl bromide. (T)

**Primary Copper:**

K064 Acid plant blowdown slurry/sludge resulting from the thickening of blowdown slurry from primary copper production. (T)

**Primary Lead:**

K065 Surface impoundment solids contained in and dredged from surface impoundments at primary lead smelting facilities. (T)

**Primary Zinc:**

K066 Sludge from treatment of process wastewater and/or acid plant blowdown from primary zinc production. (T)

**Primary Aluminum:**

K088 Spent potliners from primary aluminum reduction. (T)

**Ferroalloys:**

K090 Emission control dust or sludge from ferrochromium-silicon production. (T)

K091 Emission control dust or sludge from ferrochromium production. (T)

**Secondary Lead:**

K069 Emission control dust/sludge from secondary lead smelting. (T)

K100 Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting. (T)

**Veterinary Pharmaceuticals:**

K084 Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds. (T)

K101 Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds. (T)

K102 Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds. (T)

**Ink Formulation:**

K086 Solvent washes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead. (T)

**Coking:**

K060 Ammonia still-lime sludge from coking operations. (T)

K087 Decanter tank tar sludge from coking operations. (T)

K141 Process residues from the recovery of coal tar, including, but not limited to, collecting sump residues from the production of coke from coal or the recovery of coke by-products produced from coal. This listing does not include K087 (decanter tank tar sludges from coking operations).

K142 Tar storage tank residues from the production of coke from coal or from the recovery of coke by-products produced from coal.

K143 Process residues from the recovery of light oil, including, but not limited to, those generated in stills, decanters, and wash oil recovery units from the recovery of coke by-products produced from coal.

K144 Wastewater sump residues from light oil refining, including, but not limited to, intercepting or contamination sump sludges from the recover of coke by-products produced from coal.

K145 Residues from naphthalene collection and recovery operations from the recovery of coke by-products produced from coal.

K147 Tar storage tank residues from coal tar refining.

K148 Residues from coal tar distillation, including but not limited to, still bottoms.

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**Footnotes**

1 For wastes listed with the dangerous waste numbers F020, F021, F022, F023, F026, or F027 the quantity exclusion limit is 2.2 lbs. (1 kg) per month or per batch.

2 Listing Specific Definitions:

a For the purposes of the F037 and F038 listings, oil/water/solids is defined as oil and/or water and/or solids.

b(i) For the purposes of the F037 and F038 listings, aggressive biological treatment units are defined as units which employ one of the following four treatment methods: Activated sludge; trickling filter; rotating biological contactor for the continuous accelerated biological oxidation of wastewaters; or high-rate aeration. High-rate aeration is a system of surface impoundments or tanks, in which intense mechanical aeration is used to completely mix the wastes, enhance biological activity, and ((~~i~~)) (A) the units employs a minimum of 6 hp per million gallons of treatment volume; and either ((~~ii~~)) (B) the hydraulic retention time of the unit is no longer than 5 days; or ((~~iii~~)) (C) the hydraulic retention time is no longer than 30 days and the unit does not generate a sludge that is a dangerous waste by the Toxicity Characteristic.

(ii) Generators and treatment, storage and disposal facilities have the burden of proving that their sludges are exempt from listing as F037 and F038 wastes under this definition. Generators and treatment, storage and disposal facilities must maintain, in their operating or other on-site records, documents and data sufficient to prove that: ((~~i~~)) (A) The unit is an aggressive biological treatment unit as defined in this subsection; and ((~~ii~~)) (B) the sludges sought to be exempted from the definitions of F037 and/or F038 were actually treated in the aggressive biological treatment unit.

c(i) For the purposes of the F037 listing, sludges are considered to be generated at the moment of deposition in the unit, where deposition is defined as at least a temporary cessation of lateral particle movement.

(ii) For the purposes of the F038 listing,

((~~A~~)) (A) Sludges are considered to be generated at the moment of deposition in the unit, where deposition is defined as at least a temporary cessation of lateral particle movement and

((~~B~~)) (B) Floats are considered to be generated at the moment they are formed in the top of the unit.

**State Sources**

W001 Discarded transformers, capacitors or bushings containing polychlorinated biphenyls (PCB) at concentrations of 2 parts per million or greater (except when drained of all free flowing liquid) and the following wastes generated from the salvaging, rebuilding, or discarding of transformers, capacitors or bushings containing polychlorinated biphenyls (PCB) at concentrations of 2 parts per million or greater: Cooling and insulating fluids and cores, including core papers. (Note—Certain PCB wastes are excluded from this listing under WAC 173-303-071 (3)(k). The generator should check that section to determine if their PCB waste is excluded from the requirements of chapter 173-303 WAC.)

AMENDATORY SECTION (Amending Order 94-30, filed 10/19/95, effective 11/19/95)

**WAC 173-303-9905 Dangerous waste constituents list.**

A2213 (Ethanimidothioic acid, 2- (dimethylamino) -N-hydroxy-2-oxo-, methyl ester)
Acetic Acid,2,4,5-trichlorophenoxy-, salts and esters (2,4,5-T, salts and esters)
Acetonitrile [Ethanenitrile]
Acetophenone (Ethanone, 1-phenyl)
-(alpha-Acetonylbenzyl)-4-hydroxycoumarin and salts (Warfarin)
2-Acetylaminofluorene (Acetemide,N-9H- fluoren-2-yl)-)
Acetyl chloride (Ethanoyl chloride)
1-Acetyl-2-thiourea (Acetamide, N-(aminothioxomethyl)-)
Acrolein (2-Propenal)
Acrylamide (2-Propenamide)
Acrylonitrile (2-Propenenitrile)
Aflatoxins
Aldicarb sulfone (Propanal, 2-methyl-2-(methylsulfonyl) -, O-[(methylamino) carbonyl] oxime)
Aldrin (1,2,3,4,10,10-Hexachloro- 1,4,4a,5,8,8a,-hexahydro-endo,exo- 1,4:5,8-Dimethanonaphthalene)
Allyl alcohol (2-Propen-1-ol)
Allyl chloride (1-Propane, 3-chloro)
Aluminum phosphide
4-Aminobiphenyl ([1,1'-Biphenyl]-4-amine)
6-Amino-1,1a,2,8,8a,8b-hexahydro-8-(hydroxymethyl)-8a-methoxy-5-methyl- carbamate azirino[2',3':3,4]pyrrolo[1,2-a]indole-4,7-dione, (ester) (Mitomycin C) (Azirino[2'3':3,4]pyrrolo(1,2-a)indole-4,7- dione, 6-amino-8[
4-Aminopyridine(4-Pyridinamine)
Amitrole (1H-1,2,4-Triazol-3-amine)
Aniline (Benzenamine)
Antimony and compounds, N.O.S.[1]
Aramite (Sulfurous acid, 2-chloroethyl 2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl ester)
Arsenic and compounds, N.O.S.*
Barban (Carbamic acid, (3-chlorophenyl) -, 4-chloro-2-butynyl ester)
Barium and compounds, N.O.S.*
Barium cyanide
Bendiocarb (1,3-Benzodioxol-4-ol, 2,2-dimethyl-, methyl carbamate)
Bendiocarb phenol (1,3-Benzodioxol-4-ol, 2,2-dimethyl-,)
Benomyl (Carbamic acid, [1- [(butylamino) carbonyl]-1H-benzimidazol-2-yl] -, methyl ester)
Benz[c]acridine (3,4-Benzacridine)
Benz[a]anthracene (1,2-Benzanthracene)
Benzene (Cyclohexatriene)

Benzenearsonic acid (Arsonic acid, phenyl-)
Benzene, 2-amino-1-methyl (o-Toluidine)
Benzene, 4-amino-1-methyl (p-Toluidine)
Benzene, dichloromethyl- (Benzal chloride)
Benzenethoil (Thiophenol)
Benzidine ([1,1'-Biphenyl]-4,4'diamine)
Benzo[b]fluoranthene (2,3-Benzofluoranthene)
Benzo(k)fluoranthene
Benzo[j]fluoranthene (7,8-Benzofluoranthene)
Benzo[a]pyrene (3,4-Benzopyrene)
p Benzoquinone (1,4-Cyclohexadienedione)
Benzotrichloride (Benzene, trichloromethyl-)
Benzyl chloride (Benzene, (chloromethyl)-)
Beryllium powder
Beryllium ((~~and~~)) compounds, N.O.S.*
Bis(2-chloroethoxy)methane (Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-])
Bis(2-chloroethyl) ether (Ethane, 1,1'-oxybis[2-chloro-])
N,N-Bis(2-chloroethyl)-2-naphthylamine (Chlornaphazine)
Bis(2-chloroisopropyl) ether (Propane, 2,2'-oxybis[2-chloro-])
Bis(chloromethyl) ether (Methane, oxybis[chloro-])
Bis(2-ethylhexyl) phthalate (1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester)
Bis(pentamethylene)-thiuram tetrasulfide (Piperidine, 1,1'- (tetrathiodicarbonothioyl)-bis-)
Bromoacetone (2-Propanone, 1-bromo-)
Bromomethane (Methyl bromide)
4-Bromophenyl phenyl ether (Benzene, 1-bromo-4-phenoxy-)
Brucine (Strychnidin-10-one, 2,3-dimethoxy-)
2-Butanone peroxide (Methyl ethyl ketone, peroxide)
Butyl benzyl phthalate (1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester)
2-sec-Butyl-4,6-dinitrophenol (DNBP) (Phenol, 2,4-dinitro-6-(1-methylpropyl)-)
Butylate (Carbamothioic acid, bis(2 methylpropyl)-, S-ethyl ester)
Cadmium and compounds, N.O.S.*
Calcium chromate (Chromic acid, calcium salt)
Calcium cyanide
Carbamic Acid, ethyl ester
Carbaryl (1-Naphthalenol, methylcarbamate)
Carbendazim (Carbamic acid, 1H-benzimidazol-2-yl, methyl ester)
Carbofuran (7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-, methylcarbamate)
Carbofuran phenol (7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-)
Carbon disulfide (Carbon bisulfide)
Carbon oxyfluoride (Carbonyl fluoride)
Carbosulfan (Carbamic acid, [(dibutylamino) thio] methyl-, 2,3-dihydro-2,2-dimethyl-7-benzofuranyl ester)
Chloral (Acetaldehyde, trichloro-)
Chlorambucil (Butanoic acid, 4-[bis(2-chloroethyl)amino]benzene-)
Chlordane (alpha and gamma isomers) (4,7-Methanoindan,1,2,4,5,6,7,8,8-octachloro-3,4,7,7a-tetrahydro-) (alpha and gamma isomers)
Chlorinated benzenes, N.O.S.*
Chlorinated ethane, N.O.S.*
Chlorinated fluorocarbons, N.O.S.*
Chlorinated naphthalene, N.O.S.*
Chlorinated phenol, N.O.S.*
Chloroacetaldehyde (Acetaldehyde, chloro-)
Chloroalkyl ethers, N.O.S.*
P-Chloroaniline (Benzenamine, 4-chloro-)
Chlorobenzene (Benzene, chloro-)
Chlorobenzilate (Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-,ethyl ester)
2-Chloro-1,3-butadiene
p-Chloro-m-cresol (Phenol, 4-Chloro-3-methyl)
1-Chloro-2,3-epoxypropane (Oxirane, 2-(chloromethyl)-)
2-Chloroethyl vinyl ether (Ethene, (2-chloroethoxy)-)
Chloroform (Methane, trichloro-)
Chloromethane (Methyl chloride)
Chloromethyl methyl ether (Methane, chloromethoxy-)
2-Chloronaphthalene (Naphthalene, beta-chloro-)
2-Chlorophenol (Phenol, o-chloro-)
1-(o-Chlorophenyl)thiourea (Thiourea, (2-chlorophenyl)-)
3-Chloropropene
3-Chloropropionitrile (Propanenitrile, 3-chloro-)
Chromium and compounds, N.O.S.*
Chrysene (1,2-Benzphenanthrene)
Citrus red No. 2 (2-Naphthol, 1-[(2,5-dimethoxyphenyl)azo]-)
Coal tar((~~s~~)) creosote
Copper cyanide
Copper dimethyldithiocarbamate (Copper, bis(dimethylcarbamodithioato-S,S')-,)
Creosote (((~~Creosote, wood~~)))
Cresols (Cresylic acid) (Phenol, methyl-)
Crotonaldehyde (2-Butenal)
m-Cumenyl methylcarbamate (Phenol, 3-(methylethyl)-, methyl carbamate)
Cyanides (soluble salts and complexes), N.O.S.*
Cyanogen (Ethanedinitrile)
Cyanogen bromide (Bromine cyanide)
Cyanogen chloride (Chlorine cyanide)
Cycasin (beta-D-Glucopyranoside, (methyl-ONN-azoxy)methyl-)
Cycloate (Carbamothioic acid, cyclohexylethyl-, S-ethyl ester)
2-Cyclohexyl-4,6-dinitrophenol (Phenol, 2-cyclohexyl-4,6-dinitro-)
Cyclophosphamide (2H-1,3,2,-Oxazaphosphorine, [bis(2-chloroethyl)amino]-tetrahydro-, 2-oxide)
Daunomycin (5,12-Naphthacenedione, (8S-cis)-8-acetyl-10-[(3-amino-2,3,6-trideoxy)-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-)
Dazomet (2H-1,3,5-thiadiazine-2-thione tetrahydro-3,5-dimethyl)
DDD (Dichlorodiphenyldichloroethane) (Ethane, 1,1-dichloro-2,2-bis(p chlorophenyl)-)
DDE (Ethylene, 1,1-dichloro-2,2-bis(4-chlorophenyl)-)

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DDT (Dichlorodiphenyltrichloroethane) (Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)-)
Diallate (S-(2,3-dichloroallyl) diisopropylthiocarbamate)
Dibenz[a,h]acridine (1,2,5,6-Dibenzacridine)
Dibenz[a,j]acridine (1,2,7,8-Dibenzacridine)
Dibenz[a,h]anthracene (1,2,5,6-Dibenzanthracene)
7H-Dibenzo[c,g]carbazole (3,4,5,6-Dibenzcarbazole)
Dibenzo[a,e]pyrene (1,2,4,5-Dibenzpyrene)
Dibenzo[a,h]pyrene (1,2,5,6-Dibenzpyrene)
Dibenzo[a,i]pyrene (1,2,7,8-Dibenzpyrene)
1,2-Dibromo-3-chloropropane (Propane, 1,2-dibromo-3-chloro-)
1,2-Dibromoethane (Ethylene dibromide)
Dibromomethane (Methylene bromide)
Di-n-butyl phthalate (1,2-Benzenedicarboxylic acid, dibutyl ester)
o-Dichlorobenzene (Benzene, 1,2-dichloro-)
m-Dichlorobenzene (Benzene, 1,3-dichloro-)
p-Dichlorobenzene (Benzene, 1,4-dichloro-)
Dichlorobenzene, N.O.S.* (Benzene, dichloro-, N.O.S.*)
3,3'-Dichlorobenzidine ([1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-)
1,4-Dichloro-2-butene (2-Butene, 1,4-Butene, 1,4-dichloro-)
Dichlorodifluoromethane (Methane, dichlorodifluoro-)
1,1-Dichloroethane (Ethylidene dichloride)
1,2-Dichloroethane (Ethylene dichloride)
trans-1,2-Dichloroethene (1,2-Dichloroethylene)
Dichloroethylene, N.O.S.* (Ethene, dichloro-, N.O.S.*)
1,1-Dichloroethylene (Ethene, 1,1-dichloro-)
Dichloromethane (Methylene chloride)
2,4-Dichlorophenol (Phenol, 2,4-dichloro-)
2,6-Dichlorophenol (Phenol, 2,6-dichloro)
2,4-Dichlorophenoxyacetic acid (2,4-D), salts and esters (Acetic acid, 2,4-dichlorophenoxy-, salts and esters)
Dichlorophenylarsine (Phenyl dichloroarsine)
Dichloropropane, N.O.S.* (Propane, dichloro-, N.O.S.*)
1,2-Dichloropropane (Propylene dichloride)
Dichloropropanol, N.O.S.* (Propanol, dichloro-, N.O.S.*)
Dichloropropene, N.O.S.* (Propene, dichloro-, N.O.S.*)
1,3-Dichloropropene, (1-Propene, 1,3-dichloro-)
Dieldrin (1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octa-hydro-endo, exo-1,4:5,8-Dimethanonaphthalene)
1,2:3,4-Diepoxybutane (2,2'-Bioxirane)
Diethylarsine (Arsine, diethyl-)
N,N'-Diethylhydrazine (Hydrazine, 1,2-diethyl)
O,O-Diethyl S-methyl ester of phosphorodithioic acid (Phosphorodithioic acid, O,O-diethyl S-methyl ester
O,O-Diethylphosphoric acid, O-p-nitrophenyl ester (Phosphoric acid, diethyl p-nitrophenyl ester)
Diethyl phthalate (1,2-Benzenedicarboxylic acid, diethyl ester)
O,O-Diethyl O-2-pyraxinyl phosphorothioate (Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester
Diethylene glycol, dicarbamate (Ethanol, 2,2'-oxybis-, dicarbamate)
Diethylstilbesterol (4,4'-Stilbenediol, alpha,alpha-diethyl, bis(dihydrogen phosphate, (E)-)
Dihydrosafrole (Benzene, 1,2-methylenedioxy-4-propyl-)
3,4-Dihydroxy-alpha-(methylamino)methyl benzyl alcohol (1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-)
Diisopropylfluorophosphate (DFP) (Phosphorofluoridic acid, bis(1-methylethyl) ester)
Dimethoate (Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester
3,3'-Dimethoxybenzidine ([1,1'-Biphenyl]-4,4'diamine, 3-3'dimethoxy-)
p-Dimethylaminoazobenzene (Benzenamine, N,N-dimethyl-4-(phenylazo)-)
7,12-Dimethylbenz[a]anthracene (1,2-Benzanthracene, 7,12-dimethyl-)
3,3'Dimethylbenzidine ([1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-)
Dimethylcarbamoyl chloride (Carbamoyl chloride, dimethyl-)
1,1-Dimethylhydrazine (Hydrazine, 1,1-dimethyl-)
1,2-Dimethylhydrazine (Hydrazine, 1,2-dimethyl-)
3,3-Dimethyl-1-(methylthio)-2-butanone, O-[(methylamino) carbonyl]oxime (Thiofanox)
alpha,alpha-Dimethylphenethylamine (Ethanamine, 1,1-dimethyl-2-phenyl)
2,4-Dimethylphenol (Phenol, 2,4-dimethyl-)
Dimethyl phthalate (1,2-Benzenedicarboxylic, acid, dimethyl ester)
Dimethyl sulfate (Sulfuric acid, dimethyl ester)
Dimetilan (Carbamic acid, dimethyl-, 1-[(dimethylamino) carbonyl]-5-methyl-1H-pyrazol-3-yl ester)
Dinitrobenzene, N.O.S.* (Benzene, dinitro-, N.O.S.*
4,6-Dinitro-o-cresol and salts (Phenol, 2,4-dinitro-6-methyl-, and salts)
2,4-Dinitrophenol (Phenol, 2,4-dinitro-)
2,4-Dinitrotoluene (Benezene, 1-methyl-2,4-dinitro-)
2,6-Dinitrotoluene (Benzene,1-methyl-2,6-dinitro-)
Dinoseb (Phenol, 2-(1-methylpropyl)-4,6-dinitro-)
Di-n-octyl phthalate (1,2-Benzenedicarbozylic acid, dioctyl ester)
1,4-Dioxane (1,4-Diethylene oxide)
Diphenylamine (Benzenamine, N-Phenyl-)
1,2-Diphenylhydrazine (Hydrazine, 1,2-diphenyl-)
Di-n-propylmitrosamine (N-Nitroso-di-n-propylamine)
Disulfiram (Thioperoxydicarbonic diamide, tetraethyl)
Disulfoton (O,O-diethyl S-[2-(ethylthio)ethyl] phosphorodithioate)
((~~2,4-~~))Dithiobiuret (Thioimidodicarbonic ((~~diaminde~~)) diamide [$(H_2N)C(S)]_2NH$)
EPTC (Carbamothioic acid, dipropyl-, S-ethyl ester)
Endosulfan (5-Norbornene, 2,3-dimethanol, 1,4,5,6,7,7-hexachloro-, cyclic sulfite)

Endrin and metabolites (1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-endo,endo-1,4:5,8-dimethanonaphthalene, and metabolites)
Ethyl carbamate (Urethan) (Carbamic acid, ethyl ester)
Ethyl cyanide (propanenitrile)
Ethyl Ziram (Zinc, bis(diethylcarbamodithioato-S,S')-)
Ethylenebisdithiocarbamic acid, salts and esters (1,2-Ethanediylbiscarbamodithioic acid, salts and esters.
Ethylene glycol monoethyl ether (2-Ethoxyethanol)
Ethyleneimine (Aziridine)
Ethylene oxide (Oxirane)
Ethylenethiourea (2-Imidazolidinethione)
Ethylmethacrylate (2-Propenoic acid, 2-methyl-, ethyl ester)
Ethyl methanesulfonate (Methanesulfonic acid, ethyl ester)
Ferbam (Iron, tris(dimethylcarbamodithioato-S,S')-,)
Fluoranthene (Benzo[j,k]fluorene)
Fluorine
2-Fluoroacetamide (Acetamide, 2-fluoro-)
Fluoroacetic acid, sodium salt (Acetic acid, fluoro-, sodium salt)
Formaldehyde (Methylene, oxide)
Formetanate hydrochloride (Methanimidamide, N,N-dimethyl-N'-[3-[[(methylamino) carbonyl]oxy]phenyl]-, monohydrochloride)
Formic acid (Methanoic acid)
Formparanate (Methanimidamide, N,N-dimethyl-N'-[2-methyl-4-[[(methylamino) carbonyl]oxy]phenyl]-.)
Glycidylaldehyde (1-Propanol-2,3-epoxy)
Halomethane, N.O.S.*
Heptachlor (4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-)
Heptachlor epoxide (alpha, beta, and gamma isomers) (4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-2,3-epoxy-3a,4,7,7-tetrahydro-, alpha, beta and gamma isomers)
Heptachlorodibenzofurans
Heptachlorodibenzo-p-dioxins
Hexachlorobenzene (Benzene, hexachloro-)
Hexachlorobutadiene (1,3-Butadiene, hexachloro-)
Hexachlorocyclohexane (all isomers) (Lindane and isomers)
Hexachlorocylopentadiene (1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-)
Hexachlorodibenzo-p-dioxins
Hexachlorodibenzofurans
Hexachloroethane (Ethane, hexachloro-)
1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4:5,8-endo,endo-dimethanonphthalene (Hexachlorohexahydro-endo,endo-dimethanonaphthalene)
Hexachlorophene (2,2'-Methylenebis(3,4,6-trichlorophenol))
Hexachloropropene (Propene, hexachloro-)
Hexaethyl tetraphosphate (Tetraphosphoric acid, hexaethyl ester)
Hydrazine (Diamine)
Hydrocyanic acid (Hydrogen cyanide)
Hydrofluoric acid (Hydrogen fluoride)
Hydrogen sulfide (Sulfur hydride)
Hydroxydimethylarsine oxide (Cacodylic acid)
Indeno(1,2,3-cd)pyrene (1,10-(1,2-phenylene)pyrene)
3-Iodo-2-propynyl n-butylcarbamate (Carbamic acid, butyl-, 3-iodo-2- propynyl ester)
Iodomethane (Methyl iodide)
Isocyanic acid, methyl ester (Methyl isocyanate)
Isobutyl alcohol (1-Propanol, 2-methyl-)
Isolan (Carbamic acid, dimethyl-, 3-methyl-1-(1-methylethyl)-1H- pyrazol-5-yl ester)
Isosafrole (Benzene, 1,2-methylenedioxy-4-allyl-)
Kepone (Decachlorooctahydro-1,3,4-Methano-2H-cyclobuta[cd]pentalene-2-one)
Lasiocarpine (2-Butanoic acid, 2-methyl-,7-[(2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy)methyl]-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester)
Lead and compounds, N.O.S.*
Lead acetate (Acetic acid, lead salt)
Lead phosphate (Phosphoric acid, lead salt)
Lead subacetate (Lead, bis(acetato-O)tetrahydroxytri-)
Maleic anhydride (2,5-Furandione)
Maleic hydrazide (1,2-Dihydro-3,6-pyridazinedione)
Malononitrile (Propanedinitrile)
Manganese dimethyldithiocarbamate (Manganese, bis(dimethylcarbamodithioato-S,S')-,)
Melphalan (Alanine, 3-[p-bis(2-chloroethyl)amino]phenyl-,L-)
Mercury Fulminate (Fulminic acid, mercury salt)
Mercury and compounds, N.O.S.*
Metam Sodium (Carbamodithioic acid, methyl-, monosodium salt)
Methacrylonitrile (2-Propenenitrile, 2-methyl-)
Methanethiol (Thiomethanol)
Methapyrilene (Pyridine, 2-[(2-dimethylamino)ethyl]-2-thenylamino-)
Methiocarb (Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate)
Metholonyl (Acetimidic acid, N-[(methylcarbamoyl)oxy]thio-,methyl ester
Methoxychior (Ethane, 1,1,1-trichloro-2,2'-bis(p-methoxyphenyl)-)
2-Methylaziridine (1,2-Propylenimine)
3-Methylcholanthrene (Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-)
Methyl chlorocarbonate (Carbonochloridic acid, methyl ester)
4,4'-Methylenebis(2-chloroaniline) (Benzenamine, 4,4'-methylenebis-(2-chloro-)
Methyl ethyl ketone (MEK) (2-Butanone)
Methyl hydrazine (Hydrazine, methyl-)
2-Methyllactonitrile (Propanenitrile, 2-hydroxy-2-methyl-)
Methyl methacrylate (2-Propenoic acid, 2-methyl-, methyl ester)
Methyl methanesulfonate (Methanesulfonic acid, methyl ester)
2-Methyl-2-(methylthio)propionaldehyde-o-(methylcarbonyl) oxime

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N-Methyl-N'-nitro-N-nitrosoguanidine (Guanidine, N-nitros-N-methyl-N'nitro-)
Methyl parathion (O,O-dimethyl O-(4-nitrophenyl) phosphorothioate)
Methylthiouracil (4-1H-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-)
Metolcarb (Carbamic acid, methyl-, 3-methylphenyl ester)
Mexacarbate (Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester))
Molinate (1H-Azepine-1-carbothioic acid,hexahydro-, S-ethyl ester)
Mustard gas (Sulfide, bis(2-chloroethyl)-)
Naphthalene
1,4-Naphthoquinone (1,4-Naphthalenedione)
1-Naphthylamine (alpha-Naphthylamine)
2-Naphthylamine (beta-Naphthylamine)
1-Naphthyl-2-thiourea (Thiourea, 1-naphthalenyl-)
Nickel and compounds, N.O.S.*
Nickel carbonyl (Nickel tetracarbonyl)
Nickel cyanide (nickel (II) cyanide)
Nicotine and salts, Pyridine, (S)-3-(1-methyl-2-pyrrolidinyl)-, and salts)
Nitric oxide (Nitrogen (II) oxide)
p-Nitroaniline (Benzenamine, 4-nitro-)
Nitrobenzine (Benzene, nitro-) Nitrobenzene
Nitrogen dioxide (Nitrogen (IV) oxide)
Nitrogen mustard and hydrochloride salt (Ethanamine, 2-chloro-, N-(2-chloroethyl)-N-methyl-, and hydrochloride salt)
Nitrogen mustard N-Oxide and hydrochloride salt (Ethanamine, 2-chloro-, N-(2-chloroethyl)-N-methyl-, N-oxide, and hydro-chloride salt)
Nitroglycerine (1,2,3-Propanetriol, trinitrate)
4-Nitrophenol (Phenol, 4-nitro-)
2-Nitropropane (Propane 2-nitro)
4-Nitroquinoline-1-oxide (Quinoline, 4-nitro-1-oxide-)
Nitrosamine, N.O.S.*
N-Nitrosodi-n-butylamine (1-Butanamine, N-butyl-N-nitroso-)
N-Nitrosodiethanolamine (Ethanol, 2,2'-(nitrosoimino)bis-)
N-Nitrosodiethylamine (Ethanamine, N-Ethyl-N-nitroso-)
N-Nitrosodimethylamine (Dimethylnitrosamine)
N-Nitroso-N-ethylurea (Carbamide, N-ethyl-N-nitroso-)
N-Nitrosomethylethylamine (Ethanamine, N-methyl-N-nitroso-)
N-Nitroso-N-methylurea (Carbamide, N-methyl-N-nitroso-)
N-Nitroso-N-methylurethane (Carbamic acid, methylnitroso-, ethyl ester)
N-Nitrosomethylvinylamine (Ethenamine, N-methyl-N-nitroso-)
N-Nitrosomorpholine (Morpholine, N-nitroso-)
N-Nitrosonornicotine (Nornicotine, N-nitroso-)
N-Nitrosopiperidine (Pyridine, hexahydro-, N-nitroso-)
N-Nitrosopyrrolidine (pyrrole, tetrahydro-, N-nitroso-)
N-Nitrososacrosine (Sarcosine, N-nitroso-)
5-Nitro-o-toluidine (Benzenamine, 2-methyl-5-nitro-)
Octamethylpyrophosphoramide (Diphosphoraminde, octamethyl-)
Osmium tetroxide (Osmium (VIII) oxide)
7-Ocabicyclo[2.2.1]heptane-2,3-dicarbonxylic acid (Endothal)
Oxamyl (Ethanimidothioc acid, 2-(dimethylamino)-N-[[(methylamino) carbonyl]oxy]-2-oxo-, methyl ester)
Paraldehyde (1,3,5-Trioxane, 2,4,6-trinethyl-)
Parathion (Phosphorothioic acid, O,O-diethyl O-(p-nitrophenyl) ester
Pebulate (Carbamothioic acid, butylethyl-, S- propyl ester)
Pentachlorobenzene (Benzene, pentachloro-)
Pentachlorodibenzo-p-dioxins
Pentachlorodibenzofurans
Pentachloroethane (Ethane, pentachloro-)
Pentachloronitrobenzene (PCNB) (Benzene, pentachloronitro-)
Pentachlorophenol (Phenol, pentachloro-)
Perchloromethyl mercaptan (Methanesulferryl chloride, trichloro-)
Phenacetin (Acetamide, N-(4-ethoxyphenyl)-)
Phenol (Benzene, hydroxy-)
Phenylenediamine (Benzenediamine)
Phenylmercury acetate (Mercury, acetatophenyl-)
N-Phenylthiourea (Thiourea, phenyl-)
Phosgene (Carbonyl chloride)
Phosphine (Hydrogen phosphide)
Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester (Phorate)
Phosphorothioic acid, O,O-dimethyl O-[p-((dimethylamino)sulfonyl)phenyl] ester (Famphur)
Phthalic acid esters, N.O.S.* (Benzene, 1,2-dicarboxylic acid, esters, N.O.S.*
Phthalic anhydride (1,2-Benzenedicarboxylic acid anhydride)
Physostigmine (Pyrrolo[2,3-b]indol-5-01, 1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethyl-, methylcarbamate (ester), (3aS-cis)-)
Physostigmine salicylate (Benzoic acid, 2-hydroxy-, compd. with (3aS-cis)--1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethylpyrrolo [2,3-b]indol-5-yl methylcarbamate ester (1:1).)
2-Picoline (Pyridine, 2-methyl-)
Polychlorinated biphenyl, N.O.S.*
Potassium cyanide
Potassium dimethyldithiocarbamate (Carbamodithioic acid, dimethyl, potassium salt)
Potassium n-hydroxymethyl-n-methyl- dithiocarbamate (Carbamodithioic acid, (hydroxymethyl)methyl-, monopotassium salt)
Potassium n-methyldithiocarbamate (Carbamodithioic acid, methyl- monopotassium salt)
Potassium pentachlorophenate (Pentachlorophenol, potassium salt)
Potassium silver cyanide (Argentate(1-), dicyano-, potassium)
Promecarb (Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate)
Pronamide (3,5-Dichloro-N-(1,1-dimethyl-2-propynyl)benzamide)

1,3-Propanesultone (1,2-Oxathiolane, 2,2-dioxide)
Propham (Carbamic acid, phenyl-, 1-methylethyl ester)
Propionic acid, 2-(2,4,5-trichlorophenoxy), salts and esters (2,4,5-TP,Silvex, salts and esters)
Propoxur (Phenol, 2-(1-methylethoxy)-, methylcarbamate)
n-Propylamine (1-Propane)
Propylthiouracil (2,3 dihydro-6-propyl-2 thioxo-4(1H)-pyrimidinone)
2-Propyn-1-ol (Propargyl alcohol)
Prosulfocarb (Carbamothioic acid, dipropyl-, S-(phenylmethyl) ester)
Pyridine
Reserpine (Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenxoyl)oxy]-, methyl ester)
Resorcinol (1,3-Benzenediol)
Saccharin and salts (1,2-Benzoisothiazolin-3-one, 1,1-dioxide, and salts)
Safrol (Benzene, 1,2-methylenedioxy-4-allyl-)
Selenious acid (Selenium dioxide)
Selenium and compounds, N.O.S.*
Selenium sulfide (Sulfur selenide)
Selenium, tetrakis (dimethyl-dithiocarbamate) (Carbamodithioic acid, dimethyl-, tetraanhydrosulfide with orthothioselenious acid)
Selenourea (Carbamimidoselenoic acid)
Silver and compounds, N.O.S.*
Silver cyanide
Sodium cyanide
Sodium dibutyldithiocarbamate (Carbamodithioic acid, dibutyl, sodium salt)
Sodium diethyldithiocarbamate (Carbamodithioic acid, diethyl-, sodium salt)
Sodium dimethyldithiocarbamate (Carbamodithioic acid, dimethyl-, sodium salt)
Sodium pentachlorophenate (Pentachlorophenol, sodium salt)
Streptozotocin (D-Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-)
Strychnine and salts (Strychnidin-10-one, and salts)
Sulfallate (Carbamodithioic acid, diethyl-, 2- chloro-2-propenyl ester)
Tetrabutylthiuram disulfide (Thioperoxydicarbonic diamide, tetrabutyl)
1,2,4,5-Tetrachlorobenzene (Benzene, 1,2,4,5-tetrachloro-)
Tetrachlorodibenzo-p-dioxins
Tetrachlorodibenzofurans
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) Dibenzo-p-dioxin, 2,3,7,8-tetrachloro-)
Tetrachloroethane, N.O.S.* (Ethane, tetrachloro-, N.O.S.*)
1,1,1,2-Tetrachlorethane (Ethane, 1,1,1,2-tetrachloro-)
1,1,2,2-Tetrachlorethane (Ethane, 1,1,2,2-tetrachloro-)
Tetrachlorethylene (Ethene, 1,1,2,2-tetrachloro-)[1]
Tetrachloromethane (Carbon tetrachloride)
2,3,4,6-Tetrachlorophenol (Phenol,2,3,4,6-tetrachloro-)
2,3,4,6-tetrachlorophenol, potassium salt
2,3,4,6-tetrachlorophenol, sodium salt
Tetraethyldithiopyrophosphate (Dithiopyrophosphoric acid, tetraethyl-ester)
Tetraethyl lead (Plumbane, tetraethyl-)
Tetraethylpyrophosphate (Pyrophosphoric acid, tetraethyl ester)
Tetramethylthiuram monosulfide (Bis(dimethylthiocarbamoyl) sulfide)
Tetranitromethane (Methane, tetranitro-)
Thallium and compounds, N.O.S.*
Thallic oxide (Thallium (III) oxide)
Thallium (1) acetate (Acetic acid, thallium (I) salt)
Thallium (I) carbonate (Carbonic acid, dithallium (I) salt)
Thallium (I) chloride
Thallium (I) nitrate (Nitric acid, thallium (I) salt)
Thallium selenite
Thallium (I) sulfate (Sulfuric acid, thallium (I) salt)
Thioacetamide (Ethanethioamide)
Thiodicarb (Ethanimidothioic acid, N,N'-[thiobis [(methylimino) carbonyloxy]] bis-, dimethyl ester.)
Thiophanate-methyl (Carbamic acid, [1,2-phyenylenebis (iminocarbonothioyl)] bis-, dimethyl ester)
Thiosemicarbazide (Hydrazinecarbothioamide)
Thiourea (Carbamide thio-)
Thiuram (Bis(dimethylthioucarbamoyl) disulfide)
Tirpate (1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O-[(methylamino) carbonyl] oxime.)
Toluene (Benzene, methyl-)
Toluenediamine, N.O.S. (Toluene, 2,5-diamine-)
2,4-Toluenediamine
2,6-Toluenediamine
3,4-Toluenediamine
o-Toluidine hydrochloride (Benzenamine, 2-methyl-, hydrochloride)
Tolylene diisocyanate (Benzene, 2,4- and 2,6-diisocyanato-methyl-)
Toxaphene (Camphene, octachloro-)
Triallate (Carbamothioic acid, bis(1-methylethyl)-, S-(2,3,3-trichloro-2-propenyl) ester)
Tribromomethane (Bromoform)
1,2,4-Trichlorobenzene (Benzene, 1,2,4-trichloro-)
1,1,1-Trichloroethane (Methyl chloroform)
1,1,2-Trichloroethane (Ethane, 1,1,2-trichloro-)
Trichloroethene (Trichloroethylene)
Trichloromonofluoromethane (Methane, trichlorofluoro-)
2,4,5-Trichlorophenol (Phenol, 2,4,5-trichloro-)
2,4,6-Trichlorophenol (Phenol, 2,4,6-trichloro-)
2,4,5-Trichlorophenoxyacetic acid (2,4,5-T, salts and esters) (Acetic acid, 2,4,5-trichlorophenoxy-, salts and esters)
2,4,5-Trichlorophenoxypropionic acid (Porpionoic acid, 2-(2,4,5-trichlorophenoxyl), salts and esters (2,4,5-TP, Silvex, salts and esters))
Trichloropropane, N.O.S.* (Propane, trichloro-, N.O.S.*
1,2,3-Trichloropropane (Propane, 1,2,3-trichloro-)

PROPOSED

O,O,O-Triethyl phosphorothioate (Phosphorothioic acid, O,O,O-triethyl ester)
Triethylamine (Ethanamine, N,N-diethyl-)
sym-Trinitrobenzene (Benzene, 1,3,5-trinitro-)
Tris(1-aziridinyl) phosphine sulfide (Phosphine sulfide, tris(1-aziridinyl-)
Tris(2,3-dibromopropyl) phosphate (1-Propanol, 2,3-dibromo-, phosphate)
Trypan blue (2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl(1,1'-biphenyl)-4,4'-diyl)bis(azo)]bis(5-amino-4-hydroxy-, tetrasodium salt)
Undecamethylenediamine, N,N'-bis-(2-chloro-benzyl)-,dihydrochloride N,N'-Undecamethyl-enebis(2-chlorobenzylamine, dihydrochloride)
Uracil mustard (Uracil 5-[bis(2-chlorethyl)amino]-)
Vanadic acid, ammonium salt (ammonium vanadate)
Vanadium pentoxide (Vanadium (V) oxide)
Vernolate (Carbamothioic acid, dipropyl-,S-propyl ester)
Vinyl chloride (Ethane, chloro-)
Warfarin (2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, when present at concentrations less than 0.3%)
Warfarin (2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, when present at concentrations greater than 0.3%)
Warfarin salts, when present at concentrations less than 0.3%
Warfarin salts, when present at concentrations greater than 0.3%
Zinc cyanide
Zinc phosphide
Ziram (Zinc, bis(dimethylcarbamodithioato-S,S')-, (T-4)-)

* The abbreviation N.O.S. signifies those members of the general class "not otherwise specified" by name in this listing.

**Reviser's note:** The brackets and enclosed material following the text of the above section occurred in the copy filed by the agency and appear in the Register pursuant to the requirements of RCW 34.08.040.

**Reviser's note:** The typographical error in the above section occurred in the copy filed by the agency and appears in the Register pursuant to the requirements of RCW 34.08.040.

## WSR 97-16-089
## PROPOSED RULES
## STATE BOARD FOR COMMUNITY AND TECHNICAL COLLEGES
[Filed August 5, 1997, 9:03 a.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 97-14-024.

Title of Rule: Medical expense plans for the community and technical college system.

Purpose: To allow authorized college boards (and the state board for its own employees) to provide tax-free medical expense plans. Funding for each eligible employee's medical expense account is from sick-leave buyout. Implements SHB 2090 during the 1997 legislature.

Statutory Authority for Adoption: Chapter 28B.50 RCW.

Statute Being Implemented: Implements SHB 2090, passed during the 1997 legislative session.

Summary: Same as Purpose above.

Reasons Supporting Proposal: Implements SHB 2090, passed during the 1997 legislature.

Name of Agency Personnel Responsible for Drafting and Implementation: Larry Lael, State Board for Community and Technical Colleges, 319 Seventh Avenue, Olympia, WA, (360) 753-3661; and Enforcement: Howard Fischer, Assistant Attorney General, Education Division, 1125 Washington Street, Olympia, WA, (360) 586-2789.

Name of Proponent: State Board for Community and Technical Colleges, public and governmental.

Rule is not necessitated by federal law, federal or state court decision.

Explanation of Rule, its Purpose, and Anticipated Effects: The 1997 legislature enacted SHB 2090 to allow authorized college boards (and the state board for its own employees) to provide tax-free medical expense plans. Also see Purpose above.

Proposal does not change existing rules. Adds two sections to chapter 131-16 WAC.

No small business economic impact statement has been prepared under chapter 19.85 RCW. No business economic impact.

RCW 34.05.328 does not apply to this rule adoption.

Hearing Location: Green River Community College, 12401 S.E. 320th Street, Auburn, WA, on September 18, 1997, at 10 a.m.

Assistance for Persons with Disabilities: Contact Claire Krueger by September 1, 1997.

Submit Written Comments to: Larry Lael, State Board for Community and Technical Colleges, P.O. Box 42495, Olympia, WA 98504-2495, FAX (360) 586-6440, by September 15, 1997.

Date of Intended Adoption: September 18, 1997.

August 5, 1997
Claire C. Krueger
Executive Assistant
Agency Rules Coordinator

NEW SECTION

**WAC 131-16-067 Medical expense plans—Definitions.** For purposes of establishing medical expense plans authorized under WAC 131-16-068, the following terms are defined:

(1) "Eligible employees" means any of the following groups of community and technical college system employees:

(a) Academic employees as defined in RCW 28B.52.020;

(b) Classified employees of technical colleges whose employment is governed under chapter 41.56 RCW;

(c) Professional, paraprofessional, and administrative employees exempt from chapter 41.06 RCW; and

(d) Employees of the state board for community and technical colleges who are exempt from chapter 41.06 RCW.

(2) "Covered eligible employee" means an eligible employee who is in a group for which a college board or the

state board for community and technical colleges has established a medical expense plan.

NEW SECTION

**WAC 131-16-068 Medical expense plans authorized.** (1) In lieu of remuneration for unused sick leave at retirement, a college board (or the state board for community and technical colleges for employees under its jurisdiction) may provide with equivalent funds a medical expense plan for eligible employees.

(2) A medical expense plan provided under this section shall require, as a condition of participation, that each covered eligible employee sign an agreement to hold the employer harmless if the employee or employer is later found to be indebted to the United States as a result of:

(a) The employee not paying income taxes on amounts contributed to the plan; or

(b) The employer not withholding or deducting a tax, assessment, or other payment on funds contributed to the plan as required by federal law.

Such agreement shall also include a provision requiring each covered eligible employee to forfeit remuneration for accrued sick leave at retirement if he/she is covered by a medical expense plan and the employee refuses to sign the required agreement.

(3) In providing a medical expense plan authorized under this section, a college board or the state board may only provide such plan covering all employees in one or more of the groups defined in WAC 131-16-067.

(4) In providing a medical expense plan for a group of eligible employees whose conditions of employment are governed by chapter 28B.52 or 41.56 RCW, a college board may only provide such plan by agreement applicable to all of the members of a bargaining unit.

(5) A medical expense plan established under this section shall be applicable to all retirements of covered eligible employees within a calendar year. Such a medical expense plan may be discontinued in any future year, but once discontinued it may not be reinstated for the same group of eligible employees within the same calendar year as it was discontinued.

## WSR 97-16-090
### PROPOSED RULES
### DEPARTMENT OF LABOR AND INDUSTRIES
[Filed August 5, 1997, 9:22 a.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 97-03-081.

Title of Rule: Contractor certificate of registration—Renewals—Security—Insurance.

Purpose: **Chapter 296-200 WAC, Contractor certificate of registration renewals—Security—Insurance**, state-initiated proposed revisions to chapter 296-200 WAC, Contractor certificate of registration renewals—Security—Insurance, are made to comply with the Administrative Procedure Act, (see RCW 34.05.220(5).) Consequently, clear rule writing techniques have been used to rewrite the entire chapter. Following the recommendation of the Office of Code Reviser, chapter 296-200 WAC has been repealed in its entirety and replaced with chapter 296-200A WAC. The following sections of chapter 296-200 WAC have been repealed:

WAC 296-200-005 Purpose of chapter.

WAC 296-200-015 Definitions.

WAC 296-200-025 Initial application for registration and renewal of registration.

WAC 296-200-035 Length of registration period.

WAC 296-200-040 Suspension of contractor's registration.

WAC 296-200-050 Change in business, name, or address.

WAC 296-200-060 Cancelling surety bonds and insurance policies.

WAC 296-200-070 Refund of security deposited with the section.

WAC 296-200-080 Filing suit against a contractor.

WAC 296-200-090 Collection of judgments.

WAC 296-200-100 Priority for payment of judgments.

WAC 296-200-110 Verification of registration number by a city, town, or county.

WAC 296-200-111 Verification of nonoriginal registration card by city, town, or county.

WAC 296-200-112 Liability to cities, towns, and counties for failure to verify contractor registration.

WAC 296-200-300 Procedures for issuance of notices of infraction.

WAC 296-200-310 Service on an employee of a contractor.

WAC 296-200-320 Mailing copy of notice of infraction to contractor.

WAC 296-200-330 Issuance of notices of infraction under RCW 18.27.100 or 18.27.200.

WAC 296-200-340 Right to contested hearing—Place to file.

WAC 296-200-350 Administrative law judge shall preside in contested hearings.

WAC 296-200-360 Representation by counsel.

WAC 296-200-370 Contested cases—Notice—Hearing—Summary orders—Informal disposition—Record—Findings of fact.

WAC 296-200-380 Contested cases—Evidence.

WAC 296-200-390 Administration of appeals.

WAC 296-200-400 Fines.

WAC 296-200-410 Infraction—Dismissal, when.

WAC 296-200-900 Fees.

The contents of WAC 296-200-100 Priority for payments of judgments and WAC 296-200-410 Infraction—Dismissal, when, have not been carried forward to chapter 296-200A WAC because the department finds them redundant with chapter 18.27 RCW.

**Chapter 296-200A WAC, Contractor certificate of registration renewals—Security—Insurance**, state-initiated proposed clear rule writing amendments to chapter 296-200A WAC, Contractor certificate of registration renewals—Security—Insurance, are made to:

- Move existing chapter 296-200 WAC requirements into new sections in chapter 296-200A WAC.
- Rewrite the rules in a clear rule writing style.

- Remove outdated and redundant language to make the rules easier to read.
- Remove gender specific language.
- Use questions for section titles to better describe the information contained in each rule section and to better engage the reader.
- Use a less formal voice in the rules and eliminated the passive voice when possible.
- Reorganize some rule sections to make them easier to use.

The following sections of chapter 296-200A WAC, Contractor certificate of registration renewals—Security—Insurance, have been rewritten in a clear rule writing style **without any substantive change to their content**:

WAC 296-200A-005 What is the goal of this chapter?

WAC 296-200A-025 How does a contractor register or renew its registration?

WAC 296-200A-050 What requirements must be met if a contractor changes its business structure, name or address?

WAC 296-200A-060 What procedures should be followed when surety bonds and insurance policies are canceled?

WAC 296-200A-070 When will the department refund a security deposit?

WAC 296-200A-080 How is a suit filed against a contractor?

WAC 296-200A-090 How are judgments against contractors paid?

WAC 296-200A-110 Is a city, town, or county required to verify a contractor registration number?

WAC 296-200A-112 Who is liable when a city, town, or county fails to verify a contractor's registration?

WAC 296-200A-310 What information must be included in a notice of infraction?

WAC 296-200A-320 Who can be issued a notice of infraction?

WAC 296-200A-330 If a notice of infraction is served on an employee, how is the contractor notified?

WAC 296-200A-350 Who presides over an appeal hearing and where is it held?

WAC 296-200A-360 Who will represent the contractor and the department at the hearing?

WAC 296-200A-370 How is the appeal hearing conducted?

WAC 296-200A-380 What evidence is admissible in an appeal hearing?

WAC 296-200A-390 What does the department do with the appeal notices that they receive?

The following sections of chapter 296-200A WAC, Contractor certificate of registration renewals—Security—Insurance, have been rewritten in a clear rule writing style **with legislative-initiated substantive changes to their content**. These legislative-initiated substantive amendments implement SHB 2498 (1996) and SHB 1903 (1997).

WAC 296-200A-015 What terms do I need to know to understand this chapter? Proposed amendments are made to add the SHB 2498 definition of "final judgment" and the SHB 1903 definition of an unregistered contractor.

WAC 296-200A-035 How long is a contractor's registration period? Proposed amendments are made to implement the "continuous bond" provisions of SHB 1903 by repealing references to "expired bonds" and "short-term bonds."

WAC 296-200A-040 How does a contractor's registration become suspended? Proposed amendments are made to implement SHB 1903 by adding the sentence "The department must mail a notice of suspension to the contractor's address on the certificate of registration by certified mail **and** first class mail within forty-eight hours after suspension."

WAC 296-200A-111 How does a city, town, or county verify a contractor's registration? Proposed amendments are made to implement SHB 1903 by adding subsection (1) explaining how an original contractor registration card can be verified.

WAC 296-200A-300 What violations of chapter 18.27 RCW can result in the issuance of a notice of infraction? Proposed amendments are made to implement SHB 1903 by specifying that a contractor who continues to work while unregistered, or while their registration is suspended or revoked, or under a registration issued to another contractor is guilty of a separate misdemeanor for each day worked and for each job site on which a violation occurs.

WAC 296-200A-305 How does the department notify registered contractors regarding any unregistered subcontractors they may employ? Proposed amendments are made to implement SHB 1903 by:

- Acknowledging the department's responsibility to notify contractors regarding subcontractors who have become unregistered.
- Implementing a "Notice of Unregistered Subcontractors" form in order to serve written notice to general contractors who employ unregistered subcontractors.
- Establishing procedures for issuing the "Notice of Unregistered Subcontractors."
- Clarifying that a "Notice of Unregistered Subcontractors" is not a notice of infraction.

WAC 296-200A-400 What monetary penalties will be assessed for an infraction issued for violations of RCW 18.27.100, 18.27.114 or 18.27.200? Proposed amendments are made to implement SHB 1903 by:

- Increasing the maximum amount of fine for a violation from three thousand dollars to five thousand dollars in the tables located in subsections (2) and (3).
- Adding the EXCEPTION language to the table located in subsection (3)(b).
- Adding the language in subsection (3)(c) giving the director the authority to waive a contractor's assessed penalty under certain conditions.

WAC 296-200A-500 Is the department required to monitor unregistered contractors who become registered? Proposed amendments are made to implement SHB 1903 by requiring the department to:

- Monitor unregistered contractors who become registered; and
- Share the results of that monitoring with the Department of Revenue and the Department of Employment Security to determine whether any taxes, fees or penalties are owed the state.

WAC 296-200A-510 Is the department required to report contractor compliance activities to the legislature? Proposed amendments are made to implement SHB 1903 by

describing the contractor compliance reporting requirements placed upon the department by the legislature.

The following sections of chapter 296-200A WAC, Contractor certificate of registration renewals—Security—Insurance, have been rewritten in a clear rule writing style **with state-initiated substantive changes to their content.** Basically, the state-initiated substantive changes clarify current department policies and practices and bring the chapter into compliance with chapter 18.27 RCW.

WAC 296-200A-015 What terms do I need to know to understand this chapter? Proposed amendments are made to:

- Add a definition for "compliance inspector" to enhance the clarity and application of the chapter.
- Include a reference to RCW 18.27.114 in the definitions for "administrative law judge" and "infraction" because violations of that section will result in an infraction.
- Delete the definition for "bonded contractor" by combining it with the definition of "secured contractor."
- Redefine "secured contractor" to be one who either assigns, to the department, a savings account in a Washington state bank, deposits cash with the department or obtains a surety bond.
- Redefine "security" to be either a savings account in a Washington state bank assigned to the department, cash deposited with the department or a surety bond.
- Replace the definition of "contested case" with the definition of "appeal hearing" because it is more consistent with the content of chapter 296-200A WAC.
- Replace the definition of "chief construction compliance inspector" with "contractor compliance chief" to reflect the current organizational structure of the department.

WAC 296-200A-330 If the notice of infraction is served on an employee, how is the contractor notified? Proposed amendments are made to:

- Add descriptive statutory language clarifying chapter 18.27 RCW violations which result in the issuance of a notice of infraction.
- Add a paragraph referencing the violations in this section to the monetary penalties described in WAC 296-200A-400.

WAC 296-200A-340 How does a contractor appeal a notice of infraction? Proposed amendments are made to repeal the requirement that a contractor must file a two hundred dollar appeal bond with a notice of appeal because the department does not statutory authority for such a bond.

WAC 296-200A-400 What monetary penalties will be assessed for an infraction issued for violations of RCW 18.27.100, 18.27.114 or 18.27.200? Proposed amendments are made to:

- Clarify department policy and practice regarding the amount of monetary penalties applicable to RCW 18.27.100, 18.27.114 and 18.27.200 violations.
- Present current monetary penalties in a tabular format for ease of understanding.

WAC 296-200A-405 When must a contractor pay assessed monetary penalties? Proposed amendments are made to clarify when a contractor must pay an assessed monetary penalty.

WAC 296-200A-900 What fees does the department charge contractors for issuance, renewal and reinstatement of certificates of registration? Proposed amendments are made to include a $20.00 fee for each requested certified letter prepared by the department to cover the cost of the service.

Statutory Authority for Adoption: RCW 18.27.125.

Statute Being Implemented: SHB 2498 (1996) and SHB 1903 (1997).

Summary: See Purpose above.

Reasons Supporting Proposal: See Purpose above.

Name of Agency Personnel Responsible for Drafting: Kevin Morris, 7273 Linderson Way, Tumwater, WA, (360) 902-5578; Implementation and Enforcement: Ernie LaPalm, 7273 Linderson Way, Tumwater, WA, (360) 902-5329.

Name of Proponent: Department of Labor and Industries, governmental.

Rule is not necessitated by federal law, federal or state court decision.

Explanation of Rule, its Purpose, and Anticipated Effects: See Purpose above.

Proposal Changes the Following Existing Rules: See Purpose above.

No small business economic impact statement has been prepared under chapter 19.85 RCW. The department does not consider the economic impact of the proposed rules to be a more than minor economic impact on business. Therefore, the preparation of a comprehensive small business economic impact statement is not required.

Section 201, chapter 403, Laws of 1995, applies to this rule adoption. The proposed rules do meet the test of a "significant legislative rule" because they will:

1. Adopt substantive provisions of the law through delegated legislative authority.
2. Subject a violator to a penalty or a sanction.
3. Change the requirements for issuing or suspending or revoking a license or permit.
4. Adopt new policy and amend significant existing policy.
5. Have a financial impact on the public they regulate.

In addition, the rule is being rewritten in a clear rule writing style and gender specific references are being removed and an appeal bond requirement is being repealed.

Hearing Location: Department of Labor and Industries Building, Auditorium, 7273 Linderson Way, Tumwater, WA, on September 9, 1997, at 1:30 p.m.; and at Cavanaugh's, West Ballroom, 607 East Yakima Avenue, Yakima, WA, on September 11, 1997, at 1:30 p.m.

Assistance for Persons with Disabilities: Contact George Huffman by August 29, 1997, (360) 902-6411.

Submit Written Comments to: Department of Labor and Industries, Attention: Kevin Morris, Chief Compliance Construction Plumbing Specialist, P.O. Box 44470, Olympia, WA 98504-4470, by no later that 5:00 p.m., September 18, 1997.

In addition to written comments, the department will accept comments submitted to FAX (360) 902-5292. Comments submitted by FAX must be ten pages or less.

Date of Intended Adoption: December 2, 1997.

July 30, 1997
Gary Moore
Director

PROPOSED

PROPOSED

REPEALER

The following chapter of the Washington Administrative Code is repealed:

| | |
|---|---|
| WAC 296-200-005 | Purpose of chapter. |
| WAC 296-200-015 | Definitions. |
| WAC 296-200-025 | Initial application for registration and renewal of registration. |
| WAC 296-200-035 | Length of registration period. |
| WAC 296-200-040 | Suspension of contractor's registration. |
| WAC 296-200-050 | Change in business structure, name, or address. |
| WAC 296-200-060 | Cancelling surety bonds and insurance policies. |
| WAC 296-200-070 | Refund of security deposited with the section. |
| WAC 296-200-080 | Filing suit against a contractor. |
| WAC 296-200-090 | Collection of judgments. |
| WAC 296-200-100 | Priority for payment of judgments. |
| WAC 296-200-110 | Verification of registration number by a city, town, or county. |
| WAC 296-200-111 | Verification of nonoriginal registration card by city, town, or county. |
| WAC 296-200-112 | Liability to cities, towns, and counties for failure to verify contractor registration. |
| WAC 296-200-300 | Procedures for issuance of notices of infraction. |
| WAC 296-200-310 | Service on employee of a contractor. |
| WAC 296-200-320 | Mailing copy of notice of infraction to contractor. |
| WAC 296-200-330 | Issuance of notices of infraction under RCW 18.27.100 or 18.27.200. |
| WAC 296-200-340 | Right to contested hearing—Place to file. |
| WAC 296-200-350 | Administrative law judge shall preside in contested hearings. |
| WAC 296-200-360 | Representation by counsel. |
| WAC 296-200-370 | Contested cases—Notice—Hearing—Summary orders—Informal disposition—Record—Findings of fact. |
| WAC 296-200-380 | Contested cases—Evidence. |
| WAC 296-200-390 | Administration of appeals. |
| WAC 296-200-400 | Fines. |
| WAC 296-200-410 | Infraction—Dismissal, when. |
| WAC 296-200-900 | What fees does the department charge contractors for issuance, renewal and reinstatement of certificates of registration? |

## Chapter 296-200A WAC

## CONTRACTOR CERTIFICATE OF REGISTRATION RENEWALS—SECURITY—INSURANCE

NEW SECTION

**WAC 296-200A-005 What is the goal of this chapter?** The goal of this chapter is to:

(1) Reduce the paperwork required for contractor registrations.

(2) Clarify issues related to suits against contractors and the collection of court judgments.

(3) Ensure that the contractors registration law (chapter 18.27 RCW) is efficiently and properly administered.

NEW SECTION

**WAC 296-200A-015 What terms do I need to know to understand this chapter?** For the purposes of this chapter, the following terms and definitions are important:

**"Administrative law judge"** is any person appointed by the chief administrative law judge (as defined in RCW 34.12.020(2)) to preside at a notice of infraction appeal hearing convened under RCW 18.27.100, 18.27.114 or 18.27.200.

**"Appeal hearing"** is any proceeding in which an administrative law judge is empowered to determine legal rights, duties or privileges of specific parties on behalf of the director.

**"Compliance inspector"** refers to the departmental staff responsible for investigating potential violations of chapter 18.27 RCW.

**"Contractor compliance chief"** refers to the person designated by the director to address all policy and technical issues related to chapter 18.27 RCW and chapter 296-200A WAC.

**"Department"** refers to the department of labor and industries.

**"Director"** refers to the director of the department of labor and industries or the director's designee acting in the place of the director.

**"Final judgment"** means any money that is owed to a claimant as a result of court action against a contractor's bond or assigned savings account with the department or any money that is owed the department as a result of a contractor's unsuccessful appeal of an infraction. Final judgment also includes any penalties owed the department as a result of an unappealed infraction or any outstanding fees due under this chapter.

**"Infraction"** means a violation of RCW 18.27.100, 18.27.114 or 18.27.200 as cited by the chief contractor compliance inspector or the department's construction compliance inspectors.

**"Secured contractor"** is a contractor who has complied with RCW 18.27.040 by assigning, to the department, a savings account held in a Washington state bank, depositing cash with the department or obtaining a surety bond.

**"Security"** is a savings account held in a Washington state bank and assigned to the department, cash deposited with the department or a surety bond.

**"Unregistered contractor"** means a person, firm, or corporation working as a contractor without being registered

in compliance with chapter 18.27 RCW and chapter 296-200A WAC.

NEW SECTION

**WAC 296-200A-025 How does a contractor register or renew its registration?** (1) A contractor may register if it:

(a) Completes an application for contractor registration and submits it to the department as required by RCW 18.27.030;

(b) Satisfies one of the following:

(i) Obtains a surety bond and submits the original bond to the department (see RCW 18.27.040); or

(ii) Assigns, to the department, a savings account held in Washington state; or

(iii) Deposits cash with the department;

(c) Obtains public liability and property damage insurance and submits the original insurance certificate to the department (see RCW 18.27.050); and

(d) Pays the issuance/renewal/reregistration fee shown in WAC 296-200A-900.

(2) A contractor may renew its registration if it submits, to the department, a completed contractor registration renewal notice and the material required in subsection (1)(b) and (c) of this section and pays the renewal fee shown in WAC 296-200A-900. At least forty-five days before the contractor's registration expires, the department must send a renewal notice to the contractor's last recorded address. It is the responsibility of the contractor to notify the department **in writing** of a change in address.

(3) The contractor must:

(a) Submit all required materials to the department in one package.

(b) Include, on each material, its name exactly as it appears on the contractor registration application or renewal notice.

(c) Include, if renewing a registration, the contractor's registration number on each of the materials.

(4) The department will not register or renew the registration of a contractor if:

(a) Any of the required materials are missing;

(b) The materials do not properly name the contractor;

(c) The materials, in the case of a renewal, do not include the registration number; or

(d) The applicant has been previously registered as a contractor and has an unsatisfied final judgment based on chapter 18.27 RCW.

(5) The contractor may request, in a letter filed with the application or renewal materials, that the registration period end on a particular day. However, the registration period cannot exceed one year.

NEW SECTION

**WAC 296-200A-035 How long is a contractor's registration period?** (1) A registration period cannot exceed one year.

(2) If a contractor's insurance policy will expire in less than one year after the day the registration begins, the registration period ends on the day the insurance expires.

NEW SECTION

**WAC 296-200A-040 How does a contractor's registration become suspended?** (1) A contractor's registration will be suspended if it does not comply with WAC 296-200A-025, specifically, if:

(a) A surety bond or other security is impaired.

(b) A surety bond is canceled.

(c) An insurance policy is canceled.

(2) The contractor's registration will be automatically suspended on the effective date of the impairment or cancellation. The department must mail a notice of the suspension to the contractor's address on the certificate of registration by certified mail **and** first class mail within forty-eight hours after suspension.

(3) A contractor must not advertise, offer to do work, submit a bid, or perform any work as a contractor while its registration is suspended. To continue to operate as a contractor while its registration is suspended is a violation of chapter 18.27 RCW and subject to infractions.

NEW SECTION

**WAC 296-200A-050 What requirements must be met if a contractor changes its business structure, name or address?** (1) If a contractor changes its business structure (for example, from a partnership to a corporation or if the partners in a partnership change), the contractor must:

(a) Apply for a new registration as required in WAC 296-200A-025; and

(b) Pay the registration fee shown in WAC 296-200A-900.

(2) Failure to reregister after a change in business structure may invalidate the contractor's registration. See RCW 18.27.040.

(3) If a registered contractor changes its name, it must:

(a) Notify the department, in writing, of the change; and

(b) Pay the registration fee shown in WAC 296-200A-900; and

(c) Submit to the department a name change rider **or** a new bond in the new name and a certificate of insurance in the new name.

(4) If a registered contractor changes its address, it must notify the department in writing.

NEW SECTION

**WAC 296-200A-060 What procedures should be followed when surety bonds and insurance policies are canceled?** (1) Insurance and bonding companies should send cancellation notices to the department by certified or registered mail.

(2) Cancellation notices must contain the following information in the order shown:

(a) The name of the contractor exactly as it appears in the contractor's registration file;

(b) The contractor's registration number;

(c) The contractor's business address;

(d) The names of the owners, partners, or officers of the contractor;

(e) The bond or insurance policy number; and

(f) The effective date of the bond or insurance policy.

PROPOSED

(3) The cancellation of a surety bond or insurance policy shall be effective thirty days after the department receives a cancellation notice.

NEW SECTION

**WAC 296-200A-070 When will the department refund a security deposit?** (1) The department will release a security deposit one year after the contractor's last registration has expired **unless** there is an unsatisfied final court judgment or claim against the contractor.

(2) The department will release a security deposit in less than one year after the contractor's last registration has expired if the contractor provides a surety bond covering **both the previous and current registration periods.**

NEW SECTION

**WAC 296-200A-080 How is a suit filed against a contractor?** (1) A civil suit against a contractor must be filed in superior court. Unless the suit is filed in a superior court, the department will not be able to pay an unsatisfied final judgment against a secured contractor.

(2) Notice that a suit has been filed (a summons and complaint) against a contractor, the contractor's bond, or the contractor's deposit must be exclusively delivered to the department by registered or certified mail. **The department does not accept personal service of a summons and complaint.** The notice must be addressed to the department and must include three copies of the summons and complaint filed against the contractor, the contractor's bond or the contractor's deposit. The person filing the suit must pay a ten-dollar service fee to the department. See RCW 18.27.040(3).

(3) The summons and complaint against a contractor should include the following information:

(a) The name of the contractor exactly as it appears in the contractor's registration file;

(b) The contractor's business address;

(c) The names of the owners, partners or officers of the contractor; and

(d) The contractor's registration number.

(4) If the suit joins a bonding company, the summons and complaint should also include:

(a) The name of the bonding company that issued the contractor's bond;

(b) The bond number; and

(c) The effective date of the bond.

(5) Service is not complete until the department receives the ten-dollar fee and three copies of the summons and complaint.

(6) Within forty-eight hours of receiving a summons and complaint, the department must transmit a copy of the summons and complaint to the registrant at their last known address and to the registrant's surety.

(7) The department will return a summons and complaint without it being served, if the department cannot identify either the contractor or bonding company being sued.

NEW SECTION

**WAC 296-200A-090 How are judgments against contractors paid?** (1) **The department can only pay a superior court final judgment.** It cannot pay a district court judgment.

(2) A contractor's security held by the department can be used to pay a superior court final judgment against a secured contractor.

(3) The department must pay a superior court final judgment against a secured contractor if the claimant supplies the department with three certified copies of the unpaid final court judgment. The three certified copies must be delivered by registered or certified mail within one year of the date the final judgment was officially entered into the court record.

(4) For the department to pay a superior court final judgment, the claimant must include the following information with the copies of the judgment:

(a) The name of the contractor exactly as it appears on the contractor's registration file;

(b) The contractor's business address;

(c) The names of the owners, partners, or officers of the contractor;

(d) The contractor's registration number; and

(e) The exact amount of the judgment, including court costs, attorneys' fees and interest.

If the department does not receive enough information to pay the judgment, it must inform the claimant.

(5) If a contractor is bonded, the department can neither pay a final court judgment against a contractor nor force the contractor or its bonding company to pay. Only the claimant can pursue payment from the contractor or its bonding company.

NEW SECTION

**WAC 296-200A-110 Is a city, town, or county required to verify a contractor registration number?** Before issuing a building permit, a city, county or town must verify the registration of the general or specialty contractor applying for the permit.

NEW SECTION

**WAC 296-200A-111 How does a city, town, or county verify a contractor's registration?** A city, town, or county may verify:

(1) An original contractor registration by receiving and duplicating a current contractor registration card, by checking the department's contractor registration data base or by calling the department to confirm that the contractor is registered.

(2) A nonoriginal contractor registration by either accepting a notarized copy of the original contractor registration card if that copy has been attested to by the person who applied for that original card or by accepting a facsimile verification from the department.

NEW SECTION

**WAC 296-200A-112 Who is liable when a city, town, or county fails to verify a contractor's registration?** The city, county, or town that issues a building permit without verifying the contractor's registration may be liable for a maximum penalty amount of five thousand dollars. See RCW 18.27.100 (7)(a).

NEW SECTION

**WAC 296-200A-300 What violations of chapter 18.27 RCW can result in the issuance of a notice of infraction?** (1) Under RCW 18.27.100, the department can issue a notice of infraction to a contractor for:

(a) Using an unregistered name while acting as a contractor;

(b) Using an unregistered name and address in advertising, correspondence, signs, documents, etc.;

(c) Using a false or expired registration number in advertisements where a contractor's registration number is required;

(d) Using the bond and insurance requirements of chapter 18.27 RCW to advertise as a bonded and insured contractor;

(e) Using a false registration number to either solicit business or pose as a contractor;

(f) Failing to include the contractor's current registration number in all advertising that shows the contractor's name or address. This registration number may be omitted in an alphabetized listing of registered contractors stating only the name, address, and telephone number. See RCW 18.27.100(3).

(2) Under RCW 18.27.114, the department can issue a notice of infraction to a contractor for failing to provide a residential or commercial customer with a proper disclosure statement before beginning a repair, alterations or construction project. See RCW 18.27.114(1) for both the project dollar cost limits affecting this requirement and a sample disclosure statement.

This requirement does not apply to either contracts authorized under chapter 39.04 RCW or to contractors contracting with other contractors.

(3) Under RCW 18.27.200, the department must issue a notice of infraction to a contractor for:

(a) Advertising, offering to work, submitting a bid, or performing any contractor work without being registered or when it's registration is suspended or revoked; or

(b) Transferring a valid contractor registration to an unregistered contractor; or

(c) Allowing an unregistered contractor to work under a registration issued to another contractor.

Each day that a contractor works without being registered, works while the registration is suspended or revoked, or works under a registration issued to another contractor is a separate infraction. A cited contractor who continues to work while unregistered, or while their registration is suspended or revoked, or under a registration issued to another contractor is guilty of a separate misdemeanor for each day worked.

Each worksite at which a contractor works without being registered, works while the registration is suspended or revoked, or works under a registration issued to another contractor is a separate infraction. A cited contractor who continues to work while unregistered, or while their registration is suspended or revoked, or under a registration issued to another contractor is guilty of a separate misdemeanor for each worksite on which a violation occurs.

(4) See WAC 296-200A-400 for the specific monetary penalties associated with each of the violations discussed in this section.

NEW SECTION

**WAC 296-200A-305 How does the department notify registered contractors regarding any unregistered subcontractors they may employ?** (1) Unless a general contractor or its representative has been given written notification by the department that a subcontractor they have employed, who was registered when employed, has subsequently become unregistered, it is not illegal for the general contractor to employ that subcontractor. (See RCW 18.27.020(3).)

(2) To comply with RCW 18.27.020(3), the department, when appropriate, will issue a written "notice of unregistered subcontractors" to a general contractor or its representative.

(3) A notice of unregistered subcontractor issued under this section must be personally served on the general contractor named in the notice by the department's compliance inspectors or must be served by certified mail directed to the general contractor named in the notice.

(4) If the general contractor named in the notice is a firm or corporation, the notice may be personally served on any employee of the firm or corporation. If the notice is personally served upon an employee and the department is able to obtain the general contractor's address, the department must send a copy of the notice by certified mail to the general contractor within four days of service.

(5) A "notice of unregistered subcontractor" **is not** a notice of infraction.

NEW SECTION

**WAC 296-200A-310 What information must be included in a notice of infraction?** When a contractor violates RCW 18.27.100, 18.27.114 or 18.27.200, the department may issue a notice of infraction which must contain the following:

(1) Notification that an infraction has been committed and shall be final unless contested;

(2) Notification that an infraction is a noncriminal offense and is not punishable by imprisonment;

(3) The specific violation(s) leading to the issuance of the infraction;

(4) The amount of penalty owed if the infraction is established;

(5) Notification of a right to a hearing (chapter 34.05 RCW) if requested within twenty days of receipt of the infraction;

(6) A reminder that the burden of proof in a hearing rests upon the state;

(7) Notification of a right to subpoena witnesses, including the inspector that issued the infraction;

(8) A reminder that a contractor is legally required to sign a notice of infraction and, by doing so, promises to respond to it;

PROPOSED

(9) A reminder that a refusal to sign a notice of infraction is a misdemeanor and may be punishable by fine or imprisonment; and

(10) A reminder that a failure to respond to a notice of infraction is a misdemeanor and may be punishable by a fine or imprisonment.

NEW SECTION

**WAC 296-200A-320 Who can be issued a notice of infraction?** (1) A notice of infraction can be issued personally to the contractor named in the notice by the compliance inspector issuing it or the notice can be delivered to the contractor by certified mail.

(2) Any employee of a contractor can be issued a notice of infraction at a job site. When the notice is signed by the employee, it is binding upon the contractor. To avoid confusion, the department must have the employee sign the "name of the contractor, by name of the employee." The signature will appear as:

Jane Doe Construction Co.
(by) Richard Roe, Employee.

NEW SECTION

**WAC 296-200A-330 If a notice of infraction is served on an employee, how is the contractor notified?** (1) When the department issues a notice of infraction to a contractor's employee and it knows the contractor's name and address, the department has four days to deliver a copy of the notice to the contractor by certified mail. To ensure that the contractor receives this notice, the department must mail a second copy of the infraction by first class mail.

(2) If the department does not know the contractor's name and address, it does not need to mail a copy of the infraction to the contractor, however, the notice remains in force.

NEW SECTION

**WAC 296-200A-340 How does a contractor appeal a notice of infraction?** The contractor must:

(1) File two copies of an appeal notice, specifying the reasons for the appeal, at the office designated on the notice of infraction; **and**

(2) File the appeal notice within twenty days of the issuance of the infraction.

NEW SECTION

**WAC 296-200A-350 Who presides over an appeal hearing and where is it held?** An administrative law judge from the office of administrative hearings will preside over the hearing and give a decision. The hearing shall be conducted in the county where the infraction occurred. However, both the contractor and the department have a right to ask the administrative law judge to change the hearing's location.

NEW SECTION

**WAC 296-200A-360 Who will represent the contractor and the department at the appeal hearing?** Contractors may either represent themselves or be represented by an attorney. The department shall be represented by the office of attorney general.

NEW SECTION

**WAC 296-200A-370 How is the appeal hearing conducted?** The hearing process shall be conducted according to chapter 34.05 RCW, Administrative Procedure Act and chapter 10-08 WAC. All appeals of the hearing decision shall be to the superior court according to chapter 34.05 RCW.

NEW SECTION

**WAC 296-200A-380 What evidence is admissible in an appeal hearing?** All relevant evidence must be admitted in appeals hearings convened according to RCW 18.27.100, 18.27.114 and 18.27.200. The admission of evidence is further subject to chapter 34.05 RCW, Administrative Procedure Act.

NEW SECTION

**WAC 296-200A-390 What does the department do with the appeal notices that they receive?** The department must record and forward all appeal notices to the office of administrative hearings.

NEW SECTION

**WAC 296-200A-400 What monetary penalties will be assessed for an infraction issued for violations of RCW 18.27.100, 18.27.114 or 18.27.200?** (1) Monetary penalties that may be assessed for a violation of RCW 18.27.100 are:

| RCW 18.27.100 Monetary Penalties | Dollar Amount |
|---|---|
| First Final Violation | $ 100.00* |
| Second Final Violation | $ 200.00 |
| Third Final Violation | $ 400.00 |
| Fourth Final Violation | $ 800.00 |
| Fifth Final Violation | $1,600.00 |
| Sixth Final Violation | $3,200.00 |
| Each Additional Final Violation | $5,000.00 |

* Minimum penalty per violation. Once a violation of RCW 18.27.100 becomes a final judgment, any additional violation is subject to an increased penalty as set forth in the above table.

(2) Monetary penalties that may be assessed for a violation of RCW 18.27.114 are:

| RCW 18.27.114 Monetary Penalties | Dollar Amount |
|---|---|
| First Final Violation | $ 200.00* |
| Second Final Violation | $ 400.00 |
| Third Final Violation | $ 800.00 |
| Fourth Final Violation | $1,600.00 |
| Fifth Final Violation | $3,200.00 |
| Each Additional Final Violation | $5,000.00 |

* Minimum penalty per violation. Once a violation of RCW 18.27.114 becomes a final judgment, any additional violation is subject to an increased penalty as set forth in the above table.

(3) Monetary penalties that may be assessed for a violation of RCW 18.27.200 according to RCW 18.27.340 (1) and (3) are:

(a)

| RCW 18.27.340(1) Monetary Penalties | Dollar Amount |
|---|---|
| First Final Violation | $ 200.00* |
| Second Final Violation | $ 400.00 |
| Third Final Violation | $ 800.00 |
| Fourth Final Violation | $1,600.00 |
| Fifth Final Violation | $3,200.00 |
| Each Additional Final Violation | $5,000.00 |

* Minimum penalty per violation. Once a violation of RCW 18.27.340(1) becomes a final judgment, any additional violation is subject to an increased penalty as set forth in the above table.

(b)

| RCW 18.27.340(3) Monetary Penalties | Dollar Amount |
|---|---|
| First Final Violation | $1,000.00* |
| Second Final Violation | $2,000.00 |
| Third Final Violation | $4,000.00 |
| Each Additional Final Violation | $5,000.00 |

* Minimum penalty per violation. Once a violation of RCW 18.27.340(3) becomes a final judgment, any additional violation is subject to an increased penalty as set forth in the above table. However, if the unregistered contractor becomes registered within ten days of receiving the notice of infraction and the notice is the contractor's first offense, the director may reduce the penalty. In no case can the director reduce the penalty below five hundred dollars.

(c) The director may waive a penalty collection from a contractor in exchange for a payment of restitution to a damaged consumer equal to the amount of the assessed penalty.

NEW SECTION

**WAC 296-200A-405 When must a contractor pay assessed monetary penalties?** (1) If a contractor named in a notice of infraction does not choose to appeal the notice, then the contractor must pay the department the amount of the penalty prescribed for the infraction. Payment must be by check or money order.

(2) After an administrative law judge decides that an infraction has been committed, a contractor who does not appeal the decision to a superior court, has thirty days to pay any outstanding monetary penalties. Failure to do so is a misdemeanor and shall be prosecuted in the county where the infraction occurred.

(3) A contractor who has exhausted all appeal opportunities and fails to pay an assessed monetary penalty within thirty days after exhausting those opportunities shall be guilty of a misdemeanor and be prosecuted in the county where the infraction occurred.

NEW SECTION

**WAC 296-200A-500 Is the department required to monitor unregistered contractors who become registered?** Beginning January 1, 1998, the department must monitor, for two years, unregistered contractors who become registered after receiving an infraction or conviction. Information gathered as a result of this monitoring will be shared with the department of revenue and the department of employment security. This information will be shared every other month to determine whether any taxes, fees or penalties are owed to the state.

NEW SECTION

**WAC 296-200A-510 Is the department required to report contractor compliance activities to the legislature?** (1) Beginning December 1, 1997, the department must provide an annual written report regarding contractor compliance to the following legislative committees:

(a) The senate commerce and labor committee.

(b) The house of representatives commerce and labor committee.

(c) The senate ways and means committee.

(d) The house of representatives appropriations committee.

(2) The report will cover a three year period and will include the following information:

(a) The number of contractors found in violation of chapter 18.27 RCW and chapter 296-200A WAC;

(b) The number of contractors who were assessed a monetary penalty and the amount of the penalty assessed;

(c) The amount of assessed monetary penalties collected; and

(d) The amount of assessed monetary penalties waived.

NEW SECTION

**WAC 296-200A-900 What fees does the department charge contractors for issuance, renewal and reinstatement of certificates of registration?** (1) For the purposes of this chapter:

(a) A contractor **renews** its registration before it expires.

(b) A contractor **reinstates** its registration after it has been suspended because its bond or insurance has been canceled or after it has expired.

(c) A contractor **reregisters** when it changes its business structure.

(2) The department charges the following fees:

(a) $41.75 for each issuance, renewal or reregistration of a certificate of registration.

(b) $50.00 for the reinstatement of a certificate of registration.

(c) $10.25 for providing a duplicate certificate of registration.

(d) $20.00 for each requested certified letter prepared by the department.

(e) $2.00 per copy for documents copied from a contractor's file. The maximum copy charge for copies from one contractor's file will be $25.00.

## WSR 97-16-091
### PROPOSED RULES
### DEPARTMENT OF LABOR AND INDUSTRIES
[Filed August 5, 1997, 9:28 a.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 97-10-095.

PROPOSED

Title of Rule: Scaffolds in construction, chapter 296-155 WAC.

Purpose: Federal-initiated proposed amendments as published in Federal Register Volume 61, Number 170, dated August 30, 1996, and Federal Register Volume 61, Number 228, dated November 25, 1996, are made to be at-least-as-effective-as the federal standard. These federal-initiated amendments will establish additional compliance requirements.

Amended chapter 296-155 WAC, Part J-1, Scaffolding, federal-initiated proposed amendments are made to change the title of this part from "scaffolding" to "scaffolds."

Amended section WAC 296-155-24525 Appendix B to Part C-1—Fall restraint and fall arrest (employer information only), state-initiated proposed amendments are made to update and correct references as a result of the reorganization of this proposed standard.

Amended section WAC 296-155-481 Scope and application, federal-initiated proposed amendments are made to:

- Change the word "scaffolding" to "scaffolds."
- To indicate the requirements for crane or derrick suspended personnel platforms are located in chapter 296-155 WAC, Part L, Cranes, derricks, hoists, elevators, and conveyors.

State-initiated proposed amendments are made to add four sentences to specify where requirements for manually propelled elevating work platforms, self-propelled elevating work platforms, boom supported elevating work platforms, and aerial lifts are located in chapter 296-155 WAC.

New section WAC 296-155-482 Definitions applicable to this part, federal-initiated proposed amendments are made to:

- Add this new section for better organization of information.
- Add the following federal definitions: Adjustable suspension scaffold, bearer (putlog), boatswains' chair, body belt (safety belt), body harness, brace, bricklayers' square scaffold, carpenters' bracket scaffold, catenary scaffold, chimney hoist, cleat, competent person, continuous run scaffold (run scaffold), coupler, crawling board (chicken ladder), deceleration device, double pole (independent pole) scaffold, equivalent, exposed power lines, eye or eye splice, fabricated decking and planking, fabricated frame scaffold (tubular welded frame scaffold), failure, float (ship) scaffold, form scaffold, guardrail system, hoist, horse scaffold, independent pole scaffold, interior hung scaffold, ladder jack scaffold, ladder stand, landing, large area scaffold, lean-to scaffold, lifeline, lower levels, masons' adjustable supported scaffold, masons' multi-point adjustable suspension scaffold, maximum intended load, mobile scaffold, multi-level suspended scaffold, multi-point adjustable suspension scaffold, needle beam scaffold, open sides and ends, outrigger, outrigger beam (thrustout), outrigger scaffold, overhand bricklaying, personal fall arrest system, platform, pole scaffold, power operated hoist, pump jack scaffold, qualified, rated load, repair bracket scaffold, runner (ledger or ribbon), scaffold, self-contained adjustable scaffold, shore scaffold, single-point adjustable suspension scaffold, single-pole scaffold, stair tower (scaffold stairway/tower), stall load, step, platform, and trestle ladder scaffold, stilts, stonesetters' multi-point adjustable suspension scaffold, supported scaffold, suspension scaffold, system scaffold, tank builders' scaffold, top plate bracket scaffold, tube and coupler scaffold, tubular welded frame scaffold, two-point suspension scaffold (swing stage), unstable objects, vertical pickup, walkway, window jack scaffold.
- Delete the following definitions from the existing standard: Bearer, boatswains' chair, brace, bricklayers' square scaffold, built-up scaffold, carpenters' bracket scaffold, coupler, crawling board or chicken ladder, double pole or independent pole scaffold, float or ship scaffold, standard guardrail, heavy duty scaffold, horse scaffold, interior hung scaffold, ladder jack scaffold, leaning horse scaffold, ledgers (stringers), light duty scaffold, manually propelled mobile scaffold, masons' adjustable multiple-point suspension scaffold, maximum rated load, medium duty scaffold, midrail, needle beam scaffold, outrigger scaffold, plasters-lathers scaffold, putlog, roofing or bearer bracket, runner, scaffold, single-point adjustable suspension scaffold, single-pole scaffold, stone setters' adjustable multiple-point suspension scaffold, suspended scaffold, toeboard, tube and coupler scaffold, tubular welded frame scaffold, two-point suspension scaffold (swinging scaffold), window jack scaffold, working load.

State-initiated proposed amendments are made to:

- Add the term "ledger" to the list of definitions referencing the definition of "runner." The definition of these terms is identical.
- Add the term "putlog" to the list of definitions referencing the definition of "bearer." The definition of these terms is identical.
- Add the term "ribbon" to the list of definitions referencing the definition of "runner." The definition of these terms is identical.
- Delete numbering of definitions as required by the Code Reviser's Office.

Amended section WAC 296-155-483 Definitions applicable to this part, federal-initiated proposed amendments are made to:

- Change the section title from "Definitions applicable to this part" to "General requirements."
- Require scaffolds be constructed in accordance with a design by a qualified person.
- Establish design, capacity, and construction requirements for scaffolds, their components and associated hardware, connections, and hoists.
- Establish requirements for scaffold platform construction including:
  - Planking
  - Width
  - Distance from the work face
  - Relation to support members
  - Coating
  - Intermixing of components
- Establish requirements for preventing displacement of supported scaffolds.
- Establish requirements for components of suspension scaffolds and their supports.

- Establish requirements for scaffold access use, components and installation including; ladders, stairway type ladders, stairtowers, ramps and walkways, access frames, and direct access for all workers on scaffolds - including erectors and dismantlers.
- Prohibit the use of shore or lean-to scaffolds.
- Require inspection for defects by a competent person before each work shift and after any potentially weakening event.
- Require repair or removal of damaged or weak scaffold parts.
- Prohibit horizontal movement of scaffolds when employees are on them unless the scaffolds are designed for that purpose.
- Establish minimum clearance distances between scaffolds and power lines.
- Require scaffolds be erected, moved, dismantled, or altered only by experienced and trained employees under the supervision and direction of a competent person qualified in scaffold erection.
- Prohibit work on a scaffold covered with slippery materials.
- Require tag lines on loads that may come in contact with a scaffold.
- Require protection of suspension ropes.
- Prohibit work during storms or high winds.
- Prohibit accumulation of debris on platforms.
- Prohibit use of makeshift devices to increase working height on scaffold platforms.
- Establish requirements for use of ladders on large area scaffolds.
- Establish precaution requirements to be followed when employees are welding from suspended scaffolds.
- Establish fall protection requirements and protection system specifications for all employees on scaffolds - including erectors and dismantlers.
- Establish falling object protection requirements and protective system specifications.

State-initiated proposed amendments are made to:

- Indicate where criteria for aerial lifts are located.
- Add four sentences to indicate where requirements for manually propelled elevating work platforms, self-propelled elevating work platforms, boom supported elevating work platforms, and aerial lifts are located in chapter 296-155 WAC.
- Add a sentence referencing fall protection requirements.
- Subsection (2)(e) was renumbered and reformatted for clarity.
- Add a sentence at the end of subsection (7)(b) which requires maximum feasible fall protection be used.
- Clarify that the planking needed on platforms, which are used solely as walkways or for erection or dismantling, is dictated by safe working condition needs.
- Correct language in the note following subsection (2)(b)(i) to indicate the twelve-inch minimum width requirement on a roof bracket scaffold is stayed (delayed) until federal rulemaking on this issue is completed.

New section WAC 296-155-484 Additional requirements applicable to specific types of scaffolds, federal-initiated proposed amendments are made to establish specifications and additional requirements for construction, components, and use of:

- Pole scaffolds - including the registered professional engineer design requirement if the pole scaffold is more than sixty feet tall.
- Tube and coupler scaffold - including the registered professional engineer design requirement if the tube and coupler scaffold is more than one hundred twenty-five feet tall.
- Fabricated frame scaffolds - including the registered professional engineer design requirement if the fabricated frame scaffold is more than one hundred twenty-five feet tall.
- Plasterers', decorators' and large area scaffolds.
- Bricklayers' square scaffolds.
- Horse scaffolds.
- Form scaffolds and carpenters' bracket scaffolds.
- Roof bracket scaffolds.
- Outrigger scaffolds, including the requirement for its design by a registered professional engineer.
- Pump jack scaffolds.
- Ladder jack scaffolds.
- Window jack scaffolds.
- Crawling boards.
- Step, platform, and trestle ladder scaffolds.
- Single-point adjustable suspension scaffolds.
- Two-point adjustable suspension scaffolds.
- Multi-point adjustable suspension scaffolds.
- Catenary scaffolds.
- Float scaffolds.
- Needle beam scaffolds.
- Multi-level suspension scaffolds.
- Mobile scaffolds.
- Repair bracket scaffolds.
- Stilts.

State-initiated proposed amendments are made to add subsection (23)(j) to reiterate existing requirement listed in subsections (2) and (3) of this section. The existing subsection (23)(j) is proposed to become subsection (23)(k).

Amended section WAC 296-155-485 Scaffolding, federal-initiated proposed amendments are made to move and merge the information in this section throughout chapter 296-155 WAC, primarily Part J-1. This section is proposed to be reserved for future use.

Repealed sections WAC 296-155-48503 Table J-1, 296-155-48504 Table J-2, 296-155-48505 Table J-3, 296-155-48506 Table J-4, 296-155-48507 Table J-5, 296-155-48508 Table J-6, 296-155-48509 Table J-7, 296-155-48510 Table J-8, 296-155-48511 Table J-9, 296-155-48512 Table J-10, 296-155-48513 Table J-11, 296-155-48514 Table J-12, 296-155-48515 Table J-13, 296-155-48516 Table J-14, 296-155-48517 Table J-15, 296-155-48518 Table J-16 and 296-155-48519 Table J-17, federal-initiated proposed amendments are made to provide updated tables relating to scaffolds in a nonmandatory appendix located in proposed WAC 296-155-494, Non-Mandatory Appendix A to Part J-1, Scaffold Specifications. The existing table is proposed to be deleted and the section repealed.

Repealed section WAC 296-155-48523 Manually propelled mobile ladder stands and scaffolds (towers), federal-initiated proposed amendments are made to move and merge the information in this section throughout chapter

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296-155 WAC, Part J-1, primarily WAC 296-155-484(23). This section is proposed to be repealed.

Repealed section WAC 296-155-48525 Manually propelled elevating work platforms, state-initiated proposed amendments are made to move existing requirements relating to manually propelled elevating work platforms to WAC 296-155-487 for better organization of information. This section is proposed to be repealed.

Repealed section WAC 296-155-48527 Self propelled elevating work platforms, state-initiated proposed amendments are made to move existing requirements relating to self propelled elevating work platforms to WAC 296-155-488 for better organization of information. This section is proposed to be repealed.

Repealed section WAC 296-155-48529 Boom supported elevating work platforms, state-initiated proposed amendments are made to move existing requirements relating to boom supported elevating work platforms to WAC 296-155-489 for better organization of information. This section is proposed to be repealed.

Repealed section WAC 296-155-48531 Vehicle mounted elevating and rotating aerial devices, federal-initiated proposed amendments are made to merge the information in this section throughout chapter 296-155 WAC, Part J-1, primarily WAC 296-155-490. This section is proposed to be repealed.

Repealed section WAC 296-155-48533 Crane or derrick suspended personnel platforms, state-initiated proposed amendments are made to incorporate existing requirements relating to crane or derrick suspended personnel platforms into chapter 296-155 WAC, Part L, Cranes, derricks, hoists, elevators, and conveyors creating a new section, WAC 296-155-528. This section is proposed to be repealed.

Repealed section WAC 296-155-48536 Forklift elevated work platforms, state-initiated proposed amendments are made to merge the information in this section to chapter 296-155 WAC, Part M, primarily WAC 296-155-615(h). This section is proposed to be repealed.

New section WAC 296-155-487 Manually propelled elevating work platforms, state-initiated proposed amendments are made to:

- Incorporate existing requirements relating to manually propelled elevating work platforms from WAC 296-155-48525 to this section for better organization of information.
- Update all ANSI references in this section to the most current ANSI edition.

New section WAC 296-155-488 Self propelled elevating work platforms, state-initiated proposed amendments are made to:

- Incorporate existing requirements relating to self propelled elevating work platforms from WAC 296-155-48527 to this section for better organization of information.
- Update all ANSI references in this section to the most current ANSI edition.

New section WAC 296-155-489 Boom supported elevating work platforms, state-initiated proposed amendments are made to:

- Incorporate existing requirements relating to boom supported elevating work platforms from WAC 296-155-48529 to this section for better organization of information.
- Update all ANSI references in this section to the most current ANSI edition.

New section WAC 296-155-490 Aerial lifts, federal-initiated proposed amendments are made to:

- Incorporate WAC 296-155-48531 Vehicle mounted elevating and rotating aerial devices, into this section. This amendment merges federal and state requirements into one section.
- Identify the types of devices referred to as "aerial lifts."
- Identify ANSI standards employers must comply with.
- Require aerial ladders be secured in the lower traveling position before highway travel.
- Establish requirements for extensible and articulating boom platform lifts including:
  - Testing, location, and operation of controls.
  - Operation by authorized person.
  - Loading.
  - Moving.
  - Use.
  - Maintaining insulation.
  - Fall protection.
  - Prohibits wearing climbers.
  - Specific acceptable electrical tests.
  - Identify critical hydraulic and pneumatic components and specify the applicable standard.
  - Require a bursting safety factor of at least 2 to 1 for noncritical hydraulic and pneumatic components.
  - Specify applicable standards for welding.

State-initiated proposed amendments are made to:

- Modify and reformat subsection (2) by separating information and adding subdivisions (i) and (ii).
- Retain the existing state requirement (February 1991) which prohibits the use of body belts for fall arrest by changing the federal term "body belt" to "full body harness."

New section WAC 296-155-493 Training, federal-initiated proposed amendments are made to:

- Require hazard recognition and hazard control training for each employee who works while on a scaffold. The training includes electrical, fall, and falling object hazards as well as use, loading and load capacity of the scaffold, in addition to any other pertinent requirements of the standard.
- Require hazard recognition training for any employee erecting, dissembling, moving, operating, repairing, or inspecting a scaffold. The training includes scaffold hazards, correct working procedures, scaffold design and load capacity, and any other pertinent requirements of the standard.
- Require retraining whenever jobsite conditions change or the employer has reason to believe the employee lacks the skill or understanding needed to work safely.

New section WAC 296-155-494 Non-Mandatory Appendix A to Part J-1, Scaffold Specifications, federal-initiated proposed amendments are made to adopt this appendix to be identical to the federal standard. State-initiated proposed amendments are made to correct references relating to the department.

New section WAC 296-155-496 Non-Mandatory Appendix C to Part J-1, List of National Consensus Standards, federal-initiated proposed amendments are made to adopt this appendix to be identical to the federal standard.

New section WAC 296-155-497 Non-Mandatory Appendix D to Part J-1, List of Training Topics for Scaffold Erectors and Dismantlers, federal-initiated proposed amendments are made to adopt this appendix to be identical to the federal standard.

New section WAC 296-155-498 Non-Mandatory Appendix E to Part J-1, Drawings and Illustrations, federal-initiated proposed amendments are made to adopt this new appendix to be identical to the federal standard.

New section WAC 296-155-528 Crane or derrick suspended personnel platforms, state-initiated proposed amendments are made to:

- Incorporate existing requirements relating to crane or derrick suspended personnel platforms from WAC 296-155-48533 to this new section for better organization of information.
- Correct the reference in WAC 296-155-528 (3)(c) to WAC 296-155-525 (4)(b).
- Correct the reference in WAC 296-155-528 (10)(g) to WAC 296-155-525 (2)(c).

Amended section WAC 296-155-605 Equipment, state-initiated proposed amendments are made to:

- Correct the reference in WAC 296-155-605 (1)(f) to WAC 296-155-525 (3)(a).
- Correct the reference in WAC 296-155-605 (1)(h) to WAC 296-155-525 (3)(a).

Amended section WAC 296-155-615 Material handling equipment, state-initiated proposed amendments are made to:

- Add "(including forklifts)" after "Industrial trucks" in subsection (3) to indicate that requirements for forklifts are located in this section.
- Incorporate existing requirements relating to forklift elevated work platforms from WAC 296-155-48536 to this section for better organization of information.

Amended section WAC 296-155-683 Concrete finishing, state-initiated proposed amendments are made to:

- Change the word "scaffolding" to "scaffolds" in subsection (1) to be consistent with the proposed title change to Part J-1.
- Change various references to chapter 296-155 WAC, Part J-1.

Amended section WAC 296-155-688 Vertical slip forms, state-initiated proposed amendments are made to delete the phrase "wear a full body harness tied off by lanyards or otherwise securely fastened" and add a reference to chapter 296-155 WAC, Part C-1.

Amended section WAC 296-155-689 Placing and removal of forms, state-initiated proposed amendments are made to delete the phrase "required to wear a full body harness" and add the phrase "protected from falls in accordance with chapter 296-155 WAC, Part C-1."

Amended section WAC 296-155-700 General requirements, state-initiated proposed amendments are made to update a reference in subsection (4).

Amended section WAC 296-155-730 Tunnels and shafts, state-initiated proposed amendments are made to update references in subsection (22).

Statutory Authority for Adoption: Chapter 49.17 RCW.

Statute Being Implemented: RCW 49.17.040, [49.17].050, [49.17].060.

Summary: See Purpose above.

Name of Agency Personnel Responsible for Drafting: Tracy Spencer, 7273 Linderson Way, Tumwater, WA, (360) 902-5530; Implementation and Enforcement: Michael A. Silverstein, 7273 Linderson Way, Tumwater, WA, (360) 902-5495.

Name of Proponent: Department of Labor and Industries, governmental.

Rule is necessary because of federal law, Federal Register Volume 61, Number 170, dated August 30, 1996; and Federal Register Volume 61, Number 228, dated November 25, 1996.

Explanation of Rule, its Purpose, and Anticipated Effects: See Purpose above.

Proposal Changes the Following Existing Rules: See Purpose above.

No small business economic impact statement has been prepared under chapter 19.85 RCW. A small business economic impact statement is not required because the rules are being proposed solely to comply with federal regulations (RCW 19.85.061) or to correct information that is housekeeping in nature (RCW 34.05.320 (1)(k)).

Section 201, chapter 403, Laws of 1995, does not apply to this rule adoption. Significant rule-making criteria does not apply to these rule amendments because they meet the exempt criteria outlined in RCW 34.05.328 (5)(b)(iii) and (iv). Significant rule-making criteria does not apply when adopting federal statutes or regulations without material change, or when adopting rules to correct information that is housekeeping in nature (typographical errors, address/name changes, or clarification of rule language without changing its effect).

Hearing Location: Department of Labor and Industries Building, Auditorium, 7273 Linderson Way, Tumwater, WA, on September 10, 1997, at 1:30 p.m.

Assistance for Persons with Disabilities: Contact Linda Dausener by September 2, 1997, (360) 902-5516.

Submit Written Comments to: Tracy Spencer, Standards Manager, WISHA Services Division, P.O. Box 44620, Olympia, WA 98507-4620, by 5:00 p.m. on September 17, 1997. In addition to written comments, the department will accept comments submitted to FAX (360) 902-5529. Comments submitted by FAX must be ten pages or less.

Date of Intended Adoption: December 16, 1997.

August 5, 1997
Gary Moore
Director

AMENDATORY SECTION (Amending WSR 96-24-051, filed 11/27/96, effective 2/1/97)

**WAC 296-155-24525 Appendix B to Part C-1—Fall restraint and fall arrest (employer information only).** Additional standards that require the use of fall restraint and/or fall arrest protection for employees are listed below:

| | |
|---|---|
| Ladders | WAC 296-155-480 (1)(r)<br>WAC 296-155-480 (1)(s) |
| ~~((Suspended Scaffold~~ | ~~WAC 296-155-485 (7)(h)~~ |
| ~~Two Points Suspension Scaffold~~ | ~~WAC 296-155-485 (7)(h)(i)~~ |

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| | |
|---|---|
| ~~Boatswain's Chain Scaffold~~ | ~~WAC 296-155-485 (10)(d)~~ |
| ~~Needle Beam Scaffold~~ | ~~WAC 296-155-485 (14)(i)~~ |
| ~~Ladder Jack Scaffold~~ | ~~WAC 296-155-485 (17)(f)~~ |
| ~~Window Jack Scaffold~~ | ~~WAC 296-155-485 (18)(e)~~ |
| ~~Float or Ship Scaffold~~ | ~~WAC 296-155-485 (21)(f)~~ |
| ~~Pump Jack Scaffold~~ | ~~WAC 296-155-485 (23)(k)~~)) |
| Scaffolds | WAC 296-155-483(7) |
| Boom Supported Elevating | ((~~WAC 296-155-48529 (19)(b)(vi)~~)) |
| | WAC 296-155-489 |
| Work Platforms | |
| Vehicle Mounted Elevated | ((~~WAC 296-155-48531 (14)(h)~~)) |
| | WAC 296-155-490 (2)(b)(v) |
| and Rotating Work Platforms | |
| Crane and Derrick | ((~~WAC 296-155-48533 (6)(c)~~)) |
| | WAC 296-155-528 (6)(c) |
| Supported | ((~~WAC 296-155-48533 (6)(d)~~)) |
| | WAC 296-155-528 (6)(d) |
| Work Platforms | ((~~WAC 296-155-48533 (7)(i)~~)) |
| | WAC 296-155-528 (7)(i) |
| | ((~~WAC 296-155-48533 (7)(j)~~)) |
| | WAC 296-155-528 (7)(j) |
| | ((~~WAC 296-155-48533 (7)(k)~~)) |
| | WAC 296-155-528 (7)(k) |
| | ((~~WAC 296-155-48533 (10)(h)~~)) |
| | WAC 296-155-528 (10)(h) |
| Open Sided Floors | WAC 296-155-505 (4)(a) through (f) |
| Pile Driving | WAC 296-155-620 (1)(i) |
| Vertical Slip Forms | WAC 296-155-688(9) |
| Placing and Removal of Forms | WAC 296-155-689(4) |
| Steel Erection Temporary Floors | WAC 296-155-705 (2)(b) |
| Tunneling (Skips and Platforms) | WAC 296-155-730 (8)(e) |

AMENDATORY SECTION (Amending Order 91-07, filed 11/22/91, effective 12/24/91)

**WAC 296-155-481 Scope and application.** ((~~This part applies to all scaffolding used in construction, alteration, repair (including painting and decorating), and demolition workplaces covered under chapter 296-155 WAC, and also sets forth, in specified circumstances, when scaffolding is required to be provided. Additional requirements for ladders used on or with scaffolds are contained in Part J chapter 296-155 WAC.~~)) This part applies to all scaffolds used in workplaces covered by this chapter. It does not apply to crane or derrick suspended personnel platforms, which are covered by chapter 296-155 WAC, Part L. The criteria for manually propelled elevating work platforms are set out exclusively in WAC 296-155-487.

The criteria for self-propelled elevating work platforms are set out exclusively in WAC 296-155-488.

The criteria for boom supported elevating work platforms are set out exclusively in WAC 296-155-489.

The criteria for aerial lifts are set out exclusively in WAC 296-155-490.

NEW SECTION

**WAC 296-155-482 Definitions applicable to this part. "Adjustable suspension scaffold"** means a suspension scaffold equipped with a hoist(s) that can be operated by an employee(s) on the scaffold.

**"Bearer (putlog)"** means a horizontal transverse scaffold member (which may be supported by ledgers or runners) upon which the scaffold platform rests and which joins scaffold uprights, posts, poles, and similar members.

**"Boatswains' chair"** means a single-point adjustable suspension scaffold consisting of a seat or sling designed to support one employee in a sitting position.

**"Body belt (safety belt)"** means a strap with means both for securing it about the waist and for attaching it to a lanyard, lifeline, or deceleration device.

**"Body harness"** means a design of straps which may be secured about the employee in a manner to distribute the fall arrest forces over at least the thighs, pelvis, waist, chest and shoulders, with means for attaching it to other components of a personal fall arrest system.

**"Brace"** means a rigid connection that holds one scaffold member in a fixed position with respect to another member, or to a building or structure.

**"Bricklayers' square scaffold"** means a supported scaffold composed of framed squares which support a platform.

**"Carpenters' bracket scaffold"** means a supported scaffold consisting of a platform supported by brackets attached to building or structural walls.

**"Catenary scaffold"** means a suspension scaffold consisting of a platform supported by two essentially horizontal and parallel ropes attached to structural members of a building or other structure. Additional support may be provided by vertical pickups.

**"Chimney hoist"** means a multi-point adjustable suspension scaffold used to provide access to work inside chimneys. (See "multi-point adjustable suspension scaffold.")

**"Cleat"** means a structural block used at the end of a platform to prevent the platform from slipping off its supports. Cleats are also used to provide footing on sloped surfaces such as crawling boards.

**"Competent person"** means one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

**"Continuous run scaffold (run scaffold)"** means a two-point or multi-point adjustable suspension scaffold constructed using a series of interconnected braced scaffold members or supporting structures erected to form a continuous scaffold.

**"Coupler"** means a device for locking together the tubes of a tube and coupler scaffold.

**"Crawling board (chicken ladder)"** means a supported scaffold consisting of a plank with cleats spaced and secured to provide footing, for use on sloped surfaces such as roofs.

**"Deceleration device"** means any mechanism, such as a rope grab, rip-stitch lanyard, specially-woven lanyard, tearing or deforming lanyard, or automatic self-retracting lifeline lanyard, which dissipates a substantial amount of energy during a fall arrest or limits the energy imposed on an employee during fall arrest.

**"Double pole (independent pole) scaffold"** means a supported scaffold consisting of a platform(s) resting on cross beams (bearers) supported by ledgers and a double row of uprights independent of support (except ties, guys, braces) from any structure.

**"Equivalent"** means alternative designs, materials or methods to protect against a hazard which the employer can demonstrate will provide an equal or greater degree of safety

for employees than the methods, materials or designs specified in the standard.

**"Exposed power lines"** means electrical power lines which are accessible to employees and which are not shielded from contact. Such lines do not include extension cords or power tool cords.

**"Eye or eye splice"** means a loop with or without a thimble at the end of a wire rope.

**"Fabricated decking and planking"** means manufactured platforms made of wood (including laminated wood, and solid sawn wood planks), metal or other materials.

**"Fabricated frame scaffold (tubular welded frame scaffold)"** means a scaffold consisting of a platform(s) supported on fabricated end frames with integral posts, horizontal bearers, and intermediate members.

**"Failure"** means load refusal, breakage, or separation of component parts. Load refusal is the point where the ultimate strength is exceeded.

**"Float (ship) scaffold"** means a suspension scaffold consisting of a braced platform resting on two parallel bearers and hung from overhead supports by ropes of fixed length.

**"Form scaffold"** means a supported scaffold consisting of a platform supported by brackets attached to formwork.

**"Guardrail system"** means a vertical barrier, consisting of, but not limited to, toprails, midrails, and posts, erected to prevent employees from falling off a scaffold platform or walkway to lower levels.

**"Hoist"** means a manual or power-operated mechanical device to raise or lower a suspended scaffold.

**"Horse scaffold"** means a supported scaffold consisting of a platform supported by construction horses (saw horses). Horse scaffolds constructed of metal are sometimes known as trestle scaffolds.

**"Independent pole scaffold"** (see "double pole scaffold").

**"Interior hung scaffold"** means a suspension scaffold consisting of a platform suspended from the ceiling or roof structure by fixed length supports.

**"Ladder jack scaffold"** means a supported scaffold consisting of a platform resting on brackets attached to ladders.

**"Ladder stand"** means a mobile, fixed-size, self-supporting ladder consisting of a wide flat tread ladder in the form of stairs.

**"Landing"** means a platform at the end of a flight of stairs.

**"Large area scaffold"** means a pole scaffold, tube and coupler scaffold, systems scaffold, or fabricated frame scaffold erected over substantially the entire work area. For example: A scaffold erected over the entire floor area of a room.

**"Lean-to scaffold"** means a supported scaffold which is kept erect by tilting it toward and resting it against a building or structure.

**"Ledger"** - see runner.

**"Lifeline"** means a component consisting of a flexible line that connects to an anchorage at one end to hang vertically (vertical lifeline), or that connects to anchorages at both ends to stretch horizontally (horizontal lifeline), and which serves as a means for connecting other components of a personal fall arrest system to the anchorage.

**"Lower levels"** means areas below the level where the employee is located and to which an employee can fall. Such areas include, but are not limited to, ground levels, floors, roofs, ramps, runways, excavations, pits, tanks, materials, water, and equipment.

**"Masons' adjustable supported scaffold"** (see "self-contained adjustable scaffold").

**"Masons' multi-point adjustable suspension scaffold"** means a continuous run suspension scaffold designed and used for masonry operations.

**"Maximum intended load"** means the total load of all persons, equipment, tools, materials, transmitted loads, and other loads reasonably anticipated to be applied to a scaffold or scaffold component at any one time.

**"Mobile scaffold"** means a powered or unpowered, portable, caster or wheel-mounted supported scaffold.

**"Multi-level suspended scaffold"** means a two-point or multi-point adjustable suspension scaffold with a series of platforms at various levels resting on common stirrups.

**"Multi-point adjustable suspension scaffold"** means a suspension scaffold consisting of a platform(s) which is suspended by more than two ropes from overhead supports and equipped with means to raise and lower the platform to desired work levels. Such scaffolds include chimney hoists.

**"Needle beam scaffold"** means a platform suspended from needle beams.

**"Open sides and ends"** means the edges of a platform that are more than 14 inches (36 cm) away horizontally from a sturdy, continuous, vertical surface (such as a building wall) or a sturdy, continuous horizontal surface (such as a floor), or a point of access. Exception: For plastering and lathing operations the horizontal threshold distance is 18 inches (46 cm).

**"Outrigger"** means the structural member of a supported scaffold used to increase the base width of a scaffold in order to provide support for and increased stability of the scaffold.

**"Outrigger beam (thrustout)"** means the structural member of a suspension scaffold or outrigger scaffold which provides support for the scaffold by extending the scaffold point of attachment to a point out and away from the structure or building.

**"Outrigger scaffold"** means a supported scaffold consisting of a platform resting on outrigger beams (thrustouts) projecting beyond the wall or face of the building or structure, the inboard ends of which are secured inside the building or structure.

**"Overhand bricklaying"** means the process of laying bricks and masonry units such that the surface of the wall to be jointed is on the opposite side of the wall from the mason, requiring the mason to lean over the wall to complete the work. It includes mason tending and electrical installation incorporated into the brick wall during the overhand bricklaying process.

**"Personal fall arrest system"** means a system used to arrest an employee's fall. It consists of an anchorage, connectors, a body belt or body harness and may include a lanyard, deceleration device, lifeline, or combinations of these.

**"Platform"** means a work surface elevated above lower levels. Platforms can be constructed using individual wood

planks, fabricated planks, fabricated decks, and fabricated platforms.

**"Pole scaffold"** (see definitions for "single-pole scaffold" and "double (independent) pole scaffold").

**"Power operated hoist"** means a hoist which is powered by other than human energy.

**"Pump jack scaffold"** means a supported scaffold consisting of a platform supported by vertical poles and movable support brackets.

**"Putlog"** - see bearer.

**"Qualified"** means one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his/her ability to solve or resolve problems related to the subject matter, the work, or the project.

**"Rated load"** means the manufacturer's specified maximum load to be lifted by a hoist or to be applied to a scaffold or scaffold component.

**"Repair bracket scaffold"** means a supported scaffold consisting of a platform supported by brackets which are secured in place around the circumference or perimeter of a chimney, stack, tank or other supporting structure by one or more wire ropes placed around the supporting structure.

**"Ribbon"** - see runner.

**"Roof bracket scaffold"** means a rooftop supported scaffold consisting of a platform resting on angular-shaped supports.

**"Runner (ledger or ribbon)"** means the lengthwise horizontal spacing or bracing member which may support the bearers.

**"Scaffold"** means any temporary elevated platform (supported or suspended) and its supporting structure (including points of anchorage), used for supporting employees or materials or both.

**"Self-contained adjustable scaffold"** means a combination supported and suspension scaffold consisting of an adjustable platform(s) mounted on an independent supporting frame(s) not a part of the object being worked on, and which is equipped with a means to permit the raising and lowering of the platform(s). Such systems include rolling roof rigs, rolling outrigger systems, and some masons' adjustable supported scaffolds.

**"Shore scaffold"** means a supported scaffold which is placed against a building or structure and held in place with props.

**"Single-point adjustable suspension scaffold"** means a suspension scaffold consisting of a platform suspended by one rope from an overhead support and equipped with means to permit the movement of the platform to desired work levels.

**"Single-pole scaffold"** means a supported scaffold consisting of a platform(s) resting on bearers, the outside ends of which are supported on runners secured to a single row of posts or uprights, and the inner ends of which are supported on or in a structure or building wall.

**"Stair tower (scaffold stairway/tower)"** means a tower comprised of scaffold components and which contains internal stairway units and rest platforms. These towers are used to provide access to scaffold platforms and other elevated points such as floors and roofs.

**"Stall load"** means the load at which the prime-mover of a power-operated hoist stalls or the power to the prime-mover is automatically disconnected.

**"Step, platform, and trestle ladder scaffold"** means a platform resting directly on the rungs of step ladders or trestle ladders.

**"Stilts"** means a pair of poles or similar supports with raised footrests, used to permit walking above the ground or working surface.

**"Stonesetters' multi-point adjustable suspension scaffold"** means a continuous run suspension scaffold designed and used for stonesetters' operations.

**"Supported scaffold"** means one or more platforms supported by outrigger beams, brackets, poles, legs, uprights, posts, frames, or similar rigid support.

**"Suspension scaffold"** means one or more platforms suspended by ropes or other nonrigid means from an overhead structure(s).

**"System scaffold"** means a scaffold consisting of posts with fixed connection points that accept runners, bearers, and diagonals that can be interconnected at predetermined levels.

**"Tank builders' scaffold"** means a supported scaffold consisting of a platform resting on brackets that are either directly attached to a cylindrical tank or attached to devices that are attached to such a tank.

**"Top plate bracket scaffold"** means a scaffold supported by brackets that hook over or are attached to the top of a wall. This type of scaffold is similar to carpenters' bracket scaffolds and form scaffolds and is used in residential construction for setting trusses.

**"Tube and coupler scaffold"** means a supported or suspended scaffold consisting of a platform(s) supported by tubing, erected with coupling devices connecting uprights, braces, bearers, and runners.

**"Tubular welded frame scaffold"** (see "fabricated frame scaffold").

**"Two-point suspension scaffold (swing stage)"** means a suspension scaffold consisting of a platform supported by hangers (stirrups) suspended by two ropes from overhead supports and equipped with means to permit the raising and lowering of the platform to desired work levels.

**"Unstable objects"** means items whose strength, configuration, or lack of stability may allow them to become dislocated and shift and therefore may not properly support the loads imposed on them. Unstable objects do not constitute a safe base support for scaffolds, platforms, or employees. Examples include, but are not limited to, barrels, boxes, loose brick, and concrete blocks.

**"Vertical pickup"** means a rope used to support the horizontal rope in catenary scaffolds.

**"Walkway"** means a portion of a scaffold platform used only for access and not as a work level.

**"Window jack scaffold"** means a platform resting on a bracket or jack which projects through a window opening.

AMENDATORY SECTION (Amending Order 91-07, filed 11/22/91, effective 12/24/91)

**WAC 296-155-483 ((~~Definitions applicable to this part.~~)) General requirements.** ((~~(1) "Bearer" means a horizontal member of a scaffold upon which the platform rests and which may be supported by ledgers.~~

(2) "Boatswain's chair" means a seat supported by slings attached to a suspended rope, designed to accommodate one employee in a sitting position.

(3) "Brace" means a tie that holds one scaffold member in a fixed position with respect to another member.

(4) "Bricklayers' square scaffold" means a scaffold composed of framed wood squares which support a platform, limited to light and medium duty.

(5) "Built-up scaffold" means a rigidly constructed scaffold, built up where it is going to be used and dismantled when its purpose has been accomplished.

(6) "Carpenters' bracket scaffold" means a scaffold consisting of wood or metal brackets supporting a platform.

(7) "Coupler" means a device for locking together the component parts of a tubular metal scaffold. (The material used for the couplers shall be of a structural type, such as a dropforged steel, malleable iron, or structural grade aluminum.)

(8) "Crawling board or chicken ladder" means a plank with cleats spaced and secured at equal intervals, for use by a worker on roofs, not designed to carry any material.

(9) "Double pole or independent pole scaffold" means a scaffold supported from the base by a double row of uprights, independent of support from the walls and constructed of uprights, ledgers, horizontal platform bearers, and diagonal bracing.

(10) "Float or ship scaffold" means a scaffold hung from overhead supports by means of ropes and consisting of a substantial platform having diagonal bracing underneath, resting upon and securely fastened to two parallel plank bearers at right angles to the span.

(11) "Standard guardrail" means a horizontal barrier at the perimeter of any surface edge presenting a potential fall hazard constructed to provide a smooth surfaced top rail a distance of not more than 42 inches or less than 36 inches above the walking surface. An intermediate rail shall be installed half way between the walking surface and the top of the top rail.

The anchoring of posts and framing of members for railings of all types shall be such that the completed structure is capable of withstanding a load of at least 200 pounds applied in any direction at any point on the top rail with a minimum deflection.

Note: Where 2 x 4 inch lumber is used for rails and posts, upright posts spaced at intervals not exceeding 8 feet will achieve the 200 pounds loading criteria.

(12) "Heavy duty scaffold" means a scaffold designed and constructed to carry a working load not to exceed 75 pounds per square foot.

(13) "Horse scaffold" means a scaffold for light or medium duty, composed of horses supporting a work platform.

(14) "Interior hung scaffold" means a scaffold suspended from the ceiling or roof structure.

(15) "Ladder jack scaffold" means a light duty scaffold supported by brackets attached to ladders.

(16) "Leaning horse scaffold" means scaffold planks resting on two half horses supported by two legs on the ground with the point of the bearer resting against a solid portion of a structure.

(17) "Ledgers (stringer)" mean a horizontal scaffold member which extends from post to post and which supports the putlogs or bearers forming a tie between the posts.

(18) "Light duty scaffold" means a scaffold designed and constructed to carry a working load not to exceed 25 pounds per square foot.

(19) "Manually propelled mobile scaffold" means a portable rolling scaffold supported by casters.

(20) "Masons' adjustable multiple point suspension scaffold" means a scaffold having a continuous platform supported by bearers suspended by wire rope from overhead supports, so arranged and operated as to permit the raising or lowering of the platform to desired working positions.

(21) "Maximum rated load" means the total of all loads including the working load, the weight of the scaffold, and such other loads as may be reasonably anticipated for which the scaffold is designed.

(22) "Medium duty scaffold" means a scaffold designed and constructed to carry a working load not to exceed 50 pounds per square foot.

(23) "Midrail" means a rail approximately midway between the guardrail and platform, secured to the uprights erected along the exposed sides and ends of platforms.

(24) "Needle beam scaffold" means a light duty scaffold consisting of needle beams supporting a platform.

(25) "Outrigger scaffold" means a scaffold supported by outriggers or thrustouts projecting beyond the wall or face of the building or structure, the inboard ends of which are secured inside or on the roof of such building or structure.

(26) "Plasters lathers scaffold" means a tubular welded scaffold erected for, and used primarily by, the plasterer and lather trades.

(27) "Putlog" means a scaffold member upon which the platform rests.

(28) "Roofing or bearer bracket" means a bracket used in slope roof construction, having provisions for fastening to the roof or supported by ropes fastened over the ridge and secured to some suitable object.

(29) "Runner" means the lengthwise horizontal bracing or bearing members or both.

(30) "Scaffold" means any temporary elevated platform and its supporting structure used for supporting workers or materials, or both.

(31) "Single point adjustable suspension scaffold" means a manually or power operated unit designed for light duty use, supported by a single wire rope from an overhead support so arranged and operated as to permit the raising or lowering of the platform to desired working positions.

(32) "Single pole scaffold" means platforms resting on putlogs or cross beams, the outside ends of which are supported on ledgers secured to a single row or posts or uprights, and the inner ends of which are supported on or in a wall.

(33) "Stone setters' adjustable multiple point suspension scaffold" means a swinging type scaffold having a platform supported by hangers suspended at four points so as to permit the raising or lowering of the platform to the desired working position by the use of hoisting machines.

(34) "Suspended scaffold" means a scaffold supported from above, the platform of which is supported at more than two points by steel wire cables suspended from overhead outriggers which are anchored to the steel or concrete frame

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~~of the building. It is equipped with a hoisting drum or machine so the platform can be raised or lowered.~~

~~(35) "Toeboard" means a standard toeboard and shall be 4 inches nominal in vertical height from its top edge to the level of the walking surface. It shall be securely fastened in place and have not more than 1/4 inch clearance above walking surface level. It may be made of any substantial material, either solid, or with openings not over 1 inch in greatest dimension.~~

~~(36) "Tube and coupler scaffold" means an assembly consisting of tubing which serves as posts, bearers, braces, ties, and runners, a base supporting the posts, and special couplers which serve to connect the uprights and to join the various members.~~

~~(37) "Tubular welded frame scaffold" means a sectional panel or frame metal scaffold substantially built up of prefabricated welded sections which consists of posts and horizontal bearer with intermediate members.~~

~~(38) "Two point suspension scaffold (swinging scaffold)" means a scaffold, the platform of which is supported by hangers (stirrups) at two points, suspended from overhead supports so as to permit the raising or lowering of the platform to the desired working position by tackle or hoisting machines.~~

~~(39) "Window jack scaffold" means a scaffold, the platform of which is supported by a bracket or jack which projects through a window opening.~~

~~(40) "Working load" means the load imposed by persons, materials, and equipment.~~)) This section does not apply to manually propelled elevating work platforms, the criteria for which are set out exclusively in WAC 296-155-487.

This section does not apply to self-propelled elevating work platforms, the criteria for which are set out exclusively in WAC 296-155-488.

This section does not apply to boom supported elevating work platforms, the criteria for which are set out exclusively in WAC 296-155-489.

This section does not apply to aerial lifts, the criteria for which are set out exclusively in WAC 296-155-490.

(1) "Capacity"

(a) Except as provided in (b), (c), (d), and (e) of this subsection and subsection (7) of this section, each scaffold and scaffold component shall be capable of supporting, without failure, its own weight and at least 4 times the maximum intended load applied or transmitted to it.

(b) Direct connections to roofs and floors, and counterweights used to balance adjustable suspension scaffolds, shall be capable of resisting at least 4 times the tipping moment imposed by the scaffold operating at the rated load of the hoist, or 1.5 (minimum) times the tipping moment imposed by the scaffold operating at the stall load of the hoist, whichever is greater.

(c) Each suspension rope, including connecting hardware, used on nonadjustable suspension scaffolds shall be capable of supporting, without failure, at least 6 times the maximum intended load applied or transmitted to that rope.

(d) Each suspension rope, including connecting hardware, used on adjustable suspension scaffolds shall be capable of supporting, without failure, at least 6 times the maximum intended load applied or transmitted to that rope with the scaffold operating at either the rated load of the hoist, or 2 (minimum) times the stall load of the hoist, whichever is greater.

(e) The stall load of any scaffold hoist shall not exceed 3 times its rated load.

(f) Scaffolds shall be designed by a qualified person and shall be constructed and loaded in accordance with that design. Nonmandatory Appendix A to this part contains examples of criteria that will enable an employer to comply with subsection (1) of this section.

(2) "Scaffold platform construction."

(a) Each platform on all working levels of scaffolds shall be fully planked or decked between the front uprights and the guardrail supports as follows:

(i) Each platform unit (e.g., scaffold plank, fabricated plank, fabricated deck, or fabricated platform) shall be installed so that the space between adjacent units and the space between the platform and the uprights is no more than 1 inch (2.5 cm) wide, except where the employer can demonstrate that a wider space is necessary (for example, to fit around uprights when side brackets are used to extend the width of the platform).

(ii) Where the employer makes the demonstration provided for in subsection (2)(a)(i) of this section, the platform shall be planked or decked as fully as possible and the remaining open space between the platform and the uprights shall not exceed 9 1/2 inches (24.1 cm).

Exception to subsection (2)(a) of this section: The requirement in subsection (2)(a) of this section to provide full planking or decking does not apply to platforms used solely as walkways or solely by employees performing scaffold erection or dismantling. In these situations, only the planking necessary to provide safe working conditions is required. Employees on those platforms shall be protected from fall hazards in accordance with subsection (7) of this section.

(b) Except as provided in subsection (2)(b)(i) and (ii) of this section, each scaffold platform and walkway shall be at least 18 inches (46 cm) wide.

(i) Each ladder jack scaffold, top plate bracket scaffold, roof bracket scaffold, and pump jack scaffold shall be at least 12 inches (30 cm) wide. There is no minimum width requirement for boatswains' chairs.

(ii) Where scaffolds must be used in areas that the employer can demonstrate are so narrow that platforms and walkways cannot be at least 18 inches (46 cm) wide, such platforms and walkways shall be as wide as feasible, and employees on those platforms and walkways shall be protected from fall hazards by the use of guardrails and/or personal fall arrest systems.

(c) Except as provided in subsection (2)(c)(i) and (ii) of this section, the front edge of all platforms shall not be more than 14 inches (36 cm) from the face of the work, unless guardrail systems are erected along the front edge and/or personal fall arrest systems are used in accordance with subsection (7) of this section to protect employees from falling.

(i) The maximum distance from the face for outrigger scaffolds shall be 3 inches (8 cm);

(ii) The maximum distance from the face for plastering and lathing operations shall be 18 inches (46 cm).

(d) Each end of a platform, unless cleated or otherwise restrained by hooks or equivalent means, shall extend over the centerline of its support at least 6 inches (15 cm).

(e) Unless the platform is designed and installed so that the cantilevered portion of the platform is able to support employees and/or materials without tipping, or has guardrails which block employee access to the cantilevered end, the end of a platform shall not extend over its support more than:

(i) 12 inches (30 cm) for platforms 10 feet or less in length;

(ii) 18 inches (46 cm ) for platforms greater than 10 feet in length.

(f) On scaffolds where scaffold planks are abutted to create a long platform, each abutted end shall rest on a separate support surface. This provision does not preclude the use of common support members, such as "T" sections, to support abutting planks, or hook on platforms designed to rest on common supports.

(g) On scaffolds where platforms are overlapped to create a long platform, the overlap shall occur only over supports, and shall not be less than 12 inches (30 cm) unless the platforms are nailed together or otherwise restrained to prevent movement.

(h) At all points of a scaffold where the platform changes direction, such as turning a corner, any platform that rests on a bearer at an angle other than a right angle shall be laid first, and platforms which rest at right angles over the same bearer shall be laid second, on top of the first platform.

(i) Wood platforms shall not be covered with opaque finishes, except that platform edges may be covered or marked for identification. Platforms may be coated periodically with wood preservatives, fire-retardant finishes, and slip-resistant finishes; however, the coating may not obscure the top or bottom wood surfaces.

(j) Scaffold components manufactured by different manufacturers shall not be intermixed unless the components fit together without force and the scaffold's structural integrity is maintained by the user. Scaffold components manufactured by different manufacturers shall not be modified in order to intermix them unless a competent person determines the resulting scaffold is structurally sound.

(k) Scaffold components made of dissimilar metals shall not be used together unless a competent person has determined that galvanic action will not reduce the strength of any component to a level below that required by subsection (1)(a) of this section.

(3) "Criteria for supported scaffolds."

(a) Supported scaffolds with a height to base width (including outrigger supports, if used) ratio of more than four to one (4:1) shall be restrained from tipping by guying, tying, bracing, or equivalent means, as follows:

(i) Guys, ties, and braces shall be installed at locations where horizontal members support both inner and outer legs.

(ii) Guys, ties, and braces shall be installed according to the scaffold manufacturer's recommendations or at the closest horizontal member to the 4:1 height and be repeated vertically at locations of horizontal members every 20 feet (6.1 m) or less thereafter for scaffolds 3 feet (0.91 m) wide or less, and every 26 feet (7.9 m) or less thereafter for scaffolds greater than 3 feet (0.91 m) wide. The top guy, tie or brace of completed scaffolds shall be placed no further than the 4:1 height from the top. Such guys, ties and braces shall be installed at each end of the scaffold and at horizontal intervals not to exceed 30 feet (9.1 m) (measured from one end (not both) towards the other).

(iii) Ties, guys, braces, or outriggers shall be used to prevent the tipping of supported scaffolds in all circumstances where an eccentric load, such as a cantilevered work platform, is applied or is transmitted to the scaffold.

(b) Supported scaffold poles, legs, posts, frames, and uprights shall bear on base plates and mud sills or other adequate firm foundation.

(i) Footings shall be level, sound, rigid, and capable of supporting the loaded scaffold without settling or displacement.

(ii) Unstable objects shall not be used to support scaffolds or platform units.

(iii) Unstable objects shall not be used as working platforms.

(iv) Front-end loaders and similar pieces of equipment shall not be used to support scaffold platforms unless they have been specifically designed by the manufacturer for such use.

(v) Fork-lifts shall not be used to support scaffold platforms unless the entire platform is attached to the fork and the fork-lift is not moved horizontally while the platform is occupied.

(c) Supported scaffold poles, legs, posts, frames, and uprights shall be plumb and braced to prevent swaying and displacement.

(4) "Criteria for suspension scaffolds."

(a) All suspension scaffold support devices, such as outrigger beams, cornice hooks, parapet clamps, and similar devices, shall rest on surfaces capable of supporting at least 4 times the load imposed on them by the scaffold operating at the rated load of the hoist (or at least 1.5 times the load imposed on them by the scaffold at the stall capacity of the hoist, whichever is greater).

(b) Suspension scaffold outrigger beams, when used, shall be made of structural metal or equivalent strength material, and shall be restrained to prevent movement.

(c) The inboard ends of suspension scaffold outrigger beams shall be stabilized by bolts or other direct connections to the floor or roof deck, or they shall have their inboard ends stabilized by counterweights, except masons' multi-point adjustable suspension scaffold outrigger beams shall not be stabilized by counterweights.

(i) Before the scaffold is used, direct connections shall be evaluated by a competent person who shall confirm, based on the evaluation, that the supporting surfaces are capable of supporting the loads to be imposed. In addition, masons' multi-point adjustable suspension scaffold connections shall be designed by an engineer experienced in such scaffold design.

(ii) Counterweights shall be made of nonflowable material. Sand, gravel and similar materials that can be easily dislocated shall not be used as counterweights.

(iii) Only those items specifically designed as counterweights shall be used to counterweight scaffold systems. Construction materials such as, but not limited to, masonry units and rolls of roofing felt, shall not be used as counterweights.

(iv) Counterweights shall be secured by mechanical means to the outrigger beams to prevent accidental displacement.

(v) Counterweights shall not be removed from an outrigger beam until the scaffold is disassembled.

(vi) Outrigger beams which are not stabilized by bolts or other direct connections to the floor or roof deck shall be secured by tiebacks.

(vii) Tiebacks shall be equivalent in strength to the suspension ropes.

(viii) Outrigger beams shall be placed perpendicular to its bearing support (usually the face of the building or structure). However, where the employer can demonstrate that it is not possible to place an outrigger beam perpendicular to the face of the building or structure because of obstructions that cannot be moved, the outrigger beam may be placed at some other angle, provided opposing angle tiebacks are used.

(ix) Tiebacks shall be secured to a structurally sound anchorage on the building or structure. Sound anchorages include structural members, but do not include standpipes, vents, other piping systems, or electrical conduit.

(x) Tiebacks shall be installed perpendicular to the face of the building or structure, or opposing angle tiebacks shall be installed. Single tiebacks installed at an angle are prohibited.

(d) Suspension scaffold outrigger beams shall be:

(i) Provided with stop bolts or shackles at both ends;

(ii) Securely fastened together with the flanges turned out when channel iron beams are used in place of I-beams;

(iii) Installed with all bearing supports perpendicular to the beam center line;

(iv) Set and maintained with the web in a vertical position; and

(v) When an outrigger beam is used, the shackle or clevis with which the rope is attached to the outrigger beam shall be placed directly over the center line of the stirrup.

(e) Suspension scaffold support devices such as cornice hooks, roof hooks, roof irons, parapet clamps, or similar devices shall be:

(i) Made of steel, wrought iron, or materials of equivalent strength;

(ii) Supported by bearing blocks; and

(iii) Secured against movement by tiebacks installed at right angles to the face of the building or structure, or opposing angle tiebacks shall be installed and secured to a structurally sound point of anchorage on the building or structure. Sound points of anchorage include structural members, but do not include standpipes, vents, other piping systems, or electrical conduit.

(iv) Tiebacks shall be equivalent in strength to the hoisting rope.

(f) When winding drum hoists are used on a suspension scaffold, they shall contain not less than four wraps of the suspension rope at the lowest point of scaffold travel. When other types of hoists are used, the suspension ropes shall be long enough to allow the scaffold to be lowered to the level below without the rope end passing through the hoist, or the rope end shall be configured or provided with means to prevent the end from passing through the hoist.

(g) The use of repaired wire rope as suspension rope is prohibited.

(h) Wire suspension ropes shall not be joined together except through the use of eye splice thimbles connected with shackles or coverplates and bolts.

(i) The load end of wire suspension ropes shall be equipped with proper size thimbles and secured by eyesplicing or equivalent means.

(j) Ropes shall be inspected for defects by a competent person prior to each workshift and after every occurrence which could affect a rope's integrity. Ropes shall be replaced if any of the following conditions exist:

(i) Any physical damage which impairs the function and strength of the rope.

(ii) Kinks that might impair the tracking or wrapping of rope around the drum(s) or sheave(s).

(iii) Six randomly distributed broken wires in one rope lay or three broken wires in one strand in one rope lay.

(iv) Abrasion, corrosion, scrubbing, flattening or peening causing loss of more than one-third of the original diameter of the outside wires.

(v) Heat damage caused by a torch or any damage caused by contact with electrical wires.

(vi) Evidence that the secondary brake has been activated during an overspeed condition and has engaged the suspension rope.

(k) Swaged attachments or spliced eyes on wire suspension ropes shall not be used unless they are made by the wire rope manufacturer or a qualified person.

(l) When wire rope clips are used on suspension scaffolds:

(i) There shall be a minimum of 3 wire rope clips installed, with the clips a minimum of 6 rope diameters apart;

(ii) Clips shall be installed according to the manufacturer's recommendations;

(iii) Clips shall be retightened to the manufacturer's recommendations after the initial loading;

(iv) Clips shall be inspected and retightened to the manufacturer's recommendations at the start of each workshift thereafter;

(v) U-bolt clips shall not be used at the point of suspension for any scaffold hoist;

(vi) When U-bolt clips are used, the U-bolt shall be placed over the dead end of the rope, and the saddle shall be placed over the live end of the rope.

(m) Suspension scaffold power-operated hoists and manual hoists shall be tested by a qualified testing laboratory.

(n) Gasoline-powered equipment and hoists shall not be used on suspension scaffolds.

(o) Gears and brakes of power-operated hoists used on suspension scaffolds shall be enclosed.

(p) In addition to the normal operating brake, suspension scaffold power-operated hoists and manually operated hoists shall have a braking device or locking pawl which engages automatically when a hoist makes either of the following uncontrolled movements: An instantaneous change in momentum or an accelerated overspeed.

(q) Manually operated hoists shall require a positive crank force to descend.

(r) Two-point and multi-point suspension scaffolds shall be tied or otherwise secured to prevent them from swaying, as determined to be necessary based on an evaluation by a

competent person. Window cleaners' anchors shall not be used for this purpose.

(s) Devices whose sole function is to provide emergency escape and rescue shall not be used as working platforms. This provision does not preclude the use of systems which are designed to function both as suspension scaffolds and emergency systems.

(5) "Access." This paragraph applies to scaffold access for all employees. Access requirements for employees erecting or dismantling supported scaffolds are specifically addressed in (i) of this subsection.

(a) When scaffold platforms are more than 2 feet (0.6 m) above or below a point of access, portable ladders, hook-on ladders, attachable ladders, stair towers (scaffold stairways/towers), stairway-type ladders (such as ladder stands), ramps, walkways, integral prefabricated scaffold access, or direct access from another scaffold, structure, personnel hoist, or similar surface shall be used. Crossbraces shall not be used as a means of access.

(b) Portable, hook-on, and attachable ladders (additional requirements for the proper construction and use of portable ladders are contained in Part J of this chapter — Stairways and ladders):

(i) Portable, hook-on, and attachable ladders shall be positioned so as not to tip the scaffold;

(ii) Hook-on and attachable ladders shall be positioned so that their bottom rung is not more than 24 inches (61 cm) above the scaffold supporting level;

(iii) When hook-on and attachable ladders are used on a supported scaffold more than 35 feet (10.7 m) high, they shall have rest platforms at 35-foot (10.7 m) maximum vertical intervals;

(iv) Hook-on and attachable ladders shall be specifically designed for use with the type of scaffold used;

(v) Hook-on and attachable ladders shall have a minimum rung length of 11 1/2 inches (29 cm); and

(vi) Hook-on and attachable ladders shall have uniformly spaced rungs with a maximum spacing between rungs of 16 3/4 inches.

(c) Stairway-type ladders shall:

(i) Be positioned such that their bottom step is not more than 24 inches (61 cm) above the scaffold supporting level;

(ii) Be provided with rest platforms at 12-foot (3.7 m) maximum vertical intervals;

(iii) Have a minimum step width of 16 inches (41 cm), except that mobile scaffold stairway-type ladders shall have a minimum step width of 11 1/2 inches (30 cm); and

(iv) Have slip-resistant treads on all steps and landings.

(d) Stairtowers (scaffold stairway/towers) shall be positioned such that their bottom step is not more than 24 inches (61 cm) above the scaffold supporting level.

(i) A stairrail consisting of a toprail and a midrail shall be provided on each side of each scaffold stairway.

(ii) The toprail of each stairrail system shall also be capable of serving as a handrail, unless a separate handrail is provided.

(iii) Handrails, and toprails that serve as handrails, shall provide an adequate handhold for employees grasping them to avoid falling.

(iv) Stairrail systems and handrails shall be surfaced to prevent injury to employees from punctures or lacerations, and to prevent snagging of clothing.

(v) The ends of stairrail systems and handrails shall be constructed so that they do not constitute a projection hazard.

(vi) Handrails, and toprails that are used as handrails, shall be at least 3 inches (7.6 cm) from other objects.

(vii) Stairrails shall be not less than 28 inches (71 cm) nor more than 37 inches (94 cm) from the upper surface of the stairrail to the surface of the tread, in line with the face of the riser at the forward edge of the tread.

(viii) A landing platform at least 18 inches (45.7 cm) wide by at least 18 inches (45.7 cm) long shall be provided at each level.

(ix) Each scaffold stairway shall be at least 18 inches (45.7 cm) wide between stairrails.

(x) Treads and landings shall have slip-resistant surfaces.

(xi) Stairways shall be installed between 40 degrees and 60 degrees from the horizontal.

(xii) Guardrails meeting the requirements of subsection (7)(d) of this section shall be provided on the open sides and ends of each landing.

(xiii) Riser height shall be uniform, within 1/4 inch, (0.6 cm) for each flight of stairs. Greater variations in riser height are allowed for the top and bottom steps of the entire system, not for each flight of stairs.

(xiv) Tread depth shall be uniform, within 1/4 inch, for each flight of stairs.

(e) Ramps and walkways.

(i) Ramps and walkways 6 feet (1.8 m) or more above lower levels shall have guardrail systems which comply with Part K of this chapter—Floor openings, wall openings and stairways:

(ii) No ramp or walkway shall be inclined more than a slope of one vertical to three horizontal (20 degrees above the horizontal).

(iii) If the slope of a ramp or a walkway is steeper than one vertical in eight horizontal, the ramp or walkway shall have cleats not more than fourteen inches (35 cm) apart which are securely fastened to the planks to provide footing.

(f) Integral prefabricated scaffold access frames shall:

(i) Be specifically designed and constructed for use as ladder rungs;

(ii) Have a rung length of at least 8 inches (20 cm);

(iii) Not be used as work platforms when rungs are less than 11 1/2 inches in length, unless each affected employee uses fall protection, or a positioning device, which complies with WAC 296-155-24510;

(iv) Be uniformly spaced within each frame section;

(v) Be provided with rest platforms at 35-foot (10.7 m) maximum vertical intervals on all supported scaffolds more than 35 feet (10.7 m) high; and

(vi) Have a maximum spacing between rungs of 16 3/4 inches (43 cm). Nonuniform rung spacing caused by joining end frames together is allowed, provided the resulting spacing does not exceed 16 3/4 inches (43 cm).

(g) Steps and rungs of ladder and stairway type access shall line up vertically with each other between rest platforms.

(h) Direct access to or from another surface shall be used only when the scaffold is not more than 14 inches (36 cm) horizontally and not more than 24 inches (61 cm) vertically from the other surface.

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(i) Access for employees erecting or dismantling supported scaffolds shall be in accordance with the following:

(i) The employer shall provide safe means of access for each employee erecting or dismantling a scaffold where the provision of safe access is feasible and does not create a greater hazard. The employer shall have a competent person determine whether it is feasible or would pose a greater hazard to provide, and have employees use a safe means of access. This determination shall be based on site conditions and the type of scaffold being erected or dismantled.

(ii) Hook-on or attachable ladders shall be installed as soon as scaffold erection has progressed to a point that permits safe installation and use.

(iii) When erecting or dismantling tubular welded frame scaffolds, (end) frames, with horizontal members that are parallel, level and are not more than 22 inches apart vertically may be used as climbing devices for access, provided they are erected in a manner that creates a usable ladder and provides good hand hold and foot space.

(iv) Cross braces on tubular welded frame scaffolds shall not be used as a means of access or egress.

(6) "Use."

(a) Scaffolds and scaffold components shall not be loaded in excess of their maximum intended loads or rated capacities, whichever is less.

(b) The use of shore or lean-to scaffolds is prohibited.

(c) Scaffolds and scaffold components shall be inspected for visible defects by a competent person before each work shift, and after any occurrence which could affect a scaffold's structural integrity.

(d) Any part of a scaffold damaged or weakened such that its strength is less than that required by subsection (1)(a) of this section shall be immediately repaired or replaced, braced to meet those provisions, or removed from service until repaired.

(e) Scaffolds shall not be moved horizontally while employees are on them, unless they have been designed by a registered professional engineer specifically for such movement or, for mobile scaffolds, where the provisions of WAC 296-155-484(23) are followed.

(f) The clearance between scaffolds and power lines shall be as follows: Scaffolds shall not be erected, used, dismantled, altered, or moved such that they or any conductive material handled on them might come closer to exposed and energized power lines than as follows:

*Insulated Lines

| Voltage | Minimum distance | Alternatives |
|---|---|---|
| Less than 300 volts | 3 feet (0.9 m) | |
| *300 volts to 50 kv. | 10 feet (3.1 m) | |
| More than 50 kv..... | 10 feet (3.1 m) plus 0.4 inches (1.0 cm) for each 1 kv over 50 kv. | 2 times the length of the line insulator, but never less than 10 feet (3.1 m). |

*Uninsulated lines

| Voltage | Minimum distance | Alternatives |
|---|---|---|
| Less than 50 kv..... | 10 feet (3.1 m). | |
| More than 50 kv..... | 10 feet (3.1 m) plus 0.4 inches (1.0 cm) for each 1 kv over 50 kv. | 2 times the length of the line insulator, but never less than 10 feet (3.1 m). |

Exception to subsection (6)(f): Scaffolds and materials may be closer to power lines than specified above where such clearance is necessary for performance of work, and only after the utility company, or electrical system operator, has been notified of the need to work closer and the utility company, or electrical system operator, has deenergized the lines, relocated the lines, or installed protective coverings to prevent accidental contact with the lines.

(g) Scaffolds shall be erected, moved, dismantled, or altered only under the supervision and direction of a competent person qualified in scaffold erection, moving, dismantling or alteration. Such activities shall be performed only by experienced and trained employees selected for such work by the competent person.

(h) Employees shall be prohibited from working on scaffolds covered with snow, ice, or other slippery material except as necessary for removal of such materials.

(i) Where swinging loads are being hoisted onto or near scaffolds such that the loads might contact the scaffold, tag lines or equivalent measures to control the loads shall be used.

(j) Suspension ropes supporting adjustable suspension scaffolds shall be of a diameter large enough to provide sufficient surface area for the functioning of brake and hoist mechanisms.

(k) Suspension ropes shall be shielded from heat-producing processes. When acids or other corrosive substances are used on a scaffold, the ropes shall be shielded, treated to protect against the corrosive substances, or shall be of a material that will not be damaged by the substance being used.

(l) Work on or from scaffolds is prohibited during storms or high winds unless a competent person has determined that it is safe for employees to be on the scaffold and those employees are protected by a personal fall arrest system or wind screens. Wind screens shall not be used unless the scaffold is secured against the anticipated wind forces imposed.

(m) Debris shall not be allowed to accumulate on platforms.

(n) Makeshift devices, such as but not limited to boxes and barrels, shall not be used on top of scaffold platforms to increase the working level height of employees.

(o) Ladders shall not be used on scaffolds to increase the working level height of employees, except on large area scaffolds where employers have satisfied the following criteria:

(i) When the ladder is placed against a structure which is not a part of the scaffold, the scaffold shall be secured against the sideways thrust exerted by the ladder;

(ii) The platform units shall be secured to the scaffold to prevent their movement;

(iii) The ladder legs shall be on the same platform or other means shall be provided to stabilize the ladder against unequal platform deflection; and

(iv) The ladder legs shall be secured to prevent them from slipping or being pushed off the platform.

(p) Platforms shall not deflect more than 1/60 of the span when loaded.

(q) To reduce the possibility of welding current arcing through the suspension wire rope when performing welding

from suspended scaffolds, the following precautions shall be taken, as applicable:

(i) An insulated thimble shall be used to attach each suspension wire rope to its hanging support (such as cornice hook or outrigger). Excess suspension wire rope and any additional independent lines from grounding shall be insulated;

(ii) The suspension wire rope shall be covered with insulating material extending at least 4 feet (1.2 m) above the hoist. If there is a tail line below the hoist, it shall be insulated to prevent contact with the platform. The portion of the tail line that hangs free below the scaffold shall be guided or retained, or both, so that it does not become grounded;

(iii) Each hoist shall be covered with insulated protective covers;

(iv) In addition to a work lead attachment required by the welding process, a grounding conductor shall be connected from the scaffold to the structure. The size of this conductor shall be at least the size of the welding process work lead, and this conductor shall not be in series with the welding process or the work piece;

(v) If the scaffold grounding lead is disconnected at any time, the welding machine shall be shut off; and

(vi) An active welding rod or uninsulated welding lead shall not be allowed to contact the scaffold or its suspension system.

(7) "Fall protection."

(a) Each employee on a scaffold more than 10 feet (3.1 m) above a lower level shall be protected from falling to that lower level. Subsection (7)(a)(i) through (vii) of this section establish the types of fall protection to be provided to the employees on each type of scaffold. Subsection (7)(b) of this section addresses fall protection for scaffold erectors and dismantlers.

**Note to subsection (7)(a):** The fall protection requirements for employees installing suspension scaffold support systems on floors, roofs, and other elevated surfaces are set forth in Parts C-1 and K of this chapter.

(i) Each employee on a boatswains' chair, catenary scaffold, float scaffold, needle beam scaffold, or ladder jack scaffold shall be protected by a personal fall arrest system;

(ii) Each employee on a single-point or two-point adjustable suspension scaffold shall be protected by both a personal fall arrest system and guardrail system;

(iii) Each employee on a crawling board (chicken ladder) shall be protected by a personal fall arrest system, a guardrail system (with minimum 200 pound toprail capacity), or by a three-fourth inch (1.9 cm) diameter grabline or equivalent handhold securely fastened beside each crawling board;

(iv) Each employee on a self-contained adjustable scaffold shall be protected by a guardrail system (with minimum 200 pound toprail capacity) when the platform is supported by the frame structure, and by both a personal fall arrest system and a guardrail system (with minimum 200 pound toprail capacity) when the platform is supported by ropes;

(v) Each employee on a walkway located within a scaffold shall be protected by a guardrail system (with minimum 200 pound toprail capacity) installed within 9 1/2 inches (24.1 cm) of and along at least one side of the walkway;

(vi) Each employee performing overhand bricklaying operations from a supported scaffold shall be protected from falling from all open sides and ends of the scaffold (except at the side next to the wall being laid) by the use of a personal fall arrest system or guardrail system (with minimum 200 pound toprail capacity);

(vii) For all scaffolds not otherwise specified in (a)(i) through (vi) of this subsection, each employee shall be protected by the use of personal fall arrest systems or guardrail systems meeting the requirements of (d) of this subsection.

(b) The employer shall have a competent person determine the feasibility and safety of providing fall protection for employees erecting or dismantling supported scaffolds. Employers are required to provide fall protection for employees erecting or dismantling supported scaffolds where the installation and use of such protection is feasible and does not create a greater hazard. The maximum feasible fall protection shall be used.

(c) In addition to meeting the requirements of chapter 296-155 WAC, Part C-1, personal fall arrest systems used on scaffolds shall be attached by lanyard to a vertical lifeline, horizontal lifeline, or scaffold structural member. Vertical lifelines shall not be used when overhead components, such as overhead protection or additional platform levels, are part of a single-point or two-point adjustable suspension scaffold.

(i) When vertical lifelines are used, they shall be fastened to a fixed safe point of anchorage, shall be independent of the scaffold, and shall be protected from sharp edges and abrasion. Safe points of anchorage include structural members of buildings, but do not include standpipes, vents, other piping systems, electrical conduit, outrigger beams, or counterweights.

(ii) When horizontal lifelines are used, they shall be secured to two or more structural members of the scaffold, or they may be looped around both suspension and independent suspension lines (on scaffolds so equipped) above the hoist and brake attached to the end of the scaffold. Horizontal lifelines shall not be attached only to the suspension ropes.

(iii) When lanyards are connected to horizontal lifelines or structural members on a single-point or two-point adjustable suspension scaffold, the scaffold shall be equipped with additional independent support lines and automatic locking devices capable of stopping the fall of the scaffold in the event one or both of the suspension ropes fail. The independent support lines shall be equal in number and strength to the suspension ropes.

(iv) Vertical lifelines, independent support lines, and suspension ropes shall not be attached to each other, nor shall they be attached to or use the same point of anchorage, nor shall they be attached to the same point on the scaffold or personal fall arrest system.

(d) Guardrail systems installed to meet the requirements of this section shall comply with the following provisions (guardrail systems built in accordance with Appendix A to this part will be deemed to meet the requirements of (d)(vii), (viii), and (ix) of this subsection):

(i) Guardrail systems shall be installed along all open sides and ends of platforms. Guardrail systems shall be

installed before the scaffold is released for use by employees other than erection/dismantling crews.

(ii) The top edge height of toprails or equivalent member on supported scaffolds manufactured or placed in service after January 1, 2000, shall be installed between 38 inches (0.97 m) and 45 inches (1.2 m) above the platform surface. The top edge height on supported scaffolds manufactured and placed in service before January 1, 2000, and on all suspended scaffolds where both a guardrail and a personal fall arrest system are required shall be between 36 inches (0.9 m) and 45 inches (1.2 m). When conditions warrant, the height of the top edge may exceed the 45-inch height, provided the guardrail system meets all other criteria of (d) of this subsection.

(iii) When midrails, screens, mesh, intermediate vertical members, solid panels, or equivalent structural members are used, they shall be installed between the top edge of the guardrail system and the scaffold platform.

(iv) When midrails are used, they shall be installed at a height approximately midway between the top edge of the guardrail system and the platform surface.

(v) When screens and mesh are used, they shall extend from the top edge of the guardrail system to the scaffold platform, and along the entire opening between the supports.

(vi) When intermediate members (such as balusters or additional rails) are used, they shall not be more than 19 inches (48 cm) apart.

(vii) Each toprail or equivalent member of a guardrail system shall be capable of withstanding, without failure, a force applied in any downward or horizontal direction at any point along its top edge of at least 100 pounds (445 n) for guardrail systems installed on single-point adjustable suspension scaffolds or two-point adjustable suspension scaffolds, and at least 200 pounds (890 n) for guardrail systems installed on all other scaffolds.

(viii) When the loads specified in (d)(vii) of this subsection are applied in a downward direction, the top edge shall not drop below the height above the platform surface that is prescribed in (d)(ii) of this subsection.

(ix) Midrails, screens, mesh, intermediate vertical members, solid panels, and equivalent structural members of a guardrail system shall be capable of withstanding, without failure, a force applied in any downward or horizontal direction at any point along the midrail or other member of at least 75 pounds (333 n) for guardrail systems with a minimum 100 pound toprail capacity, and at least 150 pounds (666 n) for guardrail systems with a minimum 200 pound toprail capacity.

(x) Suspension scaffold hoists and nonwalk-through stirrups may be used as end guardrails, if the space between the hoist or stirrup and the side guardrail or structure does not allow passage of an employee to the end of the scaffold.

(xi) Guardrails shall be surfaced to prevent injury to an employee from punctures or lacerations, and to prevent snagging of clothing.

(xii) The ends of all rails shall not overhang the terminal posts except when such overhang does not constitute a projection hazard to employees.

(xiii) Steel or plastic banding shall not be used as a toprail or midrail.

(xiv) Manila or plastic (or other synthetic) rope being used for toprails or midrails shall be inspected by a competent person as frequently as necessary to ensure that it continues to meet the strength requirements of subsection (7) of this section.

(xv) Crossbracing is acceptable in place of a midrail when the crossing point of two braces is between 20 inches (0.5 m) and 30 inches (0.8 m) above the work platform or as a toprail when the crossing point of two braces is between 38 inches (0.97 m) and 48 inches (1.3 m) above the work platform. The end points at each upright shall be no more than 48 inches (1.3 m) apart.

(8) "Falling object protection."

(a) In addition to wearing hardhats each employee on a scaffold shall be provided with additional protection from falling hand tools, debris, and other small objects through the installation of toeboards, screens, or guardrail systems, or through the erection of debris nets, catch platforms, or canopy structures that contain or deflect the falling objects. When the falling objects are too large, heavy or massive to be contained or deflected by any of the above-listed measures, the employer shall place such potential falling objects away from the edge of the surface from which they could fall and shall secure those materials as necessary to prevent their falling.

(b) Where there is a danger of tools, materials, or equipment falling from a scaffold and striking employees below, the following provisions apply:

(i) The area below the scaffold to which objects can fall shall be barricaded, and employees shall not be permitted to enter the hazard area; or

(ii) A toeboard shall be erected along the edge of platforms more than 10 feet (3.1 m) above lower levels for a distance sufficient to protect employees below, except on float (ship) scaffolds where an edging of 3/4 x 1 1/2 inch (2 x 4 cm) wood or equivalent may be used in lieu of toeboards; or

(iii) Where tools, materials, or equipment are piled to a height higher than the top edge of the toeboard, paneling or screening extending from the toeboard or platform to the top of the guardrail shall be erected for a distance sufficient to protect employees below; or

(iv) A guardrail system shall be installed with openings small enough to prevent passage of potential falling objects; or

(v) A canopy structure, debris net, or catch platform strong enough to withstand the impact forces of the potential falling objects shall be erected over the employees below.

(c) Canopies, when used for falling object protection, shall comply with the following criteria:

(i) Canopies shall be installed between the falling object hazard and the employees.

(ii) When canopies are used on suspension scaffolds for falling object protection, the scaffold shall be equipped with additional independent support lines equal in number to the number of points supported, and equivalent in strength to the strength of the suspension ropes.

(iii) Independent support lines and suspension ropes shall not be attached to the same points of anchorage.

(d) Where used, toeboards shall be:

(i) Capable of withstanding, without failure, a force of at least 50 pounds (222 n) applied in any downward or horizontal direction at any point along the toeboard

(toeboards built in accordance with Appendix A to this part will be deemed to meet this requirement); and

(ii) At least three and one-half inches (9 cm) high from the top edge of the toeboard to the level of the walking/working surface. Toeboards shall be securely fastened in place at the outermost edge of the platform and have not more than 1/4 inch (0.7 cm) clearance above the walking/working surface. Toeboards shall be solid or with openings not over one inch (2.5 cm) in the greatest dimension.

NEW SECTION

**WAC 296-155-484 Additional requirements applicable to specific types of scaffolds.** In addition to the applicable requirements of WAC 296-155-483, the following requirements apply to the specific types of scaffolds indicated. Scaffolds not specifically addressed by WAC 296-155-484, such as but not limited to systems scaffolds, must meet the requirements of WAC 296-155-483.

(1) "Pole scaffolds."

(a) When platforms are being moved to the next level, the existing platform shall be left undisturbed until the new bearers have been set in place and braced, prior to receiving the new platforms.

(b) Crossbracing shall be installed between the inner and outer sets of poles on double pole scaffolds.

(c) Diagonal bracing in both directions shall be installed across the entire inside face of double-pole scaffolds used to support loads equivalent to a uniformly distributed load of 50 pounds (222 kg) or more per square foot (929 square cm).

(d) Diagonal bracing in both directions shall be installed across the entire outside face of all double- and single-pole scaffolds.

(e) Runners and bearers shall be installed on edge.

(f) Bearers shall extend a minimum of 3 inches (7.6 cm) over the outside edges of runners.

(g) Runners shall extend over a minimum of two poles, and shall be supported by bearing blocks securely attached to the poles.

(h) Braces, bearers, and runners shall not be spliced between poles.

(i) Where wooden poles are spliced, the ends shall be squared and the upper section shall rest squarely on the lower section. Wood splice plates shall be provided on at least two adjacent sides, and shall extend at least 2 feet (0.6 m) on either side of the splice, overlap the abutted ends equally, and have at least the same cross-sectional areas as the pole. Splice plates of other materials of equivalent strength may be used.

(j) Pole scaffolds over 60 feet in height shall be designed by a registered professional engineer, and shall be constructed and loaded in accordance with that design. Nonmandatory Appendix A to this part contains examples of criteria that will enable an employer to comply with design and loading requirements for pole scaffolds under 60 feet in height.

(2) "Tube and coupler scaffolds."

(a) When platforms are being moved to the next level, the existing platform shall be left undisturbed until the new bearers have been set in place and braced prior to receiving the new platforms.

(b) Transverse bracing forming an "X" across the width of the scaffold shall be installed at the scaffold ends and at least at every third set of posts horizontally (measured from only one end) and every fourth runner vertically. Bracing shall extend diagonally from the inner or outer posts or runners upward to the next outer or inner posts or runners. Building ties shall be installed at the bearer levels between the transverse bracing and shall conform to the requirements of WAC 296-155-483 (3)(a).

(c) On straight run scaffolds, longitudinal bracing across the inner and outer rows of posts shall be installed diagonally in both directions, and shall extend from the base of the end posts upward to the top of the scaffold at approximately a 45 degree angle. On scaffolds whose length is greater than their height, such bracing shall be repeated beginning at least at every fifth post. On scaffolds whose length is less than their height, such bracing shall be installed from the base of the end posts upward to the opposite end posts, and then in alternating directions until reaching the top of the scaffold. Bracing shall be installed as close as possible to the intersection of the bearer and post or runner and post.

(d) Where conditions preclude the attachment of bracing to posts, bracing shall be attached to the runners as close to the post as possible.

(e) Bearers shall be installed transversely between posts, and when coupled to the posts, shall have the inboard coupler bear directly on the runner coupler. When the bearers are coupled to the runners, the couplers shall be as close to the posts as possible.

(f) Bearers shall extend beyond the posts and runners, and shall provide full contact with the coupler.

(g) Runners shall be installed along the length of the scaffold, located on both the inside and outside posts at level heights (when tube and coupler guardrails and midrails are used on outside posts, they may be used in lieu of outside runners).

(h) Runners shall be interlocked on straight runs to form continuous lengths, and shall be coupled to each post. The bottom runners and bearers shall be located as close to the base as possible.

(i) Couplers shall be of a structural metal, such as drop-forged steel, malleable iron, or structural grade aluminum. The use of gray cast iron is prohibited.

(j) Tube and coupler scaffolds over 125 feet in height shall be designed by a registered professional engineer, and shall be constructed and loaded in accordance with such design. Nonmandatory Appendix A to this part contains examples of criteria that will enable an employer to comply with design and loading requirements for tube and coupler scaffolds under 125 feet in height.

(3) "Fabricated frame scaffolds" (tubular welded frame scaffolds).

(a) When moving platforms to the next level, the existing platform shall be left undisturbed until the new end frames have been set in place and braced prior to receiving the new platforms.

(b) Frames and panels shall be braced by cross, horizontal, or diagonal braces, or combination thereof, which secure vertical members together laterally. The cross braces shall be of such length as will automatically square and align vertical members so that the erected scaffold is always

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plumb, level, and square. All brace connections shall be secured.

(c) Frames and panels shall be joined together vertically by coupling or stacking pins or equivalent means.

(d) Where uplift can occur which would displace scaffold end frames or panels, the frames or panels shall be locked together vertically by pins or equivalent means.

(e) Brackets used to support cantilevered loads shall:

(i) Be seated with side-brackets parallel to the frames and end-brackets at 90 degrees to the frames;

(ii) Not be bent or twisted from these positions; and

(iii) Be used only to support personnel, unless the scaffold has been designed for other loads by a qualified engineer and built to withstand the tipping forces caused by those other loads being placed on the bracket-supported section of the scaffold.

(f) Scaffolds over 125 feet (38.0 m) in height above their base plates shall be designed by a registered professional engineer, and shall be constructed and loaded in accordance with such design.

(4) "Plasterers', decorators', and large area scaffolds." Scaffolds shall be constructed in accordance with subsection (1), (2), or (3) of this section, as appropriate.

(5) "Bricklayers' square scaffolds (squares)."

(a) Scaffolds made of wood shall be reinforced with gussets on both sides of each corner.

(b) Diagonal braces shall be installed on all sides of each square.

(c) Diagonal braces shall be installed between squares on the rear and front sides of the scaffold, and shall extend from the bottom of each square to the top of the next square.

(d) Scaffolds shall not exceed three tiers in height, and shall be so constructed and arranged that one square rests directly above the other. The upper tiers shall stand on a continuous row of planks laid across the next lower tier, and shall be nailed down or otherwise secured to prevent displacement.

(6) "Horse scaffolds."

(a) Scaffolds shall not be constructed or arranged more than two tiers or 10 feet (3.0 m) in height, whichever is less.

(b) When horses are arranged in tiers, each horse shall be placed directly over the horse in the tier below.

(c) When horses are arranged in tiers, the legs of each horse shall be nailed down or otherwise secured to prevent displacement.

(d) When horses are arranged in tiers, each tier shall be crossbraced.

(7) "Form scaffolds and carpenters' bracket scaffolds."

(a) Each bracket, except those for wooden bracket-form scaffolds, shall be attached to the supporting formwork or structure by means of one or more of the following: Nails; a metal stud attachment device; welding; hooking over a secured structural supporting member, with the form wales either bolted to the form or secured by snap ties or tie bolts extending through the form and securely anchored; or, for carpenters' bracket scaffolds only, by a bolt extending through to the opposite side of the structure's wall.

(b) Wooden bracket-form scaffolds shall be an integral part of the form panel.

(c) Folding type metal brackets, when extended for use, shall be either bolted or secured with a locking-type pin.

(8) "Roof bracket scaffolds."

(a) Scaffold brackets shall be constructed to fit the pitch of the roof and shall provide a level support for the platform.

(b) Brackets (including those provided with pointed metal projections) shall be anchored in place by nails unless it is impractical to use nails. When nails are not used, brackets shall be secured in place with first-grade manila rope of at least three-fourth inch (1.9 cm) diameter, or equivalent.

(9) "Outrigger scaffolds."

(a) The inboard end of outrigger beams, measured from the fulcrum point to the extreme point of anchorage, shall be not less than one and one-half times the outboard end in length.

(b) Outrigger beams fabricated in the shape of an I-beam or channel shall be placed so that the web section is vertical.

(c) The fulcrum point of outrigger beams shall rest on secure bearings at least 6 inches (15.2 cm) in each horizontal dimension.

(d) Outrigger beams shall be secured in place against movement, and shall be securely braced at the fulcrum point against tipping.

(e) The inboard ends of outrigger beams shall be securely anchored either by means of braced struts bearing against sills in contact with the overhead beams or ceiling, or by means of tension members secured to the floor joists underfoot, or by both.

(f) The entire supporting structure shall be securely braced to prevent any horizontal movement.

(g) To prevent their displacement, platform units shall be nailed, bolted, or otherwise secured to outriggers.

(h) Scaffolds and scaffold components shall be designed by a registered professional engineer and shall be constructed and loaded in accordance with such design.

(10) "Pump jack scaffolds."

(a) Pump jack brackets, braces, and accessories shall be fabricated from metal plates and angles. Each pump jack bracket shall have two positive gripping mechanisms to prevent any failure or slippage.

(b) Poles shall be secured to the structure by rigid triangular bracing or equivalent at the bottom, top, and other points as necessary. When the pump jack has to pass bracing already installed, an additional brace shall be installed approximately 4 feet (1.2 m) above the brace to be passed, and shall be left in place until the pump jack has been moved and the original brace reinstalled.

(c) When guardrails are used for fall protection, a workbench may be used as the toprail only if it meets all the requirements in WAC 296-155-483 (7)(d)(ii), (vii), (viii), and (xiii).

(d) Work benches shall not be used as scaffold platforms.

(e) When poles are made of wood, the pole lumber shall be straight-grained, free of shakes, large loose or dead knots, and other defects which might impair strength.

(f) When wood poles are constructed of two continuous lengths, they shall be joined together with the seam parallel to the bracket.

(g) When two by fours are spliced to make a pole, mending plates shall be installed at all splices to develop the full strength of the member.

(11) "Ladder jack scaffolds."

(a) Platforms shall not exceed a height of 20 feet (6.1 m).

(b) All ladders used to support ladder jack scaffolds shall meet the requirements of Part J of this chapter — Stairways and ladders, except that job-made ladders shall not be used to support ladder jack scaffolds.

(c) The ladder jack shall be so designed and constructed that it will bear on the side rails and ladder rungs or on the ladder rungs alone. If bearing on rungs only, the bearing area shall include a length of at least 10 inches (25.4 cm) on each rung.

(d) Ladders used to support ladder jacks shall be placed, fastened, or equipped with devices to prevent slipping.

(e) Scaffold platforms shall not be bridged one to another.

(12) "Window jack scaffolds."

(a) Scaffolds shall be securely attached to the window opening.

(b) Scaffolds shall be used only for the purpose of working at the window opening through which the jack is placed.

(c) Window jacks shall not be used to support planks placed between one window jack and another, or for other elements of scaffolding.

(13) "Crawling boards (chicken ladders)."

(a) Crawling boards shall extend from the roof peak to the eaves when used in connection with roof construction, repair, or maintenance.

(b) Crawling boards shall be secured to the roof by ridge hooks or by means that meet equivalent criteria (e.g., strength and durability).

(14) "Step, platform, and trestle ladder scaffolds."

(a) Scaffold platforms shall not be placed any higher than the second highest rung or step of the ladder supporting the platform.

(b) All ladders used in conjunction with step, platform and trestle ladder scaffolds shall meet the pertinent requirements of Part J of this chapter — Stairways and ladders, except that job-made ladders shall not be used to support such scaffolds.

(c) Ladders used to support step, platform, and trestle ladder scaffolds shall be placed, fastened, or equipped with devices to prevent slipping.

(d) Scaffolds shall not be bridged one to another.

(15) "Single-point adjustable suspension scaffolds."

(a) When two single-point adjustable suspension scaffolds are combined to form a two-point adjustable suspension scaffold, the resulting two-point scaffold shall comply with the requirements for two-point adjustable suspension scaffolds in subsection (16) of this section.

(b) The supporting rope between the scaffold and the suspension device shall be kept vertical unless all of the following conditions are met:

(i) The rigging has been designed by a qualified person; and

(ii) The scaffold is accessible to rescuers; and

(iii) The supporting rope is protected to ensure that it will not chafe at any point where a change in direction occurs; and

(iv) The scaffold is positioned so that swinging cannot bring the scaffold into contact with another surface.

(c) Boatswains' chair tackle shall consist of correct size ball bearings or bushed blocks containing safety hooks and properly "eye-spliced" minimum five-eighth (5/8) inch (1.6 cm) diameter first-grade manila rope, or other rope which will satisfy the criteria (e.g., strength and durability) of manila rope.

(d) Boatswains' chair seat slings shall be reeved through four corner holes in the seat; shall cross each other on the underside of the seat; and shall be rigged so as to prevent slippage which could cause an out-of-level condition.

(e) Boatswains' chair seat slings shall be a minimum of five-eight (5/8) inch (1.6 cm) diameter fiber, synthetic, or other rope which will satisfy the criteria (e.g., strength, slip resistance, durability, etc.) of first grade manila rope.

(f) When a heat-producing process such as gas or arc welding is being conducted, boatswains' chair seat slings shall be a minimum of three-eight (3/8) inch (1.0 cm) wire rope.

(g) Noncross-laminated wood boatswains' chairs shall be reinforced on their underside by cleats securely fastened to prevent the board from splitting.

(16) "Two-point adjustable suspension scaffolds (swing stages)." The following requirements do not apply to two-point adjustable suspension scaffolds used as masons' or stonesetters' scaffolds. Such scaffolds are covered by subsection (17) of this section.

(a) Platforms shall not be more than 36 inches (0.9 m) wide unless designed by a qualified person to prevent unstable conditions.

(b) The platform shall be securely fastened to hangers (stirrups) by U-bolts or by other means which satisfy the requirements of WAC 296-155-483(1).

(c) The blocks for fiber or synthetic ropes shall consist of at least one double and one single block. The sheaves of all blocks shall fit the size of the rope used.

(d) Platforms shall be of the ladder-type, plank-type, beam-type, or light-metal type. Light metal-type platforms having a rated capacity of 750 pounds or less and platforms 40 feet (12.2 m) or less in length shall be tested and listed by a nationally recognized testing laboratory.

(e) Two-point scaffolds shall not be bridged or otherwise connected one to another during raising and lowering operations unless the bridge connections are articulated (attached), and the hoists properly sized.

(f) Passage may be made from one platform to another only when the platforms are at the same height, are abutting, and walk-through stirrups specifically designed for this purpose are used.

(17) "Multi-point adjustable suspension scaffolds, stonesetters' multi-point adjustable suspension scaffolds, and masons' multi-point adjustable suspension scaffolds."

(a) When two or more scaffolds are used they shall not be bridged one to another unless they are designed to be bridged, the bridge connections are articulated, and the hoists are properly sized.

(b) If bridges are not used, passage may be made from one platform to another only when the platforms are at the same height and are abutting.

(c) Scaffolds shall be suspended from metal outriggers, brackets, wire rope slings, hooks, or means that meet equivalent criteria (e.g., strength, durability).

(18) "Catenary scaffolds."

(a) No more than one platform shall be placed between consecutive vertical pickups, and no more than two platforms shall be used on a catenary scaffold.

(b) Platforms supported by wire ropes shall have hook-shaped stops on each end of the platforms to prevent them from slipping off the wire ropes. These hooks shall be so placed that they will prevent the platform from falling if one of the horizontal wire ropes breaks.

(c) Wire ropes shall not be tightened to the extent that the application of a scaffold load will overstress them.

(d) Wire ropes shall be continuous and without splices between anchors.

(19) "Float (ship) scaffolds."

(a) The platform shall be supported by a minimum of two bearers, each of which shall project a minimum of 6 inches (15.2 cm) beyond the platform on both sides. Each bearer shall be securely fastened to the platform.

(b) Rope connections shall be such that the platform cannot shift or slip.

(c) When only two ropes are used with each float:

(i) They shall be arranged so as to provide four ends which are securely fastened to overhead supports.

(ii) Each supporting rope shall be hitched around one end of the bearer and pass under the platform to the other end of the bearer where it is hitched again, leaving sufficient rope at each end for the supporting ties.

(20) "Interior hung scaffolds."

(a) Scaffolds shall be suspended only from the roof structure or other structural member such as ceiling beams.

(b) Overhead supporting members (roof structure, ceiling beams, or other structural members) shall be inspected and checked for strength before the scaffold is erected.

(c) Suspension ropes and cables shall be connected to the overhead supporting members by shackles, clips, thimbles, or other means that meet equivalent criteria (e.g., strength, durability).

(21) "Needle beam scaffolds."

(a) Scaffold support beams shall be installed on edge.

(b) Ropes or hangers shall be used for supports, except that one end of a needle beam scaffold may be supported by a permanent structural member.

(c) The ropes shall be securely attached to the needle beams.

(d) The support connection shall be arranged so as to prevent the needle beam from rolling or becoming displaced.

(e) Platform units shall be securely attached to the needle beams by bolts or equivalent means. Cleats and overhang are not considered to be adequate means of attachment.

(22) "Multi-level suspended scaffolds."

(a) Scaffolds shall be equipped with additional independent support lines, equal in number to the number of points supported, and of equivalent strength to the suspension ropes, and rigged to support the scaffold in the event the suspension rope(s) fail.

(b) Independent support lines and suspension ropes shall not be attached to the same points of anchorage.

(c) Supports for platforms shall be attached directly to the support stirrup and not to any other platform.

(23) "Mobile scaffolds."

(a) Scaffolds shall be braced by cross, horizontal, or diagonal braces, or combination thereof, to prevent racking or collapse of the scaffold and to secure vertical members together laterally so as to automatically square and align the vertical members. Scaffolds shall be plumb, level, and squared. All brace connections shall be secured.

(i) Scaffolds constructed of tube and coupler components shall also comply with the requirements of subsection (2) of this section;

(ii) Scaffolds constructed of fabricated frame components shall also comply with the requirements of subsection (3) of this section.

(b) Scaffold casters and wheels shall be locked with positive wheel and/or wheel and swivel locks, or equivalent means, to prevent movement of the scaffold while the scaffold is used in a stationary manner.

(c) Manual force used to move the scaffold shall be applied as close to the base as practicable, but not more than 5 feet (1.5 m) above the supporting surface.

(d) Power systems used to propel mobile scaffolds shall be designed for such use. Forklifts, trucks, similar motor vehicles or add-on motors shall not be used to propel scaffolds unless the scaffold is designed for such propulsion systems.

(e) Scaffolds shall be stabilized to prevent tipping during movement.

(f) Employees shall not be allowed to ride on scaffolds unless the following conditions exist:

(i) The surface on which the scaffold is being moved is within 3 degrees of level, and free of pits, holes, and obstructions;

(ii) The height to base width ratio of the scaffold during movement is two to one or less, unless the scaffold is designed and constructed to meet or exceed nationally recognized stability test requirements such as those listed in (ANSI/SIA A92.5 and A92.6);

(iii) Outrigger frames, when used, are installed on both sides of the scaffold;

(iv) When power systems are used, the propelling force is applied directly to the wheels, and does not produce a speed in excess of 1 foot per second (.3 mps); and

(v) No employee is on any part of the scaffold which extends outward beyond the wheels, casters, or other supports.

(g) Platforms shall not extend outward beyond the base supports of the scaffold unless outrigger frames or equivalent devices are used to ensure stability.

(h) Where leveling of the scaffold is necessary, screw jacks or equivalent means shall be used.

(i) Caster stems and wheel stems shall be pinned or otherwise secured in scaffold legs or adjustment screws.

(j) Where uplift may occur, panels shall be locked together vertically by pins or other equivalent means.

(k) Before a scaffold is moved, each employee on the scaffold shall be made aware of the move.

(24) "Repair bracket scaffolds."

(a) Brackets shall be secured in place by at least one wire rope at least 1/2 inch (1.27 cm) in diameter.

(b) Each bracket shall be attached to the securing wire rope (or ropes) by a positive locking device capable of preventing the unintentional detachment of the bracket from the rope, or by equivalent means.

(c) Each bracket, at the contact point between the supporting structure and the bottom of the bracket, shall be

provided with a shoe (heel block or foot) capable of preventing the lateral movement of the bracket.

(d) Platforms shall be secured to the brackets in a manner that will prevent the separation of the platforms from the brackets and the movement of the platforms or the brackets on a completed scaffold.

(e) When a wire rope is placed around the structure in order to provide a safe anchorage for personal fall arrest systems used by employees erecting or dismantling scaffolds, the wire rope shall meet the requirements of Part C-1 of this chapter, but shall be at least 5/16 inch (0.8 cm) in diameter.

(f) Each wire rope used for securing brackets in place or as an anchorage for personal fall arrest systems shall be protected from damage due to contact with edges, corners, protrusions, or other discontinuities of the supporting structure or scaffold components.

(g) Tensioning of each wire rope used for securing brackets in place or as an anchorage for personal fall arrest systems shall be by means of a turnbuckle at least 1 inch (2.54 cm) in diameter, or by equivalent means.

(h) Each turnbuckle shall be connected to the other end of its rope by use of an eyesplice thimble of a size appropriate to the turnbuckle to which it is attached.

(i) U-bolt wire rope clips shall not be used on any wire rope used to secure brackets or to serve as an anchor for personal fall arrest systems.

(j) The employer shall ensure that materials shall not be dropped to the outside of the supporting structure.

(k) Scaffold erection shall progress in only one direction around any structure.

(25) "Stilts." Stilts, when used, shall be used in accordance with the following requirements:

(a) An employee may wear stilts on a scaffold only if it is a large area scaffold.

(b) When an employee is using stilts on a large area scaffold where a guardrail system is used to provide fall protection, the guardrail system shall be increased in height by an amount equal to the height of the stilts being used by the employee.

(c) Surfaces on which stilts are used shall be flat and free of pits, holes and obstructions, such as debris, as well as other tripping and falling hazards.

(d) Stilts shall be properly maintained. Any alteration of the original equipment shall be approved by the manufacturer.

AMENDATORY SECTION (Amending WSR 96-24-051, filed 11/27/96, effective 2/1/97)

**WAC 296-155-485** ((~~Scaffolding. (1) General requirements. Scaffolds shall be furnished and erected in accordance with this standard for persons engaged in work that cannot be done safely from the ground or from solid construction, except that ladders used for such work shall conform to Part J chapter 296-155 WAC.~~

~~(a) All rules for design, construction, maintenance, operation, testing, and use of scaffolds contained in Part J-1 chapter 296-24 WAC apply within the construction industry.~~

~~(b) Scaffolds shall be erected in accordance with requirements of this section.~~

~~(c) The footing or anchorage for scaffolds shall be sound, rigid, and capable of carrying the maximum intended load without settling or displacement. Unstable objects such as barrels, boxes, loose brick, or concrete blocks, shall not be used to support scaffolds or planks.~~

~~(d) No scaffold shall be erected, moved, dismantled, or altered except under the supervision of competent persons.~~

~~(e) Standard guardrails and toeboards shall be installed on all open sides and ends of platforms more than 10 feet above the ground or floor, except needle beam scaffolds and floats. Scaffolds 4 feet to 10 feet in height, having a minimum horizontal dimension in either direction of less than 45 inches, shall have standard guardrails and toeboards installed on all open sides and ends of the scaffold platform.~~

~~(f) Where persons are required to work or pass under the scaffold, scaffolds shall be provided with a screen between the toeboard and the guardrail, extending along the entire opening, consisting of No. 18 gauge U.S. Standard wire 1/2 inch mesh, or the equivalent.~~

~~(g) Scaffolds and their components shall be capable of supporting without failure at least 4 times the maximum intended load.~~

~~(h) Any scaffold including accessories such as braces, brackets, trusses, screw legs, ladders, etc. damaged or weakened from any cause shall be immediately repaired or replaced.~~

~~(i) All load carrying timber members of scaffold framing shall be a minimum of 1,500 fiber (stress grade) construction grade lumber. All dimensions are nominal sizes as provided in the American Lumber Standards, except that where rough sizes are noted, only rough or undressed lumber of the size specified will satisfy minimum requirements.~~

~~(j) All planking shall be scaffold grades, or equivalent, as recognized by approved grading rules for the species of wood used. The maximum permissible spans for 2 x 10 inch or wider planks shall be as shown in Table J-1.~~

~~(k) The maximum permissible span for 1 1/4 x 9 inch or wider plank of full thickness shall be 4 feet with medium duty loading of 50 p.s.f.~~

~~(l) Platforms shall be level. All planking or platforms shall be overlapped (minimum 12 inches), or secured from movement. The platform shall be a minimum of two 2 inch by 10 inch planks in width or a minimum of 18 inches.~~

~~(m) An access ladder or equivalent safe access shall be provided.~~

~~(n) Scaffold planks shall extend over their end supports not less than 6 inches nor more than 12 inches.~~

~~(o) The poles, legs, or uprights of scaffolds shall be plumb, and securely and rigidly braced to prevent swaying and displacement.~~

~~(p) Overhead protection shall be provided for persons on a scaffold exposed to overhead hazards.~~

~~(q) Slippery conditions on scaffolds shall be eliminated as soon as possible after they occur.~~

~~(r) Welding, burning, riveting, or open flame work shall not be performed on any staging suspended by means of fiber or synthetic rope unless suspended components are well insulated to protect against damaging contacts. Only treated or protected fiber or synthetic ropes shall be used for or near any work involving the use of corrosive substances or chemicals. Specific requirements for boatswain's chairs and float or ship scaffolds are contained in subsections (10) and (21) of this section.~~



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(s) Wire, synthetic, or fiber rope used for scaffold suspension shall be capable of supporting at least 6 times the rated load.

(t) The use of shore or lean-to scaffolds is prohibited.

(u) The height of freestanding scaffold towers shall not exceed four times the minimum base dimension.

(v) Factory built (laminated) scaffold planks meeting the requirements of wood scaffold planks may be substituted for wood scaffold planks.

(w) Materials being hoisted onto a scaffold shall have a tag line.

(x) Employees shall not work on scaffolds during storms or high winds.

(y) Tools, materials, and debris shall not be allowed to accumulate in quantities to cause a hazard.

(2) Wood pole scaffolds.

(a) Scaffold poles shall bear on a foundation of sufficient size and strength to spread the load from the pole over a sufficient area to prevent settlement. All poles shall be set plumb.

(b) Where wood poles are spliced, the ends shall be squared and the upper section shall rest squarely on the lower section. Wood splice plates shall be provided on at least two adjacent sides and shall be not less than 4 feet in length, overlapping the abutted ends equally, and have the same width and not less than the cross-sectional area of the pole. Splice plates or other materials of equivalent strength may be used.

(c) Independent pole scaffolds shall be set as near to the wall of the building as practicable.

(d) All pole scaffolds shall be securely guyed or tied to the building or structure. Where the height or length exceeds 25 feet, the scaffold shall be secured at intervals not greater than 25 feet vertically and horizontally.

(e) Putlogs or bearers shall be set with their greater dimension vertical, and long enough to project over the ledgers of the inner and outer rows of poles at least 3 inches for proper support.

(f) Every wooden putlog on single pole scaffolds shall be reinforced with a 3/16- x 2-inch steel strip, or equivalent, secured to its lower edge throughout its entire length.

(g) Ledgers shall be long enough to extend over two pole spaces. Ledgers shall not be spliced between the poles. Ledgers shall be reinforced by bearing blocks securely nailed to the side of the pole to form a support for the ledger.

(h) Diagonal bracing shall be provided to prevent the poles from moving in a direction parallel with the wall of the building, or from buckling

(i) Cross bracing shall be provided between the inner and outer sets of poles in independent pole scaffolds. The free ends of pole scaffolds shall be cross braced.

(j) Full diagonal face bracing shall be erected across the entire face of pole scaffolds in both directions. The braces shall be spliced only at the poles. The inner row of poles on medium and heavy duty scaffolds shall be braced in a similar manner.

(k) Platform planks shall be laid with their edges close together so the platform will be tight with no spaces through which tools or fragments of material can fall.

(l) Where planking is lapped, each plank shall lap its end supports at least 12 inches. Where the ends of planks abut each other to form a flush floor, the butt joint shall be at the centerline of a pole. The abutted ends shall rest on separate bearers. Intermediate beams shall be provided where necessary to prevent dislodgment of planks due to deflection, and the ends shall be secured to prevent their dislodgment.

(m) When a scaffold materially changes its direction, the platform planks shall be laid to prevent tipping. The planks that meet the corner putlog at an angle shall be laid first, extending over the diagonally placed putlog far enough to have a good safe bearing, but not far enough to involve any danger from tipping. The planking running in the opposite direction at an angle shall be laid so as to extend over and rest on the first layer of planking.

(n) When moving platforms to the next level, the old platform shall be left undisturbed until the new putlogs or bearers have been set in place, ready to receive the platform planks.

(o) All wood pole scaffolds 60 feet or less in height shall be constructed and erected in accordance with Tables J-2 to J-8. If they are over 60 feet in height, they shall be designed by a qualified engineer competent in this field, and shall be constructed and erected in accordance with such design. Design drawings shall be available at the jobsite.

(3) Tube and coupler scaffolds.

(a) A light duty tube and coupler scaffold shall have all posts, bearers, runners, and bracing of nominal 2 inch O.D. steel tubing. The posts shall be spaced no more than 6 feet apart by 10 feet along the length of the scaffold. Other structural metals when used must be designed to carry an equivalent load. No dissimilar metals shall be used together.

(b) A medium duty tube and coupler scaffold shall have all posts, runners, and bracing of nominal 2 inch O.D. steel tubing. Posts spaced not more than 6 feet apart by 8 feet along the length of the scaffold shall have bearers of nominal 2 1/2 inch O.D. steel tubing. Posts spaced not more than 5 feet apart by 8 feet along the length of the scaffold shall have bearers of nominal 2 inch O.D. steel tubing. Other structural metals, when used, must be designed to carry an equivalent load. No dissimilar metals shall be used together.

(c) A heavy duty tube and coupler scaffold shall have all posts, runners, and bracing of nominal 2 inch O.D. steel tubing, with the posts spaced not more than 6 feet by 6 feet 6 inches. Other structural metals, when used, must be designed to carry an equivalent load. No dissimilar metals shall be used together.

(d) Tube and coupler scaffolds shall be limited in heights and working levels to those permitted in Tables J-8, J-9 and J-10. Drawings and specifications of all tube and coupler scaffolds above the limitations in Tables J-8, J-9 and J-10 shall be designed by a qualified engineer competent in this field. Design drawings shall be available at the jobsite.

(e) All tube and coupler scaffolds shall be constructed and erected to support four times the maximum intended loads, as set forth in Tables J-8, J-9 and J-10, or as set forth in the specifications by a licensed professional engineer competent in this field.

(f) Posts shall be accurately spaced, erected on suitable bases, and maintained plumb.

(g) Runners shall be erected along the length of the scaffold, located on both the inside and the outside posts at even height. Runners shall be interlocked to the inside and

~~the outside posts at even heights. Runners shall be interlocked to form continuous lengths and coupled to each post. The bottom runners shall be located as close to the base as possible. Runners shall be placed not more than 6 feet 6 inches on centers. When tube and coupler guardrails and midrails are used on outside posts, they may be used in lieu of outside runners.~~

~~(h) Bearers shall be installed transversely between posts and shall be securely coupled to the posts with the inboard coupler bearing on the runner coupler. Where guardrails and midrails are required, no outboard runner is required.~~

~~(i) The length of the bearer shall exceed the post spacing of the width of the scaffold by the amount necessary to have full contact with the coupler. Bearers used to provide a cantilever support for use as brackets for light and medium duty scaffolds shall not carry more than two ten-inch planks unless knee braced.~~

~~(j) Bracing across the width of the scaffold shall be installed at the ends of the scaffold at least at every fourth level. Such bracing shall extend diagonally from the outer post or runner at this level upward to the inner post or runner at the next level.~~

~~(k) Longitudinal diagonal bracing shall be installed on the outer rows of poles at approximately forty degrees to fifty degrees angle from near the base of the first and last outer post upward to the top center of the scaffold. If the scaffold is long, the above diagonal bracing shall be repeated. On short but high runs, the diagonal bracing shall be installed at forty degrees to fifty degrees from the base of the first outer post to the last outer post alternating directions to the top of the scaffold. When conditions preclude the attachment of this bracing to the posts, it may be attached to the runners.~~

~~(l) When a scaffold exceeds either 30 feet horizontally or 26 feet vertically, the entire scaffold shall be tied to and securely braced against the building at intervals not to exceed 30 feet horizontally and 26 feet vertically.~~

~~(4) Fabricated tubular welded frame scaffolds.~~

~~(a) Metal tubular frame scaffolds, including accessories such as braces, brackets, trusses, screw legs, ladders, etc., shall safely support four times the maximum rated load. The maximum rated load shall not be exceeded.~~

~~(b) Spacing of panels or frames shall be consistent with the loads imposed.~~

~~(c) Scaffolds shall be properly braced by cross bracing or diagonal braces, or both, for securing vertical members together laterally, and the cross braces shall be of such length as will automatically square and aline vertical members so that the erected scaffold is always plumb, level, square, and rigid. All brace connections shall be made secure.~~

~~(d) Panel or frame legs shall be set on adjustable bases or plain bases placed on mud sills or other foundations adequate to support the maximum rated load.~~

~~(e) The panels or frames shall be placed one on top of the other with coupling or stacking pins to provide proper vertical alinement of the legs.~~

~~(f) Where uplift may occur, panels shall be locked together vertically by pins or equivalent method.~~

~~(g) To prevent movement, the scaffold shall be secured to the building or structure at intervals not to exceed 30 feet horizontally and 26 feet vertically.~~

~~(h) Maximum permissible spans or planking shall be in conformity with (1)(j) of this section.~~

~~(i) Fabricated tubular frame scaffolds over 125 feet in height above the base plates shall be designed by a registered professional engineer. Copies of the drawings and specifications shall be available at the jobsite.~~

~~(j) Guardrails, midrails, and toeboards shall be installed as required by subsection (1)(e) of this section. Wire mesh shall be provided between the toprail and toeboard when persons are working below.~~

~~(k) All fabricated tubular frame scaffolds shall be erected by competent and experienced personnel.~~

~~(l) All brackets shall be seated correctly with side brackets parallel to the frames and end brackets at ninety degrees to the frames. Brackets shall not be bent or twisted from normal position. Brackets (except mobile brackets designed to carry materials) are to be used as work platforms only and shall not be used for storage of material or equipment.~~

~~(m) Scaffold frames and their components manufactured by different companies shall not be intermixed unless they are compatible and the manufacturer has given written approval. The manufacturers letter of approval shall be available at the jobsite.~~

~~(n) Periodic inspections by the employer shall be made of all fabricated tubular frames and accessories. Any maintenance required shall be made before further use.~~

~~(5) Outrigger scaffolds, general.~~

~~(a) Outrigger beams shall extend not more than 6 feet beyond the face of the building. The inboard end of outrigger beams, measured from the fulcrum point to the inboard point of support, shall be not less than 1 1/2 times the outboard end in length. The beams shall rest on edge, the sides shall be plumb, and the edges shall be horizontal. The fulcrum point of the beam shall rest on a secure bearing at least 6 inches in each horizontal dimension. The beam shall be secured in place against movement and shall be securely braced at the fulcrum point against tipping.~~

~~(b) The inboard ends of outrigger beams shall be positively secured either by means of struts bearing against sills in contact with the overhead beams or ceiling, or by means of tension members secured to the floor joists underfoot, or by both if necessary, or by a securely fastened solid body counterweight. (Water in an open container or loose material in bags shall not be permitted.) The inboard ends of outrigger beams shall be secured against tipping and the entire supporting structure shall be securely braced in both directions to prevent any horizontal movement.~~

~~(c) Unless outrigger scaffolds are designed by a registered professional engineer competent in this field, they shall be constructed and erected in accordance with Table J-11. Outrigger scaffolds, designed by a registered professional engineer, shall be constructed and erected in accordance with such design. A copy of the drawings and specifications shall be available at the jobsite.~~

~~(d) Planking shall be laid tight and shall extend to within 3 inches of the building wall. Planking shall be secured to the beams.~~

~~(6) Masons' adjustable multiple-point suspension scaffolds.~~

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~~(a) The scaffold shall be capable of sustaining a working load of 50 pounds per square foot and shall not be loaded in excess of that figure.~~

~~(b) The scaffold shall be provided with hoisting machines that meet the requirements of Underwriters' Laboratories, Factory Mutual Engineering Corporation, or other agency or laboratory approved by the department of labor and industries.~~

~~(c) The platform shall be supported by wire ropes, capable of supporting at least 6 times the intended load, suspended from overhead outrigger beams.~~

~~(d) The scaffold outrigger beams shall consist of structural metal securely fastened or anchored to the frame or floor system of the building or structure.~~

~~(e) Each outrigger beam shall be equivalent in strength to at least a standard 7-inch, 15.3 pound steel I-beam, at least 15 feet long, and shall not project more than 6 feet 6 inches beyond the bearing point.~~

~~(f) Where the overhang exceeds 6 feet 6 inches, outrigger beams shall be composed of stronger beams or multiple beams and be installed under the supervision of a competent person.~~

~~(g) All outrigger beams shall be set and maintained with their webs in a vertical position.~~

~~(h) A stop bolt shall be placed at each end of every outrigger beam.~~

~~(i) The outrigger beam shall rest on suitable wood bearing blocks.~~

~~(j) The free end of the suspension wire ropes shall be equipped with proper size thimbles and secured by splicing or other equivalent means. The running ends shall be securely attached to the hoisting drum. At least four turns of wire rope shall remain on the drum when the platform is at ground level. The use of fiber rope is prohibited.~~

~~(k) Where a single outrigger beam is used, the steel shackles or clevises with which the wire ropes are attached to the outrigger beams shall be placed directly over the hoisting drums.~~

~~(l) The scaffold platform shall be equivalent in strength to at least 2 inch planking. (For maximum planking spans, see subsection (1)(j) of this section.)~~

~~(m) When employees are at work on the scaffold and an overhead hazard exists, overhead protection shall be provided on the scaffold, not more than 9 feet above the platform, consisting of 2 inch planking, or material of equivalent strength, laid tight, and extending not less than the width of the scaffold.~~

~~(n) Each scaffold shall be installed or relocated under the supervision of a competent person.~~

~~(o) When channel iron outrigger beams are used instead of I beams, they shall be securely fastened together with the flanges turned out.~~

~~(p) All parts of the scaffold, such as bolts, nuts, fittings, clamps, wire rope, outrigger beams and their fastenings shall be maintained in sound condition and shall be inspected before each installation and periodically thereafter. All parts shall be of the grade specified by the manufacturer.~~

~~(7) Two point suspension scaffolds.~~

~~(a) Two point suspension scaffold platforms shall be not less than 20 inches nor more than 36 inches wide overall. The platform shall be securely fastened to the hangers by U-bolts or by other equivalent means.~~

~~(b) The hangers of two point suspension scaffolds shall be made of wrought iron, mild steel, or other equivalent material, having a cross sectional area capable of sustaining 4 times the maximum rated load, and shall be designed with a support for guardrail, intermediate rail, and toeboard.~~

~~(c) When hoisting machines are used on two point suspension scaffolds, such machines shall be of a design tested and approved by Underwriters' Laboratories, Factory Mutual Engineering Corporation, or by an agency or laboratory approved by the department of labor and industries.~~

~~(d) The roof irons or hooks shall be of mild steel, or other equivalent material, of proper size and design, securely installed and anchored. The roof irons or hooks and any other devices shall have tiebacks of 3/4 inch manila rope, or the equivalent, to serve as a secondary means of anchorage, installed at right angles to the face of the building, whenever possible, and secured to a structurally sound portion of the building.~~

~~(e) Two point suspension scaffolds shall be suspended by wire, synthetic or fiber ropes capable of supporting at least 6 times the rated load. All other components shall be capable of supporting at least four times the rated load.~~

~~(f) The sheaves of all blocks, consisting of at least one double and one single block, shall fit the size and type of rope used and shall be a minimum of six inches in diameter.~~

~~(g) All wire ropes, fiber and synthetic ropes, slings, hangers, platforms, and other supporting parts shall be inspected before every installation. Periodic inspections shall be made while the scaffold is in use.~~

~~(h) On suspension scaffolds designed for a working load of 500 pounds, no more than two persons shall be permitted to work at one time. On suspension scaffolds with a working load of 750 pounds, no more than three persons shall be permitted to work at one time. On suspension scaffolds with a working load of 1,000 pounds, no more than four persons shall be permitted to work at one time. Each employee shall be protected by an approved full body harness attached to a dropline. The droplines shall be securely attached to substantial members of the structure (not scaffold), or to securely rigged lines, which will safely suspend the employee in case of a fall. In order to keep the dropline continuously attached, with a minimum of slack, to a fixed structure, the attachment point of the dropline shall be appropriately changed as the work progresses.~~

~~(i) When a multi tiered two point suspension scaffold is used, it shall be provided with safety droplines that attach to each end of the scaffold through an approved quick acting safety device, in case either or both of the main suspension lines should break. The lanyard of the full body harness shall be tied off to a substantial member of the scaffold itself or to a horizontal lifeline attached to each end of the scaffold or a sliding device on the horizontal lifeline. The two additional safety droplines shall be individually suspended from roof irons, hooks, or other approved devices and shall be near the suspension droplines to prevent unnecessary side impact. The safety dropline shall have a 6 to 1 safety factor. Such scaffolds shall be designed by a licensed professional engineer and a copy of the drawings and specifications shall be available at the jobsite.~~

~~(j) Two point suspension scaffolds shall be securely lashed to the building or structure to prevent the scaffolds~~

from swaying. Window cleaners' anchors shall not be used for this purpose.

(k) The platform of every two-point suspension scaffold shall be one of the following types:

(i) Ladder type platforms. The side stringer shall be of clear straight grained spruce or materials of equivalent strength and durability. The rungs shall be of straight grained oak, ash, or hickory, at least 1 1/8 inch in diameter, with 7/8 inch tenons mortised into the side stringers at least 7/8 inch. The stringers shall be tied together with the tie rods not less than one quarter inch in diameter, passing through the stringers and riveted up tight against washers on both ends. The flooring strips shall be spaced not more than five eighths inch apart except at the side rails where the space may be 1 inch. Ladder type platforms shall be constructed in accordance with Table J 12.

(ii) Plank type platforms. Plank type platforms shall be composed of not less than two nominal 2 x 10 inch unspliced planks, properly cleated together on the underside, starting 6 inches from each end; intervals in between shall not exceed 4 feet. The plank type platform shall not extend beyond the hangers more than 12 inches. A bar or other effective means shall be securely fastened to the platform at each end to prevent its slipping off the hanger. The span between hangers for plank type platforms shall not exceed 8 feet.

(iii) Beam type platforms. Beam platforms shall have side stringers of lumber not less than 2 x 6 inches set on edge. The span between hangers shall not exceed 12 feet when beam platforms are used. The flooring shall be supported on 2 x 6 inch cross beams, laid flat and set into the upper edge of the stringers with a snug fit, at intervals of not more than 4 feet, securely nailed in place. The flooring shall be of 1 x 6 inch material properly nailed. Floor boards shall not be spaced more than one half inch apart.

(iv) Light metal type platforms, when used, shall be tested and listed according to Underwriters' Laboratories, Factory Mutual Engineering Corporation, or the department of labor and industries.

(l) In addition to the normal operating brake, all power driven units shall have an emergency brake which engages automatically when the normal speed of descent is exceeded.

(m) When acid solutions are used, natural or synthetic fiber rope shall not be used.

(n) Every swinging scaffold shall be tested before using by raising the platform one foot from the ground and loading it with at least four times the maximum weight to be imposed when aloft.

(8) Stone setters' adjustable multiple point suspension scaffolds.

(a) The scaffold shall be capable of sustaining a working load of 25 pounds per square foot and shall not be overloaded. Scaffolds shall not be used for storage of stone or other heavy materials.

(b) When used, the hoisting machine and its supports shall be of a type tested and listed by Underwriters' Laboratories, Factory Mutual Engineering Corporation or the department of labor and industries.

(c) The platform shall be securely fastened to the hangers by U bolts or other equivalent means. (For materials and spans, see item (ii) of subsection (7)(k), Plank type Platforms and Table J 12 of this section.)

(d) The scaffold unit shall be suspended from metal outriggers, iron brackets, wire rope slings, or iron hooks.

(e) Outriggers, when used, shall be set with their webs in a vertical position, securely anchored to the building or structure and provided with stop bolts at each end.

(f) The scaffold shall be supported by wire rope capable of supporting at least 6 times the rated load. All other components shall be capable of supporting at least 4 times the rated load.

(g) The free ends of the suspension wire ropes shall be equipped with proper size thimbles, secured by splicing or other equivalent means. The running ends shall be securely attached to the hoisting drum and at least four turns of wire rope shall remain on the drum at all times.

(h) When two or more scaffolds are used on a building or structure, they shall not be bridged one to the other; but shall be maintained at even height with platforms abutting closely.

(i) In addition to the normal operating brake, all power driven units shall have an emergency brake which engages automatically when the normal speed of descent is exceeded.

(j) Each scaffold shall be installed or relocated in accordance with approved designs and instructions under the supervision of a competent designated person.

(k) Where additional working levels are required to be supported, the plans and specifications of the support and scaffold components shall be designed by a licensed professional engineer. These plans and specifications shall be available at the site.

(9) Single point adjustable suspension scaffolds.

(a) The scaffolding, including power units or manually operated winches, shall be of a type tested and listed by Underwriters' Laboratories, Factory Mutual Engineering Corporation or the department of labor and industries.

(b) The power units may be either electrically or air motor driven.

(c) All power operated gears and brakes shall be enclosed.

(d) In addition to the normal operating brake, all power driven units shall have an emergency brake which engages automatically when the normal speed of descent is exceeded.

(e) The hoisting machines, cables, and equipment shall be regularly serviced and inspected.

(f) The units may be combined to form a two point suspension scaffold. Such scaffold shall comply with subsection (7) of this section.

(g) When the supporting wire rope is not plumb for its entire length, supports shall be designed to sustain any additional load or stress upon the line.

(h) Suspension methods and employee safeguards shall conform to the provisions of subsections (6) and (7) of this section.

(i) For additional details not covered in this subsection applicable technical portions of American National Standards Institute, A120.1 1970, Power Operated Devices for Exterior Building Maintenance Powered Platforms, shall be used.

(10) Boatswain's chairs.

(a) The chair seat shall not be less than 12 x 24 inches, and 1 inch thick. The seat shall be reinforced on the underside by cleats securely fastened to prevent the board from splitting. Specially designed seats having dimensions other than those specified in this subsection may be used

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~~provided they have been designed and tested (with a safety factor of four) to sustain a load of two hundred fifty pounds.~~

~~(b) The two fiber rope seat slings shall be of 5/8 inch diameter, reeved through the four seat holes so as to cross each other on the underside of the seat.~~

~~(c) Seat slings shall be of at least 3/8 inch wire rope when an employee is conducting a heat producing process, such as gas welding.~~

~~(d) The employee shall be protected by a full body harness and lifeline in accordance with chapter 296-155 WAC, Part C-1. The attachment point of the lifeline to the structure shall be appropriately changed as the work progresses.~~

~~(e) The tackle shall consist of correct size ball bearing or bushed blocks and properly spliced 5/8 inch diameter first grade manila rope, or equivalent.~~

~~(f) The roof irons, hooks, or the object to which the tackle is anchored, shall be securely installed. Tiebacks, when used, shall be installed at right angles to the face of the building and securely fastened.~~

~~(g) The scaffolding, including power units shall be of tested design.~~

~~(h) All power operated gears and brakes shall be enclosed.~~

~~(i) In addition to the normal operating brake, all power driven units shall have an emergency brake which engages automatically when the normal speed of descent is exceeded.~~

~~(11) Carpenters' bracket scaffolds.~~

~~(a) The brackets shall consist of a triangular wood frame not less than 2 x 3 inches in cross section, or of metal of equivalent strength. Each member shall be properly fitted and securely joined.~~

~~(b) Each bracket shall be attached to the structure by means of one of the following:~~

~~(i) A bolt, no less than 5/8 inch in diameter, which shall extend through to the inside of the building wall;~~

~~(ii) A metal stud attachment device;~~

~~(iii) Welding to steel tanks;~~

~~(iv) Hooking over a well secured and adequately strong supporting member.~~

~~(c) The brackets shall be spaced no more than 8 feet apart.~~

~~(d) No more than two employees shall occupy any given 8 feet of a bracket scaffold at any one time. Tools and materials shall not exceed 75 pounds in addition to the occupancy.~~

~~(e) The platform shall consist of not less than two 2 x 10 inch planks extending not more than 12 inches or less than 6 inches beyond each end support. Fabricated planking may be used if properly engineered and tested.~~

~~(12) Bricklayers' square scaffolds.~~

~~(a) The squares shall not exceed 5 feet in width and 5 feet in height.~~

~~(b) Members shall be not less than those specified in Table J-13.~~

~~(c) The squares shall be reinforced on both sides of each corner with 1 x 6 inch gusset pieces. They shall also have diagonal braces 1 x 8 inches on both sides running from center to center of each member, or other means to secure equivalent strength and rigidity.~~

~~(d) The squares shall be set not more than 5 feet apart for medium duty scaffolds, and not more than 8 feet apart for light duty scaffolds. Bracing, 1 x 8 inches, extending from the bottom of each square to the top of the next square, shall be provided on both front and rear sides of the scaffold.~~

~~(e) Platform planks shall be at least 2 x 10 inch. The ends of the planks shall overlap the bearers of the squares and each plank shall be supported by not less than three squares. Fabricated planking may be used if properly engineered and tested.~~

~~(f) Bricklayers' square scaffolds shall not exceed three tiers in height and shall be so constructed and arranged that one square shall rest directly above the other. The upper tiers shall stand on a continuous row of planks laid across the next lower tier and be nailed down or otherwise secured to prevent displacement.~~

~~(g) Scaffolds shall be level and set upon a firm foundation.~~

~~(13) Horse scaffolds.~~

~~(a) Horse scaffolds shall not be constructed or arranged more than two tiers or 10 feet in height.~~

~~(b) The members of the horses shall be not less than those specified in Table J-14.~~

~~(c) Horses shall be spaced not more than 5 feet for medium duty and not more than 8 feet for light duty.~~

~~(d) When arranged in tiers, each horse shall be placed directly over the horse in the tier below.~~

~~(e) On all scaffolds arranged in tiers, the legs shall be nailed down or otherwise secured to the planks to prevent displacement or thrust and each tier shall be substantially cross braced.~~

~~(f) Horses or parts which have become weak or defective shall not be used.~~

~~(14) Needle beam scaffold.~~

~~(a) Wood needle beams shall be not less than 4 x 6 inches in size, with the greater dimension placed in a vertical direction. Metal beams or the equivalent, conforming to subsections (1)(h) and (j) of this section, may be used and shall not be altered or moved horizontally while they are in use.~~

~~(b) Ropes or hangers shall be provided for supports. The span between supports on the needle beam shall not exceed 10 feet for 4 x 6 inch timbers. Rope supports shall be equivalent in strength to 1 inch diameter first grade manila rope.~~

~~(c) The ropes shall be attached to the needle beams by a scaffold hitch or a properly made eye splice. The loose end of the rope shall be tied by a bowline knot or by a round turn and a half hitch.~~

~~(d) The scaffold hitch shall be arranged so as to prevent the needle beam from rolling or becoming otherwise displaced.~~

~~(e) The platform span between the needle beams shall not exceed 8 feet when using 2 inch scaffold plank. For spans greater than 8 feet, platforms shall be designed based on design requirements for the special span. The overhang of each end of the platform planks shall be not less than 6 inches and not more than 12 inches.~~

~~(f) When needle beam scaffolds are used, the planks shall be secured against slipping.~~

~~(g) All unattached tools, bolts, and nuts used on needle beam scaffolds shall be kept in suitable containers, properly secured.~~

(h) One end of a needle beam scaffold may be supported by a permanent structural member conforming to subsections (1)(h) and (j) of this section.

(i) Each employee working on a needle beam scaffold shall be protected by a full body harness and lifeline in accordance with chapter 296-155 WAC, Part C-1.

(15) Plasterers', decorators', and large area scaffolds.

(a) Plasters', lathers', and ceiling workers' inside scaffolds shall be constructed in accordance with the general requirements set forth for independent wood pole scaffolds. (See subsection (2) of this section and Tables J-5, J-6 and J-7.)

(b) All platform planks shall be laid with the edges close together.

(c) When independent pole scaffold platforms are erected in sections, such sections shall be provided with connecting runways equipped with substantial guardrails.

(16) Interior hung scaffolds.

(a) An interior hung scaffold shall be hung or suspended from the roof structure or ceiling beams.

(b) The suspending wire or fiber rope shall be capable of supporting at least 6 times the rated load. The rope shall be wrapped at least twice around the supporting members and twice around the bearers of the scaffold, with each end of the wire rope secured by at least three standard wire rope clips properly installed.

(c) For hanging wood scaffolds, the following minimum nominal size material shall be used:

(i) Supporting bearers 2 x 10 inches on edge;

(ii) Planking 2 x 10 inches, with maximum span 7 feet for heavy duty and 10 feet for light duty or medium duty.

(d) Steel tube and coupler members may be used for hanging scaffolds with both types of scaffold designed to sustain a uniform distributed working load up to heavy duty scaffold loads with a safety factor of four.

(e) All overhead supporting members shall be inspected and have required strength assured before the scaffold is erected.

(17) Ladder jack scaffolds.

(a) All ladder jack scaffolds shall be limited to light duty and shall not exceed a height of 20 feet above the floor or ground.

(b) All ladders used in connection with ladder jack scaffolds shall be Type I heavy duty ladders and shall be designed and constructed in accordance with American National Standards Institute A14.1-1982, Safety Code for Portable Wood Ladders, and A14.2-1982, Safety Code for Portable Metal Ladders. Cleated ladders shall not be used for this purpose.

(c) The ladder jack shall be so designed and constructed that it will bear on the side rails in addition to the ladder rungs, or if bearing on rungs only, the bearing area shall be at least 10 inches on each rung.

(d) Ladders used in conjunction with ladder jacks shall be so placed, fastened, held, or equipped with devices so as to prevent slipping.

(e) The wood platform planks shall be not less than 2 inches in thickness. Both metal and wood platform planks shall overlap the bearing surface not less than 12 inches and shall be secured to prevent movement. The span between supports for wood shall not exceed 8 feet. Platform width shall be not less than 18 inches.

(f) No more than two persons shall be within any 8 feet section of any ladder jack scaffold at any one time. When the use of standard guardrails as required by subsection (1)(c) of this section is impractical, full body harnesses and lifelines shall be used in accordance with chapter 296-155 WAC, Part C-1.

(18) Window jack scaffolds.

(a) Window jack scaffolds shall be used only for the purpose of working at the window opening through which the jack is placed.

(b) Window jacks shall not be used to support planks placed between one window jack and another or for other elements of scaffolding.

(c) Window jack scaffolds shall be provided with guardrails unless full body harnesses with lifelines are attached and used by the employee.

(d) Not more than one employee shall occupy a window jack scaffold at any one time.

(e) Window jacks shall be designed and constructed so as to provide a secure anchorage on the window opening and be capable of supporting the design load.

(19) Roofing brackets.

All roofing brackets must be installed and used in accordance with the requirements of chapter 296-155 WAC, Part K.

(20) Crawling boards or chicken ladders.

All crawling boards or chicken ladders shall be installed and used in accordance with the requirements of WAC 296-155-50503(3).

(21) Float or ship scaffolds.

(a) Float or ship scaffolds shall not be used to support more than three persons and a few light tools, such as those needed for riveting, bolting, and welding. They shall be constructed as designed in subdivisions (b) through (f) of this subsection, unless substitute designs and materials provide equivalent strength, stability, and safety.

(b) The platform shall be not less than 3 feet wide and 6 feet long, made of 3/4 inch plywood, equivalent to American Plywood Association Grade B-B, Group I, Exterior, or other similar material.

(c) Under the platform, there shall be two supporting bearers made from 2 - x 4 inch, or 1 - x 10 inch rough, "selected lumber," or better. They shall be free of knots or other flaws and project 6 inches beyond the platform on both sides. The ends of the platform shall extend 6 inches beyond the outer edges of the bearers. Each bearer shall be securely fastened to the platform.

(d) An edging of wood not less than 3/4 x 1 1/2 inches or equivalent shall be placed around all sides of the platform to prevent tools from rolling off.

(e) Supporting ropes shall be 1 inch diameter manila rope or equivalent, free from deterioration, chemical damage, flaws, or other imperfections and shall be well insulated to protect against damaging contacts of arcs, flames, or other mechanical objects. Rope connections shall be such that the platform cannot shift or slip. If two ropes are used with each float, they shall be arranged so as to provide four ends which are to be securely fastened to an overhead support. Each of the two supporting ropes shall be hitched around one end of bearer and pass under the platforms to the other end of the bearer where it is hitched again, leaving sufficient rope at each end for the supporting ties.

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~~(f) Each employee shall be protected by an approved safety lifebelt or harness and lifeline, in accordance with chapter 296-155 WAC, Part C-1.~~

~~(22) Form scaffolds.~~

~~(a) Form scaffolds shall be constructed of wood or other suitable materials, such as steel or aluminum members of known strength characteristics. All scaffolds shall be designed and erected with a minimum safety factor of 4, computed on the basis of the maximum rated load.~~

~~(b) All scaffold planking shall be a minimum of 2 - x 10 inch nominal scaffold grade, as recognized by approved grading rules for the species of lumber used, or equivalent material. Maximum permissible spans shall not exceed 8 feet on centers for 2 - x 10 inch nominal planking. Scaffold planks shall be either nailed or bolted to the ledgers or of such length that they overlap the ledgers at least 6 inches. Unsupported projecting ends of scaffolding planks shall be limited to a maximum overhang of 12 inches.~~

~~(c) Scaffolds shall not be loaded in excess of the working load for which they were designed.~~

~~(d) Figure four form scaffolds:~~

~~(i) Figure four scaffolds are intended for light duty and shall not be used to support loads exceeding 25 pounds per square foot unless specifically designed for heavier loading. For minimum design criteria, see Table J-15.~~

~~(ii) Figure four form scaffold frames shall be spaced not more than 8 feet on centers and constructed from sound lumber, as follows: The outrigger ledger shall consist of two pieces of 1 - x 6 inch or heavier material nailed on opposite sides of the vertical form support. Ledgers shall project not more than 3 feet 6 inches from the outside of the form support and shall be substantially braced and secured to prevent tipping or turning. The knee or angle brace shall intersect the ledger at least 3 feet from the form at an angle of approximately 45°, and the lower end shall be nailed to a vertical support. The platform shall consist of two or more 2 - x 10 inch planks, which shall be of such length that they extend at least 6 inches beyond ledgers at each end unless secured to the ledgers. When planks are secured to the ledgers (nailed or bolted), a wood filler strip shall be used between the ledgers. Unsupported projecting ends of planks shall be limited to an overhang of 12 inches.~~

~~(e) Metal bracket form scaffolds:~~

~~(i) Metal brackets or scaffold jacks which are an integral part of the form shall be securely bolted or welded to the form. Folding type brackets shall be either bolted or secured with a locking type pin when extended for use.~~

~~(ii) "Clip-on" or "hook-over" brackets may be used, provided the form walers are bolted to the form or secured by snap ties or shea bolt extending through the form and securely anchored.~~

~~(iii) Metal brackets shall be spaced not more than 8 feet on centers.~~

~~(iv) Scaffold planks shall be either bolted to the metal brackets or of such length that they overlap the brackets at each end by at least 6 inches. Unsupported projecting ends of scaffold planks shall be limited to a maximum overhang of 12 inches.~~

~~(v) Metal bracket form scaffolds shall be equipped with wood guardrails, intermediate rails, toeboards, and scaffold planks meeting the minimum dimensions shown in Table J-16. (Metal may be substituted for wood, providing it affords equivalent or greater design strength.)~~

~~(f) Wooden bracket form scaffolds:~~

~~(i) Wooden bracket form scaffolds shall be an integral part of the form panel. The minimum design criteria set forth herein and in Table J-17 cover scaffolding intended for light duty and shall not be used to support loads exceeding 25 pounds per square foot, unless specifically designed for heavier loading.~~

~~(ii) Scaffold planks shall be either nailed or bolted to the ledgers or of such length that they overlap the ledgers at each end by at least 6 inches. Unsupported projecting ends of scaffold planks shall be limited to a maximum overhang of 12 inches.~~

~~(23) Pump jack scaffolds.~~

~~(a) Pump jack scaffolds shall:~~

~~(i) Not carry a working load exceeding 500 pounds;~~

~~(ii) Be capable of supporting without failure at least four times the maximum intended load; and~~

~~(iii) Shall not have components loaded in excess of the manufacturer's recommended limits.~~

~~(b) Pump jack brackets, braces, and accessories shall be fabricated from metal plates and angles. Each pump jack bracket shall have two positive gripping mechanisms to prevent any failure or slippage.~~

~~(c) The platform bracket shall be fully decked and the planking secured. Planking, or equivalent, shall conform with subsection (1) of this section.~~

~~(d)(i) When wood scaffold planks are used as platforms, poles used for pump jacks shall not be spaced more than 10 feet center to center. When fabricated platforms are used that fully comply with all other provisions of this subsection, pole spacing may exceed 10 feet center to center.~~

~~(ii) Poles shall not exceed 30 feet in height.~~

~~(iii) Poles shall be secured to the work wall by rigid triangular bracing, or equivalent, at the bottom, top, and other points as necessary, to provide a maximum vertical spacing of not more than 10 feet between braces. Each brace shall be capable of supporting a minimum of 225 pounds tension or compression.~~

~~(iv) For the pump jack bracket to pass bracing already installed, an extra brace shall be used approximately 4 feet above the one to be passed until the original brace is reinstalled.~~

~~(e) All poles shall bear on mud sills or other adequate firm foundations.~~

~~(f) Pole lumber shall be two 2 x 4's, of Douglas fir or equivalent, straight grained, clear, free of cross grain, shakes, large loose or dead knots, and other defects which might impair strength.~~

~~(g) When poles are constructed of two continuous lengths, they shall be two by fours, spiked together with the seam parallel to the bracket, and with 10d common nails, no more than 12 inches center to center, staggered uniformly from opposite outside edges.~~

~~(h) If two by fours are spliced to make up the pole, the splices shall be so constructed as to develop the full strength of the member. Three eighths inch or one half inch exterior grade plywood shall be used for a spacer between the two by fours. The joints for the splices shall be staggered on opposite sides of the pole at least four feet apart. Joints shall be no less than four feet from either end of the pole.~~

~~(i) A ladder, in accordance with WAC 296-155-480, shall be provided for access to the platform during use.~~

~~(j) Not more than two persons shall be permitted at one time upon a pump jack scaffold between any two supports.~~

~~(k) Pump jack scaffolds shall be provided with standard guardrails, unless full body harnesses with lifelines are used by employees.~~

~~(l) When a work bench is used at an approximate height of 42 inches, the top guardrail may be eliminated, if the work bench is fully decked, the planking secured, and is capable of withstanding 200 pounds pressure in any direction.~~

~~(m) Employees shall not be permitted to use a work bench as a scaffold platform.~~

~~(24) Factory built scaffold units. Factory built or prefabricated scaffold units intended for assembly on the job, prefabricated plank, staging, etc., mechanical hoisting units, or other devices for use on or in connection with any type scaffolds, shall be approved by an agency or laboratory approved by the department before being used.~~

~~(25) Waler bracket scaffolds.~~

~~(a) Waler brackets shall be constructed of 1 5/8" x 1 1/2" x 3/16" angle iron minimum size, or material of equivalent strength.~~

~~(b) All steel connections shall be welded and riveted or bolted, except where detrimental to strength of materials.~~

~~(c) The maximum length of horizontal leg shall not be more than 36" between bracket hook and railing standard.~~

~~(d) A 4" x 4" x 3/16" gusset plate shall be securely welded at inside of leg angle.~~

~~(e) Nailing holes shall be provided in lower end of vertical leg for purpose of securing bracket against lifting or shifting.~~

~~(f) Waler hook or hooks shall be a minimum of 4 inch depth and be constructed of material of a strength to support a minimum of 400 pounds at extreme outer end of bracket.~~

~~(26) Chimney, stack and tank bracket scaffolds.~~

~~(a) General. A chimney, stack or tank bracket scaffold shall be composed of a platform supported by brackets which are hooked over a steel cable which surrounds the circumference of the chimney, stack or tank approximately in a horizontal plane. The platform shall be not less than two 2 x 10 inch planks. For a minimum width of eighteen inches wide and be designed with a safety factor of not less than 4.~~

~~(b) All brackets shall have a mild steel suspension hook 2 inches by 1/4 inch with at least 3 inches projecting beyond the throat of the hook. Hooks shall be integral with or securely attached to the bracket.~~

~~(c) Wood spacer blocks shall be provided to hold the suspending cable away from the structure at the points where brackets are hooked on. These spacer blocks shall be not less than 2 inches by 4 inches by 12 inches.~~

~~(d) All suspending cables shall be improved plow steel 6 x 19 wire rope or equivalent. In no case shall less than 1/2 inch diameter wire rope be used.~~

~~(e) The turnbuckle used to tighten suspending cables shall be not less than 1 inch drop forged steel. The cables shall be provided with thimbles and not less than 3 U-bolt type clips at each end and be attached to the turnbuckles by means of shackles. Open hooks shall not be used.~~

~~(f) All chimney, stack and tank bracket scaffolds shall be provided with standard guard rails, intermediate rails and toeboards.~~

~~(g) For access to a chimney, stack or tank bracket scaffold, ladders or a boatswain's chair shall be used.~~

~~(h) All chimney, stack or tank brackets for scaffolds shall be welded and riveted or bolted.~~

~~(27) Scaffold platforms supported by catenary or stretch cables.~~

~~(a) When a scaffold platform is supported by cables at least 4 cables shall be used, two near each end of the scaffold.~~

~~(b) The cables shall be attached to the scaffold by means of U bolts or the equivalent through which the cables pass.~~

~~(c) Cables shall not be tightened beyond their safe working load. A hanger or set of falls shall be used approximately every 50 feet to pick up the sag in the cable.~~))

Reserved.

NEW SECTION

**WAC 296-155-487 Manually propelled elevating work platforms.** (1) All applicable rules for design, construction, maintenance, operation, testing and use of manually propelled elevating work platforms shall be in accordance with ANSI A92.3-1990.

(2) General requirements.

(a) Any manually propelled elevating work platform, when raised to its maximum working height, on level ground, shall be capable of sustaining, without reaching instability, a minimum horizontal test force of fifty pounds or fifteen percent of the rated capacity, whichever is greater, applied to any point on the perimeter of the platform while the platform is carrying the rated work load.

(b) Any manually propelled elevating work platform, unless designed for such use by the manufacturer, shall not be used on an inclined surface.

(c) Any work platform designed by the manufacturer to be operated on an inclined surface shall also be capable of passing the stability tests outlined in (a) of this subsection while on such a surface. Procedures for maintaining stability shall be clearly outlined in the special warnings section of the operating instructions and users shall follow these instructions.

(d) If outriggers or stabilizers must be employed to meet the tests for stability outlined in (a) of this subsection, the operating instructions shall require their use and such outriggers or stabilizers shall be provided and used.

(e) The platform width shall not be less than eighteen inches and shall be provided with a surface to minimize slipping.

(f) The platform shall be provided with a guardrail or other structure around its upper periphery and the guardrail shall be approximately forty-two inches high, plus or minus three inches, with a midrail approximately midway between the top rail and the platform surface.

(i) The guardrail system shall be designed and constructed to withstand a load of twenty-five pounds per linear foot applied in a horizontal direction to the top rail or midrail.

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(ii) The top rail or midrail shall withstand a concentrated load of three hundred pounds applied vertically to the top of either rail midway between the supporting posts.

(iii) Guardrail terminal posts shall withstand two hundred pounds applied in any direction at the top of the post.

(g) The platform shall be provided with four-inch (nominal dimension) toeboards on all sides.

(h) Toeboards may be omitted at the access openings.

(i) The configuration of the work platform shall include access for personnel to use in reaching the platform deck when it is in the lowered position.

(i) Any access system used in this way shall have rungs or steps located on uniform centers not to exceed sixteen inches.

(ii) Steps or rungs shall be provided with a face that minimizes slipping.

(3) Safety factor specifications.

(a) Where the platform is supporting its rated work load by a system of wire ropes or chains, or both, the safety factor of the wire rope or chain shall not be less than eight to one, based on ultimate strength.

(b) All critical components of a hydraulic or pneumatic system used in a work platform shall have a bursting strength that exceeds the pressure attained when the system is subjected to the equivalent of four times the rated work load. (Critical components are those in which failure would result in a free descent.)

(c) All noncritical hydraulic components shall have a bursting strength safety factor of at least two to one.

(4) Fail safe requirements.

(a) Where the elevation of the platform is accomplished by an electromechanical assembly, the system shall be designed to prevent free descent in the event of a generator or power failure.

(b) Where the elevation of the platform is accomplished by a hydraulic or pneumatic cylinder assembly, the system shall be so equipped as to prevent free descent in the event of failure of a hydraulic or pneumatic line.

(c) Where the platform is horizontally extendable beyond the base of the machine, the system shall be so equipped as to prevent descent in the event of failure of a hydraulic or pneumatic line, wire rope, or chain.

(d) Where the elevation of the platform is accomplished by a single hoist cable, the system shall be protected by a broken-cable safety device which will prevent free descent of the platform.

(e) Where the elevation of the platform is accomplished by a manual-mechanical or manual-hydraulic assembly, the considerations established above shall apply.

(f) The control system shall be designed so that a single malfunction in the control system will not result in unintended machine motion.

(g) Hydraulically or pneumatically actuated outriggers or stabilizers, or both, shall be so constructed as to prevent their retraction in the event of failure of a hydraulic or pneumatic line.

(5) Emergency lowering means. Any work platform equipped with a powered elevating assembly shall be supplied with clearly marked emergency lowering means readily accessible from ground or floor level.

(6) Guarding. Mechanical power transmission apparatus shall be guarded in accordance with WAC 296-24-205, General safety and health standards.

(7) Directional controls.

(a) All directional controls shall be marked for the direction they control and shall be of the type which automatically returns to the "off" or the neutral position when released.

(b) Controls shall be protected against inadvertent operation.

(8) Motor requirements.

(a) Fuel lines of internal-combustion-engine-powered work platforms shall be supported to minimize chafing and positioned to minimize exposure to engine exhaust heat. Liquid fuel lines shall be hard lines except where isolation from vibration requires a flexible connection.

(b) LP-gas engine fuel systems shall comply with the American National Standard for Storage and Handling of Liquified Petroleum Gases, ANSI/NFPA 58-1995.

(c) The exhaust system shall be provided with a muffler that is positioned to minimize exposure to noise and exhaust gas of the operators and personnel located in proximity to the unit.

(9) Prevention of lateral movement. Each work platform shall be provided with locking screws, floor locks, wheel-locking mechanisms, or other means of preventing unintended lateral motions while in use.

(10) Specifications display. The following information shall be displayed on all work platforms in as permanent and as visible a manner as practical:

(a) Warnings, cautions, or restrictions for safe operation in accordance with American National Standard Specifications for Accident Prevention Signs, ANSI Z535.2-1991.

(b) Make, model, serial number, and manufacturer's name and address.

(c) Rated work load.

(d) Maximum platform height.

(e) Nominal voltage rating of batteries or rated voltage of AC line.

(f) Statement of the need for the operator's familiarity with the work platform before it is used.

(11) Alternative configuration statement. When a work platform is designed with alternative configurations:

(a) The manufacturer shall clearly describe these alternatives, including the rated capacity in each situation.

(b) If the rated work load of a platform is the same in any designed configuration, these additional descriptions are not necessary.

(12) Insulation marking. A statement of whether or not the work platform is electrically insulated. If insulated, the level of protection and the applicable test standard shall be stated in accordance with ANSI A92.2-1990.

(13) Maintenance and operating manuals requirement. An operating and maintenance manual(s) shall be provided with each work platform and shall contain:

(a) Descriptions, specifications, and ratings of the work platform, including the data specified in subsection (10) of this section.

(b) The maximum hydraulic and pneumatic systems pressure and the maximum voltage of the electrical systems which are part of the work platform.

(c) Instructions regarding operation and maintenance.

(d) Replacement part(s) information.

(14) Rated load display. The rated work load shall be clearly displayed at each entrance to the work platform.

(15) Management responsibilities.

(a) Employers responsibilities shall be in accordance with ANSI A92.3-1990.

(b) Only trained and authorized personnel shall be permitted to operate the work platform.

(c) Work platforms that are not in safe operating condition shall be removed from service until repaired.

(d) Repairs shall be made by a qualified person in conformance with the manufacturer's operating and maintenance manuals.

(e) Operators shall be trained in care and use before operation, care and use during operation, horizontal relocation, and additional requirements as specified in ANSI A92.3-1990.

(f) Modifications or alterations of work platforms shall be made only with written permission of the manufacturer or any other equivalent entity.

NEW SECTION

**WAC 296-155-488 Self propelled elevating work platforms.** (1) All applicable rules for design, construction, maintenance, operation, testing and use of self propelled elevating work platforms shall be in accordance with ANSI A92.6-1990.

(2) Minimum rated work load.

(a) The minimum rated work load of work platforms shall not be less than two hundred fifty pounds.

(b) All structural load-supporting elements of the work platform shall have a structural safety factor of not less than two based on the minimum yield strength of the material.

(c) All structural load-supporting elements of the work platform that are made of nonductile material (such as cast iron and fiberglass) shall have a structural safety factor of not less than five based on the minimum ultimate strength of the material.

(d) Design and stability tests shall be in accordance with ANSI A92.6-1990.

(e) Each production unit on level ground shall sustain a load test with a platform load at least one hundred fifty percent of the rated capacity imposed. The test shall include the movement of the platform through its entire range of motion.

(3) Driving interlock.

(a) The unit shall use interlock means that will prevent driving the unit unless the platform height, platform configuration, or any combination of these, are adjusted to meet the stability test requirements.

(b) A work platform limited in driveable height by the interlock means may be elevated and used while stationary up to the maximum platform heights at which it will maintain stability during the following static test. At the maximum platform height, on level ground, with the platform carrying the rated work load, apply a horizontal test force of one hundred fifty pounds or fifteen percent of the rated platform load (whichever is greater) at the point on the perimeter of the platform most likely to cause overturning.

(4) Platform outrigger interlocks. Where outriggers, stabilizers, or extendable axles are required to meet the side load test, interlocks shall prevent the platform from being raised above the height at which these devices are required unless the required devices are extended. Interlocks shall also prevent the retraction of these devices while the platform is above that level.

(5) Platform requirement.

(a) A guardrail or other structure shall be provided around its upper periphery, which shall be approximately forty-two inches plus or minus three inches in height, a midrail, and toeboards which shall be not less than four inches high (nominal dimension). Guardrail and midrail chains, or the equivalent, may be substituted across an access opening. Toeboards may be omitted at the access opening.

(b) The work platform shall have a minimum width of eighteen inches. Proper access shall be provided for personnel to use in reaching the platform deck when it is in the lowered position.

(c) A floor surface shall be provided for both the platform and the access that will minimize slipping.

(6) System safety factors.

(a) When the platform supports its rated work load by a system of wire ropes or chains, or both, the safety factor of the wire rope or chains shall not be less than eight to one, based on ultimate strength.

(b) All critical hydraulic components, all pneumatic components, and all hoses of hydraulic or pneumatic systems shall have a minimum bursting strength of at least four times the operating pressure for which the system is designed.

(c) Noncritical hydraulic components shall have a minimum bursting strength of at least twice the operating pressure for which the system is designed.

(7) Safety design requirements.

(a) Where the elevation of the platform is accomplished by an electromechanical assembly, the system shall be designed to prevent free descent in the event of a generator or power failure.

(b) Where the elevation of the platform is accomplished by a hydraulic or pneumatic cylinder assembly, the system shall be so equipped as to prevent free descent in the event of a hydraulic or pneumatic line failure.

(c) Where the platform is horizontally extendable beyond the base of the machine, the system shall be so equipped as to prevent descent in the event of a hydraulic or pneumatic line failure.

(d) Where the elevation of the platform is accomplished by a single hoist cable, the system shall be protected by a broken-cable safety device that will prevent free descent of the platform.

(e) In addition to the primary operator controls, the work platform shall be equipped with an emergency stop device located at the primary control station that will deactivate all powered functions.

(f) Hydraulically or pneumatically actuated outriggers or stabilizers, or both, shall be designed to prevent their retraction in the event of a hydraulic or pneumatic line failure.

(g) Any work platform equipped with a powered elevating assembly shall be supplied with clearly marked emergency lowering means readily accessible from ground level.

PROPOSED

(h) Mechanical power transmission apparatus shall be guarded in accordance with WAC 296-24-205, General safety and health standards.

(8) Directional controls.

(a) Directional controls shall move in the direction of the function they control. The controls shall be of the type that automatically return to the off or the neutral position when released.

(b) Such controls shall be protected against inadvertent operation and shall be clearly marked.

(9) Engine requirement.

(a) Fuel lines of internal-combustion-engine-powered work platforms shall be supported to keep chafing to a minimum. They shall be located to keep exposure to engine and exhaust heat to a minimum.

(b) Liquid fuel lines shall be hard except where flexible connections are required for isolation from vibration.

(c) LP gas fuel systems shall use flexible LP gas hose or hard lines.

(d) Exhaust lines shall be equipped with mufflers. The lines shall be located to minimize the exposure of noise and fumes to operators and personnel near the units.

(10) Each work platform shall be equipped with a mechanical parking brake, which will hold the unit on any slope it is capable of climbing. Wheel chocks shall be installed before using an aerial lift on an incline, provided they can be safely installed.

(11) Specifications display. The following information shall be displayed on all work platforms in a clearly visible, accessible area and in as permanent a manner as possible:

(a) Warnings, cautions, or restrictions for safe operation in accordance with ANSI Z535.2-1991.

(b) Make, model, serial number, and manufacturer's name and address.

(c) Rated work load.

(d) Maximum platform height.

(e) Nominal voltage of the batteries if battery powered.

(f) A notice to study the operating/maintenance manual before using the equipment.

(g) Alternative configuration statement. If a work platform is susceptible to several alternative configurations, then the manufacturer shall clearly describe these alternatives, including the rated capacity in each situation. If the rated work load of a work platform is the same in any configuration, these additional descriptions are not necessary.

(h) A clear statement of whether or not the platform and its enclosure are electrically insulated. If insulated, the level of protection and the applicable test standard shall be stated, in accordance with ANSI 92.2-1990.

(i) The rated work load shall be clearly displayed at each entrance to the platform.

(12) Lift manual requirement. Each work platform shall be provided with an appropriate manual. The manual shall contain:

(a) Descriptions, specifications, and ratings of the work platform, including the data specified in subsection (11)(h) and (i) of this section.

(b) The maximum system pressure and the maximum voltage of the electrical systems that are part of the work platform.

(c) Instructions regarding operation, maintenance, and weld specifications.

(d) Replacement parts information.

(13) Inspection and maintenance.

(a) Each work platform shall be inspected, maintained, repaired and kept in proper working order in accordance with the manufacturer's maintenance and repair manuals.

(b) Any work platform not in safe operating condition shall be removed from service until it is repaired.

(c) All repairs shall be made by a qualified service person in conformance with the manufacturer's maintenance and repair manuals.

(14) Operator requirements. Only trained and authorized personnel shall be permitted to operate the work platform. Before using the work platform, the operator shall:

(a) Read and understand the manufacturer's operating instructions and safety rules, and be trained by a qualified person on the contents of the manufacturer's instructions and safety rules.

(b) Read and understand all decals, warnings, and instructions on the work platform.

(c) On a daily basis, before the work platform is used, it shall be given a thorough inspection, which shall include:

(i) Inspection for defects such as cracked welds, hydraulic leaks, damaged control cable, loose wire connections, and tire damage.

(ii) Inspection of functional controls for proper operation.

(d) Any suspect items discovered through inspection shall be carefully examined and a determination made by a qualified service person as to whether they constitute a safety hazard. All unsafe items shall be corrected before further use of the work platform.

(e) Before the work platform is used, the operator shall survey the area for hazards such as:

(i) Untamped earth fills.

(ii) Ditches.

(iii) Dropoffs or holes.

(iv) Bumps and floor obstructions.

(v) Debris.

(vi) Overhead obstructions and high-voltage conductors.

(vii) Other possible hazardous conditions.

(15) Requirement for operations. The work platform shall be used only in accordance with the Manufacturer's Operating Instructions and Safety Rules, ANSI A92.6-1990, and this standard.

(a) Only trained and authorized personnel shall be permitted to operate the work platform.

(b) Before each elevation of the work platform, the operator shall:

(i) Check for overhead obstructions and high-voltage conductors. A minimum distance of ten feet from energized high-voltage conductors shall be maintained at all times between the conductors and the operator and platform equipment.

(ii) Ensure that the work platform is elevated only on a firm and level surface.

(iii) Ensure that the load and its distribution on the platform are in accordance with the manufacturer's rated capacity. The manufacturer's recommended load limits shall never be exceeded.

(iv) Ensure that outriggers and stabilizers are used if the manufacturer's instructions require their use.

(v) Ensure that guardrails are properly installed, and gates or openings are closed.

(c) Before and during driving while the platform is elevated, the operator shall:

(i) Be required to look in the direction of, and keep a clear view of, the path of travel and assure that the path of travel is firm and level.

(ii) Maintain a safe distance from obstacles, debris, dropoffs, holes, depressions, ramps, or other hazards to safe elevated travel.

(iii) Maintain a safe distance from overhead obstacles.

(d) The operator shall limit travel speed according to conditions. Conditions to be observed are: Ground surface, congestion, slope, location of personnel, and other factors that may create a hazard of collision or injury to personnel.

(e) Stunt driving and horseplay shall not be permitted.

(f) Personnel shall maintain a firm footing on the platform while working thereon unless they are secured by safety harness and lanyard devices fixed to manufacturer-approved hard points. Use of railings or planks, ladders or any other device on the work platform for achieving additional height shall be prohibited.

(g) The operator shall immediately report defects or malfunctions which become evident during operation and shall stop use of the work platform until correction has been made.

(h) Altering or disabling of safety devices or interlocks shall be prohibited.

(i) Care shall be taken to prevent ropes, electric cords, hoses, etc., from tangling with the work platform when the platform is being elevated, lowered, or moved.

(j) Work platform rated capacities shall not be exceeded when loads are transferred to the platform at elevated heights.

(k) The operator shall ensure that the area surrounding the work platform is clear of personnel and equipment before lowering the platform.

(16) Fuel tanks shall not be filled while the engine is running. Spillage shall be avoided.

(17) Batteries shall not be charged except in an open, well-ventilated area, free of flame, smoking, spark, or fire.

(18) Modifications. All modifications and alterations to work platforms shall be certified in writing as being in conformance with ANSI A92.6-1990 by the manufacturer or any equivalent entity, such as a nationally recognized testing laboratory.

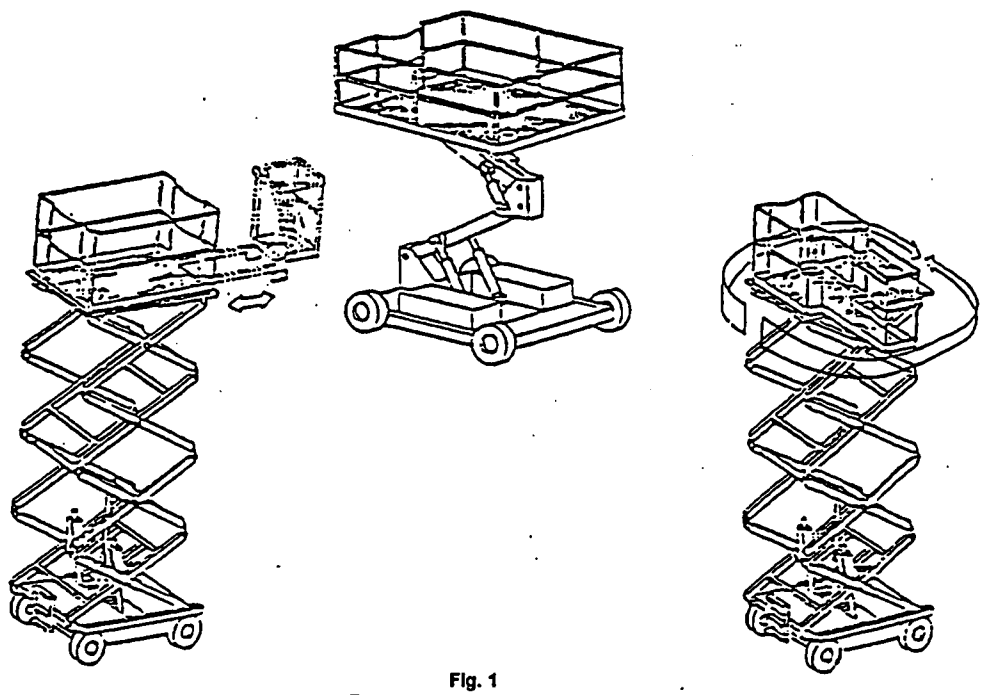


Fig. 1
Examples of Work Platforms

NEW SECTION

**WAC 296-155-489 Boom supported elevating work platforms.** (1) All applicable rules for design, construction, maintenance, operation, testing and use of boom supported elevating work platforms shall be in accordance with ANSI A92.5-1992.

(2) Minimum rated work load. The minimum rated work load of a work platform shall be three hundred pounds. Either single or multiple ratings may be used.

(a) Work platforms with single ratings shall include means which clearly present the rated work load to the operator at the platform control station.

(b) Work platforms having multiple configurations with multiple ratings shall have means which clearly describe the rated work load of each configuration to the operator at the platform control station. Examples of multiple configurations are:

(i) Outriggers extended to firm footing versus outriggers not extended.

(ii) Large platform versus small platform.

(iii) Extendable boom retracted versus extended.

(iv) Boom elevated versus lowered.

(v) Extendable axles extended versus retracted.

(3) Boom angle indicator: When the rated capacity of the alternate configuration depends on the angle the boom makes with the horizontal, the manufacturer shall install means by which that angle can be determined. Such means shall be clearly displayed to the operator at the platform control station.

(4) Structural safety.

(a) All load-supporting structural elements of the work platform shall have a structural safety factor of not less than two to one based on the minimum yield strength of the materials used.

(b) The load-supporting structural elements of the work platform that are made of nonductile material which will not deform plastically before breaking shall have a structural safety factor of not less than five to one based on the minimum ultimate strength of the materials used.

(c) The design stress used in determining the structural safety factor shall be the maximum stresses developed within the element with the machine operating at its rated work load, used in the type of service for which it was designed, and operated in accordance with manufacturer's operation instructions.

(d) The design stress shall include the effects of stress concentration and dynamic loading as shown in ANSI A92.5-1992.

(5) Platform stability.

(a) Each work platform shall be capable of maintaining stability while sustaining a static load equal to one and one-third times its rated work load, concentrated anywhere twelve inches inside the perimeter of the platform, throughout its entire range of motion while on a slope of five degrees from the horizontal in the direction most likely to cause overturning.

(i) If having the outriggers, stabilizers, or extendable axles in contact with the supporting surface is part of the normal configuration to meet the stability requirements, they shall be extended.

(ii) A visual inspection shall be made to determine whether this test has produced an adverse effect on any component.

(b) Each work platform shall sustain on level ground a test load equal to one and one-half times its rated work load throughout the entire range of motion in which the boom can be placed.

(i) The test load shall be placed with its center of gravity twelve inches inboard from the guardrail while the unit is in the least stable position.

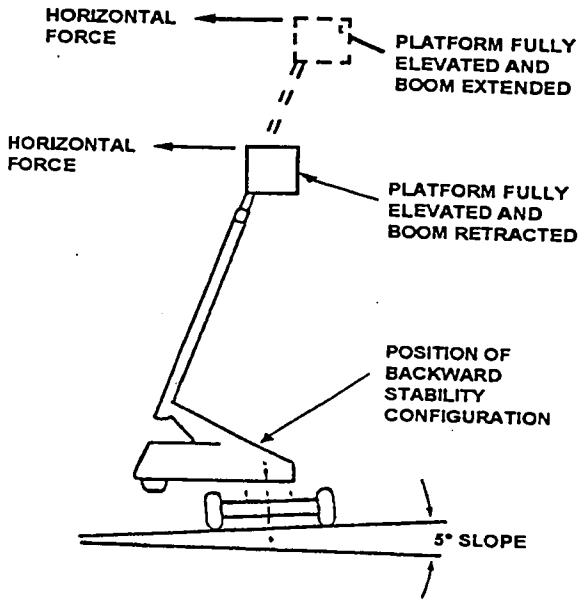
(ii) The work platform shall remain stable during this test.

(iii) A visual inspection shall be made to determine whether this test has produced an adverse effect on any component.

(c) Each work platform shall be capable of maintaining stability when positioned on a five degree slope in its backward stability configuration in the direction and condition most likely to cause overturning, while sustaining a horizontal force of one hundred fifty pounds or fifteen percent of rated capacity, whichever is greater, applied to the upper perimeter of the platform in the direction most likely to cause overturning (see Fig. 1). Note that the most adverse condition may be with zero or with rated work load (concentrated one foot inside perimeter of platform), depending on basket configuration.

(i) If having the outriggers, stabilizers, or extendable axles in contact with the supporting surface is part of the normal configuration to meet stability requirements, they shall be extended.

(ii) A visual inspection shall be made to determine whether this test has produced an adverse effect on any component.




(6) Work platform design requirement. The work platform shall be provided with a guardrail or other structure approximately forty-two inches plus or minus three inches high around its upper periphery, with a midrail, and with toeboards not less than four inches high. Guardrails and midrail chains or the equivalent may be substituted across an access opening.

(a) All stepping, standing, and working surfaces shall be skid resistant.

(b) Attachment points shall be provided for a body belt and lanyard for each person occupying the platform.

(7) Work platform controls. Work platforms shall have both primary and secondary controls.

(a) Primary controls shall be readily accessible to the operator on the platform.

(b) Secondary controls shall be designed to override the primary controls and shall be readily accessible from ground level.

(c) Both primary and secondary controls shall be clearly marked, using permanent legible identification which can be easily understood.

(d) All directional controls shall move in the direction of the function which they control when possible, and shall be of the type which automatically returns to the "off" or the neutral position when released.

(e) Such controls shall be protected against inadvertent operation.

(8) Outrigger interlocks. Where the work platform is equipped with outriggers, stabilizers, or extendable axles, interlocks shall be provided to ensure that the platform cannot be positioned beyond the maximum travel height unless the outriggers, stabilizers, or extendable axles are properly set. Control circuits shall ensure that the driving motor(s) cannot be activated unless the outriggers or stabilizers are disengaged and the platform has been lowered to the maximum travel height (MTH).

(9) Auxiliary operating means: All work platforms shall be provided with an auxiliary means of lowering, retracting, and rotating in the event of primary power loss.

(10) Emergency stop: All work platforms shall be equipped with an emergency stop device, readily accessible to the operator, which will effectively de-energize all powered systems in case of a malfunction.

(11) Tilt alarm: All work platforms shall be fitted with an alarm or other suitable warning at the platform, which will be activated automatically when the machine base is more than five degrees out of level in any direction.

(12) System safety factors.

(a) Where the platform is supporting its rated work load by a system of wire ropes or lift chains, or both, the safety factor of the wire rope or chain shall not be less than eight to one, based on ultimate strength.

(b) All critical components and hoses of hydraulic and pneumatic systems shall have a minimum bursting strength of four times the operating pressure for which the system is designed.

(c) Noncritical components shall have a minimum bursting strength of two times the operating pressure for which the system is designed.

(d) Critical components are defined as those in which a malfunction would result in a free descent of the platform.

(13) Failsafe requirements.

(a) Where the elevation of the platform is accomplished by an electromechanical assembly, the system shall be so designed as to prevent free descent in the event of a generator or power failure.

(b) Where the elevation of the platform is accomplished by a hydraulic or pneumatic cylinder assembly, the system shall be so equipped as to prevent free descent in the event a hydraulic or pneumatic line bursts.

(c) Hydraulically or pneumatically actuated outriggers or stabilizers, or both, shall be so designed as to prevent their retraction in the event a hydraulic or pneumatic line bursts.

(14) Engine requirement.

(a) Fuel lines of internal-combustion-engine-powered work platforms shall be supported to keep chafing to a minimum and located to keep exposure to engine and exhaust heat to a minimum.

(b) Liquid fuel lines shall be hard except where flexible connections are required for isolation from vibration.

(c) LP gas fuel systems shall use flexible LP gas hose or hard lines.

(d) Exhaust lines shall be equipped with mufflers and shall be located to minimize the exposure to noise and fumes of operators and personnel located in the proximity of such units.

(15) Specifications display. There shall be displayed on all work platforms, in a permanent manner, at a readily visible location, the following information:

(a) Special warnings, cautions, or restrictions necessary for safe operation in accordance with ANSI Z535.2-1991.

(b) Make, model, serial number, and manufacturer's name and address.

(c) Rated work load.

(d) Maximum platform height and maximum travel height.

(e) Reference to studying operating instructions in manual before use.

(f) Alternative configuration statement. If a work platform is capable of several alternative configurations and loads, the alternatives shall be clearly described.

(g) A clear statement of whether or not the platform and its enclosure are electrically insulated. If they are electrically insulated, the voltage at which the platform is rated and the applicable test standard shall be stated.

(h) The rated work load shall be clearly displayed at each entrance to the platform and the operator control station.

(16) Lift manual requirements. Each work platform shall be provided with a manufacturer's manual(s) containing the following information:

(a) Descriptions, specifications, and ratings of the work platform, including the data specified in subsection (17) of this section.

(b) The maximum hydraulic operating pressure and the maximum voltage of the electrical systems which are part of the platform.

(c) Instructions regarding operation, safety rules, maintenance, and repair.

(d) Replacement parts information.

(17) Inspection and maintenance.

(a) Each work platform shall be inspected, maintained, repaired, and kept in proper working condition in accordance with the manufacturer's maintenance and repair manuals.

(b) Any work platform found not to be in safe operating condition shall be removed from service until repaired.

(c) All repairs shall be made by a qualified person in conformance with the manufacturer's maintenance and repair manual(s).

(18) Operator requirements. Only trained and authorized persons shall be permitted to operate the work platform. Before using the work platform, the operator shall:

(a) Be instructed by a qualified person in the intended purpose and function of each of the controls.

(b) Read and understand the manufacturer's operating instructions and safety rules, or be trained by a qualified person on the contents of the manufacturer's operating instructions and safety rules.

(c) Understand by reading or by having a qualified person explain all decals, warnings, and instructions displayed on the work platform.

(d) Prior to use on each work shift, the work platform shall be inspected for defects that would affect its safe operation and use. The inspection shall consist of the following:

(i) Visual inspection for cracked welds or other structural defects, hydraulic leaks, damaged control cables, loose wire connections, and tire damage.

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(ii) Function test of the operating controls to ensure that they perform their intended functions. Any suspect items shall be carefully examined and a determination made by a qualified person as to whether they constitute a safety hazard. All unsafe items shall be corrected before further use of the work platform.

(iii) Before the work platform is used and during use, the job site shall be checked for hazards such as ditches, dropoffs or holes, bumps and floor obstructions, debris, overhead obstructions and high-voltage conductors, and other possible hazardous conditions.

(19) Requirements for operation. The work platform shall be used only in accordance with the manufacturer's operating instructions and safety rules, ANSI 92.6-1990 and this standard.

(a) Only trained and authorized personnel shall be permitted to operate the work platform.

(b) Before each elevation of the work platform, the operator shall:

(i) Check for overhead obstructions and high-voltage conductors. A minimum distance of ten feet from energized high-voltage conductors shall be maintained at all times between the conductors and the operator and platform equipment.

(ii) Ensure the work platform is elevated only on a firm and level surface.

(iii) Ensure that the load and its distribution on the platform are in accordance with the manufacturer's rated capacity. The manufacturer's rated work load shall never be exceeded.

(iv) Ensure that outriggers or stabilizers are used in accordance with manufacturer's instructions. Wheel chocks shall be installed before using an aerial lift on an incline, provided they can be safely installed.

(v) Ensure that platform guardrails are properly installed and gates or openings are closed.

(vi) Check to see that all occupants' full body harnesses are on and properly attached.

(c) Before and during driving while elevated, the operator shall:

(i) Be required to look in the direction of, and keep a clear view of, the path of travel and make sure that the path is firm and level.

(ii) Maintain a safe distance from obstacles, debris, dropoffs, holes, depressions, ramps, and other hazards to safe elevated travel.

(iii) Maintain a safe distance from overhead obstacles.

(d) Under all travel conditions the operator shall limit speed according to conditions of ground surface, congestion, slope, location of personnel, and other factors which may create a hazard of collision or injury to personnel.

(e) Stunt driving and horseplay shall not be permitted.

(f) Personnel shall maintain a firm footing on the platform while working thereon. Safety harness and lanyard devices fixed to attachment points provided and approved by the manufacturer shall be used by all occupants. Use of railings, planks, ladders, or any other device on the work platform for achieving additional height shall be prohibited.

(g) The operators shall immediately report to their supervisor any defects or malfunctions which become evident during operation. Any defects or malfunctions that affect the safety of operation shall be repaired prior to continued use of the work platform.

(h) Altering, modifying, or disabling safety devices or interlocks is prohibited.

(i) Care shall be taken to prevent ropes, electric cords, hoses, and the like from becoming entangled in the work platform when it is being elevated, lowered, or moved.

(j) Work platform rated capacities shall not be exceeded when live loads are transferred to the platform at elevated heights.

(k) The operator shall ensure that the area surrounding the work platform is clear of personnel and equipment before lowering the platform.

(20) Refueling: Fuel tanks shall not be filled while the engine is running. Caution shall be used while filling tanks to avoid spilling fuel.

(21) Battery charging: Batteries shall not be charged except in an open, well ventilated area free of flame, smoking, spark, and fire.

(22) Modifications: There shall be no modification or alteration to work platforms without the modifications being approved and certified in writing by the manufacturer or other equivalent entity, such as a nationally recognized testing laboratory, to be in conformance with all applicable provisions of ANSI A92.5-1992 and this standard.

NEW SECTION

**WAC 296-155-490 Aerial lifts.** (1) "General requirements."

(a) Unless otherwise provided in this section, aerial lifts acquired for use on or after January 22, 1973, shall be designed and constructed in conformance with the applicable requirements of the American National Standards for "Vehicle Mounted Elevating and Rotating Work Platforms," ANSI A92.2-1969, including appendix. Aerial lifts acquired before January 22, 1973, which do not meet the requirements of ANSI A92.2-1969, may not be used after January 1, 1976, unless they shall have been modified so as to conform with the applicable design and construction requirements of ANSI A92.2-1969. Aerial lifts include the following types of vehicle-mounted aerial devices used to elevate personnel to job-sites above ground:

(i) Extensible boom platforms;

(ii) Aerial ladders;

(iii) Articulating boom platforms;

(iv) Vertical towers; and

(v) A combination of any such devices. Aerial equipment may be made of metal, wood, fiberglass reinforced plastic (FRP), or other material; may be powered or manually operated; and are deemed to be aerial lifts whether or not they are capable of rotating about a substantially vertical axis.

(b) Aerial lifts may be "field modified" for uses other than those intended by the manufacturer provided the modification has been certified in writing by the manufacturer or by any other equivalent entity, such as a nationally recognized testing laboratory, to be in conformity with all applicable provisions of ANSI A92.2-1969 and this section and to be at least as safe as the equipment was before modification.

(2) "Specific requirements."

(a) Ladder trucks and tower trucks:

(i) Aerial ladders shall be secured in the lower traveling position by the locking device on top of the truck cab, and the manually operated device at the base of the ladder before the truck is moved for highway travel.

(ii) A full body harness shall be worn and a lanyard attached to the ladder rail or tower when working from ladder trucks or tower trucks.

(b) Extensible and articulating boom platforms.

(i) Lift controls shall be tested each day prior to use to determine that such controls are in safe working condition.

(ii) Only authorized persons shall operate an aerial lift.

(iii) Belting off to an adjacent pole, structure, or equipment while working from an aerial lift shall not be permitted.

(iv) Employees shall always stand firmly on the floor of the basket, and shall not sit or climb on the edge of the basket or use planks, ladders, or other devices for a work position.

(v) A full body harness shall be worn and a lanyard attached to the boom or basket when working from an aerial lift.

(vi) Boom and basket load limits specified by the manufacturer shall not be exceeded.

(vii) The brakes shall be set and when outriggers are used, they shall be positioned on pads or a solid surface. Wheel chocks shall be installed before using an aerial lift on an incline, provided they can be safely installed.

(viii) An aerial lift truck shall not be moved when the boom is elevated in a working position with men in the basket, except for equipment which is specifically designed for this type of operation in accordance with the provisions of subsection (1)(a) and (b) of this section.

(ix) Articulating boom and extensible boom platforms, primarily designed as personnel carriers, shall have both platform (upper) and lower controls. Upper controls shall be in or beside the platform within easy reach of the operator. Lower controls shall provide for overriding the upper controls. Controls shall be plainly marked as to their function. Lower level controls shall not be operated unless permission has been obtained from the employee in the lift, except in case of emergency.

(x) Climbers shall not be worn while performing work from an aerial lift.

(xi) The insulated portion of an aerial lift shall not be altered in any manner that might reduce its insulating value.

(xii) Before moving an aerial lift for travel, the boom(s) shall be inspected to see that it is properly cradled and outriggers are in stowed position except as provided in (b)(viii) of this subsection.

(c) Electrical tests. All electrical tests shall conform to the requirements of ANSI A92.2-1990 section 5. However equivalent d.c. voltage tests may be used in lieu of the a.c. voltage specified in A92.2-1990; d.c. voltage tests which are approved by the equipment manufacturer or equivalent entity shall be considered an equivalent test for the purpose of this subsection (2)(c).

(d) Bursting safety factor. The provisions of the American National Standards Institute standard ANSI A92.2-1990, section 4.9 Bursting Safety Factor shall apply to all critical hydraulic and pneumatic components. Critical components are those in which a failure would result in a free fall or free rotation of the boom. All noncritical components shall have a bursting safety factor of at least 2 to 1.

(e) Welding standards. All welding shall conform to the following standards as applicable:

(i) Standard Qualification Procedure, AWS B3.0-41.

(ii) Recommended Practices for Automotive Welding Design, AWS D8.4-61.

Note: Nonmandatory Appendix C to this part lists examples of national consensus standards that are considered to provide employee protection equivalent to that provided through the application of ANSI A92.2-1990, where appropriate. Copies may be obtained from the American National Standards Institute.

PROPOSED

NEW SECTION

**WAC 296-155-493 Training.** This section supplements and clarifies the requirements of WAC 296-155-100 (1)(c) and 296-155-110 (3)(g) as these relate to the hazards of work on scaffolds.

(1) The employer shall have each employee who performs work while on a scaffold trained by a person qualified in the subject matter to recognize the hazards associated with the type of scaffold being used and to understand the procedures to control or minimize those hazards. The training shall include the following areas, as applicable:

(a) The nature of any electrical hazards, fall hazards and falling object hazards in the work area;

(b) The correct procedures for dealing with electrical hazards and for erecting, maintaining, and disassembling the fall protection systems and falling object protection systems being used;

(c) The proper use of the scaffold, and the proper handling of materials on the scaffold;

(d) The maximum intended load and the load-carrying capacities of the scaffolds used; and

(e) Any other pertinent requirements of this subpart.

(2) The employer shall have each employee who is involved in erecting, disassembling, moving, operating, repairing, maintaining, or inspecting a scaffold trained by a competent person to recognize any hazards associated with the work in question. The training shall include the following topics, as applicable:

(a) The nature of scaffold hazards;

(b) The correct procedures for erecting, disassembling, moving, operating, repairing, inspecting, and maintaining the type of scaffold in question;

(c) The design criteria, maximum intended load-carrying capacity and intended use of the scaffold;

(d) Any other pertinent requirements of this subpart.

(3) When the employer has reason to believe that an employee lacks the skill or understanding needed for safe work involving the erection, use or dismantling of scaffolds, the employer shall retrain each such employee so that the requisite proficiency is regained. Retraining is required in at least the following situations:

(a) Where changes at the worksite present a hazard about which an employee has not been previously trained; or

(b) Where changes in the types of scaffolds, fall protection, falling object protection, or other equipment

present a hazard about which an employee has not been previously trained; or

(c) Where inadequacies in an affected employee's work involving scaffolds indicate that the employee has not retained the requisite proficiency.

PROPOSED

NEW SECTION

**WAC 296-155-494 Non-Mandatory Appendix A to Part J-1, Scaffold Specifications.** This Appendix provides non-mandatory guidelines to assist employers in complying with the requirements of Part J-1 of this chapter. An employer may use these guidelines and tables as a starting point for designing scaffold systems. However, the guidelines do not provide all the information necessary to build a complete system, and the employer is still responsible for designing and assembling these components in such a way that the completed system will meet the requirements of WAC 296-155-483(1). Scaffold components which are not selected and loaded in accordance with this Appendix, and components for which no specific guidelines or tables are given in this Appendix (e.g., joints, ties, components for wood pole scaffolds more than 60 feet in height, components for heavy-duty horse scaffolds, components made with other materials, and components with other dimensions, etc.) must be designed and constructed in accordance with the capacity requirements of WAC 296-155-483(1), and loaded in accordance with WAC 296-155-483 (4)(a).

Index to Appendix A for Part J-1



1. General Guidelines and Tables

(a) The following tables, and the tables in Part 2 — Specific guidelines and tables, assume that all load-carrying timber members (except planks) of the scaffold are a minimum of 1,500 lb-f/in(2) (stress grade) construction grade lumber. All dimensions are nominal sizes as provided in the American Softwood Lumber Standards, dated January 1970, except that, where rough sizes are noted, only rough or undressed lumber of the size specified will satisfy minimum requirements.

(b) Solid sawn wood used as scaffold planks shall be selected for such use following the grading rules established by a recognized lumber grading association or by an independent lumber grading inspection agency. Such planks shall be identified by the grade stamp of such association or agency. The association or agency and the grading rules under which the wood is graded shall be certified by the Board of Review, American Lumber Standard Committee, as set forth in the American Softwood Lumber Standard of the U.S. Department of Commerce.

(i) Allowable spans shall be determined in compliance with the National Design Specification for Wood Construction published by the National Forest Products Association; paragraph 5 of ANSI A10.8-1988 Scaffolding-Safety Requirements published by the American National Standards Institute; or for 2 x 10 inch (nominal) or 2 x 9 inch (rough) solid sawn wood planks, as shown in the following table:

| Maximum intended nominal load ($lb/ft^2$) | Maximum permissible span using full thickness undressed lumber (ft) | Maximum permissible span using nominal thickness lumber (ft) |
|---|---|---|
| 25..... | 10 | 8 |
| 50..... | 8 | 6 |
| 75..... | 6 | |

(ii) The maximum permissible span for 1 1/4 x 9-inch or wider wood plank of full thickness with a maximum intended load of 50 lb/ft.(2) shall be 4 feet.

(c) Fabricated planks and platforms may be used in lieu of solid sawn wood planks. Maximum spans for such units shall be as recommended by the manufacturer based on the maximum intended load being calculated as follows:

| Rated load capacity | Intended load |
|---|---|
| Light-duty..... | * 25 pounds per square foot applied uniformly over the entire span area. |
| Medium-duty..... | * 50 pounds per square foot applied uniformly over the entire span area. |
| Heavy-duty..... | * 75 pounds per square foot applied uniformly over the entire span area. |
| One-person..... | * 250 pounds placed at the center of the span (total 250 pounds). |
| Two-person..... | * 250 pounds placed 18 inches to the left and right of the center of the span (total 500 pounds). |
| Three-person..... | * 250 pounds placed at the center of the span and 250 pounds placed 18 inches to the left and right of the center of the span (total 750 pounds). |

Note: Platform units used to make scaffold platforms intended for light-duty use shall be capable of supporting at least 25 pounds

per square foot applied uniformly over the entire unit-span area, or a 250-pound point load placed on the unit at the center of the span, whichever load produces the greater shear force.

(d) Guardrails shall be as follows:

(i) Toprails shall be equivalent in strength to 2 inch by 4 inch lumber; or

1 1/4 inch x 1/8 inch structural angle iron; or

1 inch x .070 inch wall steel tubing; or 1.990 inch x .058 inch wall aluminum tubing.

(ii) Midrails shall be equivalent in strength to 1 inch by 6 inch lumber; or

1 1/4 inch x 1 1/4 inch x 1/8 inch structural angle iron; or

1 inch x .070 inch wall steel tubing; or

1.990 inch x .058 inch wall aluminum tubing.

(iii) Toeboards shall be equivalent in strength to 1 inch by 4 inch lumber; or

1 1/4 inch x 1 1/4 inch structural angle iron; or

1 inch x .070 inch wall steel tubing; or

1.990 inch x .058 inch wall aluminum tubing.

(iv) Posts shall be equivalent in strength to 2 inch by 4 inch lumber; or

1 1/4 inch x 1 1/4 inch x 1/8 structural angle iron; or

1 inch x .070 inch wall steel tubing; or

1.990 inch x .058 inch wall aluminum tubing.

(v) Distance between posts shall not exceed 8 feet.

(e) Overhead protection shall consist of 2 inch nominal planking laid tight, or 3/4-inch plywood.

(f) Screen installed between toeboards and midrails or toprails shall consist of No. 18 gauge U.S. Standard wire one inch mesh.

2. Specific guidelines and tables.

(a) Pole Scaffolds.

Single Pole Wood Pole Scaffolds

| | Light duty up to 20 feet high | Light duty up to 60 feet high | Medium duty up to 60 feet high | Heavy duty up to 60 feet high |
|---|---|---|---|---|
| Maximum intended load ($lbs/ft^2$).... | 25..... | 25..... | 50..... | 75 |
| Poles or uprights | 2 x 4 in... | 4 x 4 in... | 4 x 4 in.... | 4 x 6 in. |
| Maximum pole spacing (longitudinal) | 6 feet..... | 10 feet.... | 8 feet..... | 6 feet |
| Maximum pole spacing (transverse) | 5 feet..... | 5 feet..... | 5 feet..... | 5 feet |
| Runners..... | 1 x 4 in... | 1 1/4 x 9 in. | 2 x 10 in... | 2 x 10 in. |
| Bearers and maximum spacing of bearers: | | | | |
| 3 feet..... | 2 x 4 in... | 2 x 4 in... | 2 x 10 in.. or 3 x 4 in. | 2 x 10 in. or 3 x 5 in. |
| 5 feet..... | 2 x 6 in. or 3 x 4 in... | 2 x 6 in. or 3 x 4 in.. (rough) | 2 x 10 in. or 3 x 4 in.... | 2 x 10 in. or 3 x 5 in. |
| 6 feet..... | ..... | ..... | 2 x 10 in. or 3 x 4 in.... | 2 x 10 in. or 3 x 5 in. |
| 8 feet..... | ..... | ..... | 2 x 10 in. or 3 x 4 in.... | |
| Planking..... | 1 1/4 x 9 in. | 2 x 10 in.. | 2 x 10 in.... | 2 x 10 in. |
| Maximum vertical spacing of horizontal members | 7 feet..... | 9 feet..... | 7 feet..... | 6 ft. 6 in. |
| Bracing horizontal.... | 1 x 4 in.... | 1 x 4 in.... | 1 x 6 in. or 1 1/4 x 4 in | 2 x 4 in. |
| Bracing diagonal | 1 x 4 in.... | 1 x 4 in.... | 1 x 4 in..... | 2 x 4 in. |
| Tie-ins..... | 1 x 4 in.... | 1 x 4 in.... | 1 x 4 in..... | 1 x 4 in. |

Note: All members except planking are used on edge. All wood bearers shall be reinforced with 3/16 x 2 inch steel strip, or the equivalent, secured to the lower edges for the entire length of the bearer.



PROPOSED

PROPOSED

Independent Wood Pole Scaffolds

| | Light duty up to 20 feet high | Light duty up to 60 feet high | Medium duty up to 60 feet high | Heavy duty up to 60 feet high |
|---|---|---|---|---|
| Maximum intended load..... | 25 lbs/ft² | 25 lbs/ft² | 50 lbs/ft² | 75 lbs/ft² |
| Poles or uprights | 2 x 4 in.... | 4 x 4 in.... | 4 x 4 in..... | 4 x 4 in. |
| Maximum pole spacing (longitudinal) | 6 feet..... | 10 feet..... | 8 feet..... | 6 feet. |
| Maximum (transverse).. | 6 feet..... | 10 feet..... | 8 feet..... | 8 feet. |
| Runners..... | 1 1/4 x 4 in | 1 1/4 x 9 in | 2 x 10 in.... | 2 x 10 in. |
| Bearers and maximum spacing of bearers: | | | | |
| 3 feet..... | 2 x 4 in.... | 2 x 4 in.... | 2 x 10 in.... (rough). | 2 x 10 in. |
| 6 feet..... | 2 x 6 in. or 3 x 4 in... | 2 x 10 in.. (rough) or 3 x 8 in. | 2 x 10 in.... | 2 x 10 in. (rough) |
| 8 feet..... | 2 x 6 in. or 3 x 4 in... | 2 x 10 in.. (rough) or 3 x 8 in. | 2 x 10 in..... | |
| 10 feet..... | 2 x 6 in. or 3 x 4 in... | 2 x 10 in. (rough) or 3 x 3 in... | | |
| Planking..... | 1 1/4 x 9 in. | 2 x 10 in... | 2 x 10 in.... | 2 x 10 in. |
| Maximum vertical spacing of horizontal members | 7 feet..... | 7 feet..... | 6 feet..... | 6 feet. |
| Bracing horizontal.... | 1 x 4 in.... | 1 x 4 in.... | 1 x 6 in. or 1 1/4 x 4 in. | 2 x 4 in. |
| Bracing diagonal | 1 x 4 in.... | 1 x 4 in.... | 1 x 4 in..... | 2 x 4 in. |
| Tie-ins..... | 1 x 4 in.... | 1 x 4 in.... | 1 x 4 in..... | 1 x 4 in. |

Note: All members except planking are used on edge. All wood bearers shall be reinforced with 3/16 x 2 inch steel strip, or the equivalent, secured to the lower edges for the entire length of the bearer.

(b) Tube and coupler scaffolds.

Minimum Size of Members

| | Light duty | Medium duty | Heavy duty |
|---|---|---|---|
| Maximum intended load..... | 25 lbs/ft² | 50 lbs/ft² | 75 lbs/ft² |
| Posts, runners and braces..... | Nominal 2 in. (1.90 inches) OD steel tube or pipe. | Nominal 2 in. (1.90 inches) OD steel tube or pipe. | Nominal 2 in. (1.90 inches) OD steel tube or pipe. |
| Bearers..... | Nominal 2 in. (1.90 inches) OD steel tube or pipe and a maximum post spacing of 4 ft. x 10 ft. | Nominal 2 in. (1.90 inches) OD steel tube or pipe and a maximum post spacing of 4 ft. x 7 ft. or Nominal 2 1/2 in. (2.375 in.) OD steel tube or pipe and a | Nominal 2 1/2 in. (2.375 in.) OD steel tube or pipe and a maximum post spacing of 6 ft. x 6 ft. |

| | | maximum post spacing of 6 ft. x 8 ft.(*) | |
|---|---|---|---|
| Maximum runner spacing vertically..... | 6 ft. 6 in. | 6 ft. 6 in. | 6 ft. 6 in. |

(*) Bearers shall be installed in the direction of the shorter dimension.

Note: Longitudinal diagonal bracing shall be installed at an angle of 45 deg. (+/- 5 deg.).

Maximum Number of Planked Levels

| | Maximum number of additional planked levels | | | Maximum height of scaffold (in feet) |
|---|---|---|---|---|
| | Light duty | Medium duty | Heavy duty | |
| Number of Working Levels: | | | | |
| 1..... | 16 | 11 | 6 | 125 |
| 2..... | 11 | 1 | 0 | 125 |
| 3..... | 6 | 0 | 0 | 125 |
| 4..... | 1 | 0 | 0 | 125 |

(c) "Fabricated frame scaffolds." Because of their prefabricated nature, no additional guidelines or tables for these scaffolds are being adopted in this Appendix.

(d) "Plasterers', decorators', and large area scaffolds." The guidelines for pole scaffolds or tube and coupler scaffolds (Appendix A (a) and (b)) may be applied.

(e) "Bricklayers' square scaffolds."

Maximum intended load: 50 lb/ft.(2)(*)

Footnote(*) The squares shall be set not more than 8 feet apart for light duty scaffolds and not more than 5 feet apart for medium duty scaffolds.

Maximum width: 5 ft.

Maximum height: 5 ft.

Gussets: 1 x 6 in.

Braces: 1 x 8 in.

Legs: 2 x 6 in.

Bearers (horizontal members): 2 x 6 in.

(f) Horse scaffolds.

Maximum intended load (light duty): 25 lb/ft.(2)(**)

Footnote(**) Horses shall be spaced not more than 8 feet apart for light duty loads, and not more than 5 feet apart for medium duty loads.

Maximum intended load (medium duty): 50 lb/ft.(2)(**)

Footnote(**) Horses shall be spaced not more than 8 feet apart for light duty loads, and not more than 5 feet apart for medium duty loads.

Horizontal members or bearers:

Light duty: 2 x 4 in.

Medium duty: 3 x 4 in.

Legs: 2 x 4 in.

Longitudinal brace between legs: 1 x 6 in.

Gusset brace at top of legs: 1 x 8 in.

Half diagonal braces: 2 x 4 in.

(g) "Form scaffolds and carpenters' bracket scaffolds."

(1) Brackets shall consist of a triangular-shaped frame made of wood with a cross-section not less than 2 inches by 3 inches, or of 1 1/4 inch x 1 1/4 inch x 1/8 inch structural angle iron.

(2) Bolts used to attach brackets to structures shall not be less than 5/8 inches in diameter.

(3) Maximum bracket spacing shall be 8 feet on centers.

(4) No more than two employees shall occupy any given 8 feet of a bracket or form scaffold at any one time. Tools and materials shall not exceed 75 pounds in addition to the occupancy.

(5) Wooden figure-four scaffolds:

Maximum intended load: 25 lb/ft.(2)

Uprights: 2 x 4 in. or 2 x 6 in.

Bearers (two): 1 x 6 in.

Braces: 1 x 6 in.

Maximum length of bearers (unsupported): 3 ft. 6 in.

(i) Outrigger bearers shall consist of two pieces of 1 x 6 inch lumber nailed on opposite sides of the vertical support.

(ii) Bearers for wood figure-four brackets shall project not more than 3 feet 6 inches from the outside of the form support, and shall be braced and secured to prevent tipping or turning. The knee or angle brace shall intersect the bearer at least 3 feet from the form at an angle of approximately 45 degrees, and the lower end shall be nailed to a vertical support.

(6) Metal bracket scaffolds:

Maximum intended load: 25 lb/ft.(2)

Uprights: 2 x 4 inch

Bearers: As designed.

Braces: As designed.

(7) Wood bracket scaffolds:

Maximum intended load: 25 lb/ft.(2)

Uprights: 2 x 4 in. or 2 x 6 in.

Bearers: 2 x 6 in.

Maximum scaffold width: 3 ft 6 in.

Braces: 1 x 6 in.

(h) "Roof bracket scaffolds." No specific guidelines or tables are given.

(i) "Outrigger scaffolds (single level)." No specific guidelines or tables are given.

(j) "Pump jack scaffolds." Wood poles shall not exceed 30 feet in height. Maximum intended load — 500 lbs between poles; applied at the center of the span. Not more than two employees shall be on a pump jack scaffold at one time between any two supports. When 2 x 4's are spliced together to make a 4 x 4 inch wood pole, they shall be spliced with "10 penny" common nails no more than 12 inches center to center, staggered uniformly from the opposite outside edges.

(k) "Ladder jack scaffolds." Maximum intended load — 25 lb/ft(2). However, not more than two employees shall occupy any platform at any one time. Maximum span between supports shall be 8 feet.

(l) "Window jack scaffolds." Not more than one employee shall occupy a window jack scaffold at any one time.

PROPOSED

PROPOSED

(m) "Crawling boards (chicken ladders)." Crawling boards shall be not less than 10 inches wide and 1 inch thick, with cleats having a minimum 1 x 1 1/2 inch cross-sectional area. The cleats shall be equal in length to the width of the board and spaced at equal intervals not to exceed 24 inches.

(n) "Step, platform, and trestle ladder scaffolds." No additional guidelines or tables are given.

(o) "Single-point adjustable suspension scaffolds." Maximum intended load — 250 lbs. Wood seats for boatswains' chairs shall be not less than 1 inch thick if made of nonlaminated wood, or 5/8 inches thick if made of marine quality plywood.

(p) "Two-point adjustable suspension scaffolds."

(1) In addition to direct connections to buildings (except window cleaners' anchors) acceptable ways to prevent scaffold sway include angulated roping and static lines. Angulated roping is a system of platform suspension in which the upper wire rope sheaves or suspension points are closer to the plane of the building face than the corresponding attachment points on the platform, thus causing the platform to press against the face of the building. Static lines are separate ropes secured at their top and bottom ends closer to the plane of the building face than the outermost edge of the platform. By drawing the static line taut, the platform is drawn against the face of the building.

(2) On suspension scaffolds designed for a working load of 500 pounds, no more than two employees shall be permitted on the scaffold at one time. On suspension scaffolds with a working load of 750 pounds, no more than three employees shall be permitted on the scaffold at one time.

(3) Ladder-type platforms. The side stringer shall be of clear straight-grained spruce. The rungs shall be of straight-grained oak, ash, or hickory, at least 1 1/8 inches in diameter, with 7/8 inch tenons mortised into the side stringers at least 7/8 inch. The stringers shall be tied together with tie rods not less than 1/4 inch in diameter, passing through the stringers and riveted up tight against washers on both ends. The flooring strips shall be spaced not more than 5/8 inch apart, except at the side rails where the space may be 1 inch. Ladder-type platforms shall be constructed in accordance with the following table:

Schedule for Ladder-Type Platforms

| | | | |
|---|---|---|---|
| Length of Platform | 12 feet..... | 14 & 16 feet..... | 18 & 20 feet |
| Side stringers, minimum cross section (finished sizes): | | | |
| At ends..... | 1 3/4 x 2 3/4 in. | 1 3/4 x 2 3/4 in. | 1 3/4 x 3 in. |
| At middle..... | 1 3/4 x 3 3/4 in. | 1 3/4 x 3 3/4 in. | 1 3/4 x 4 in. |
| Reinforcing strip (minimum)..... | A 1/8 x 7/8 inch steel reinforcing strip shall be attached to the side or underside, full length. | | |
| Rungs..... | Rungs shall be 1 1/8 inch minimum diameter with at least 7/8 inch in diameter tenons, and the maximum spacing shall be 12 inches to center. | | |
| Tie rods: | | | |
| Number (minimum) | 3..... | 4..... | 4 |
| Diameter (minimum)..... | 1/4 inch..... | 1/4 inch..... | 1/4 inch |
| Flooring, minimum finished size.... | 1/2 x 2 3/4 in... | 1/2 x 2 3/4 in... | 1/2 x 2 3/4 in. |

Schedule for Ladder-Type Platforms

| | | |
|---|---|---|
| Length of Platform..... | 22 & 24 ft..... | 28 & 30 ft. |
| Side stringers, minimum cross section (finished sizes): | | |
| At ends..... | 1 3/4 x 3 in..... | 1 3/4 x 3 1/2 in. |
| At middle..... | 1 3/4 x 4 1/4 in.... | 1 3/4 x 5 in. |
| Reinforcing strip (minimum)..... | A 1/8 x 7/8 inch steel reinforcing strip shall be attached to the side or underside, full length. | |
| Rungs..... | Rungs shall be 1 1/8 inch minimum diameter with at least 7/8 inch in diameter tenons, and the maximum spacing shall be 12 inches to center. | |
| Tie rods: | | |
| Number (minimum)..... | 5..... | 6 |
| Diameter (minimum)..... | 1/4 in..... | 1/4 in. |
| Flooring, minimum finished size..... | 1/2 x 2 3/4 in..... | 1/2 x 2 3/4 in. |

(4) Plank-Type Platforms. Plank-type platforms shall be composed of not less than nominal 2 x 8 inch unspliced planks, connected together on the underside with cleats at intervals not exceeding 4 feet, starting 6 inches from each end. A bar or other effective means shall be securely fastened to the platform at each end to prevent the platform

from slipping off the hanger. The span between hangers for plank-type platforms shall not exceed 10 feet.

(5) Beam-Type Platforms. Beam platforms shall have side stringers of lumber not less than 2 x 6 inches set on edge. The span between hangers shall not exceed 12 feet when beam platforms are used. The flooring shall be supported on 2 x 6 inch cross beams, laid flat and set into the upper edge of the stringers with a snug fit, at intervals of not more than 4 feet, securely nailed to the cross beams. Floor-boards shall not be spaced more than 1/2 inch apart.

(q)(1) "Multi-point adjustable suspension scaffolds and stonesetters' multi-point adjustable suspension scaffolds." No specific guidelines or tables are given for these scaffolds.

(q)(2) "Masons' multi-point adjustable suspension scaffolds." Maximum intended load — 50 lb/ft(2). Each outrigger beam shall be at least a standard 7 inch, 15.3 pound steel I-beam, at least 15 feet long. Such beams shall not project more than 6 feet 6 inches beyond the bearing point. Where the overhang exceeds 6 feet 6 inches, outrigger beams shall be composed of stronger beams or multiple beams.

(r) "Catenary scaffolds."

(1) Maximum intended load — 500 lbs.

(2) Not more than two employees shall be permitted on the scaffold at one time.

(3) Maximum capacity of come-along shall be 2,000 lbs.

(4) Vertical pickups shall be spaced not more than 50 feet apart.

(5) Ropes shall be equivalent in strength to at least 1/2 inch (1.3 cm) diameter improved plow steel wire rope.

(s) "Float (ship) scaffolds."

(1) Maximum intended load — 750 lbs.

(2) Platforms shall be made of 3/4 inch plywood, equivalent in rating to American Plywood Association Grade B-B, Group I, Exterior.

(3) Bearers shall be made from 2 x 4 inch, or 1 x 10 inch rough lumber. They shall be free of knots and other flaws.

(4) Ropes shall be equivalent in strength to at least 1 inch (2.5 cm) diameter first grade manila rope.

(t) Interior hung scaffolds.

Bearers (use on edge): 2 x 10 in.

Maximum intended load: Maximum span

25 lb/ft.(2): 10 ft.

50 lb/ft.(2): 10 ft.

75 lb/ft.(2): 7 ft.

(u) "Needle beam scaffolds."

Maximum intended load: 25 lb/ft.(2)

Beams: 4 x 6 in.

Maximum platform span: 8 ft.

Maximum beam span: 10 ft.

(1) Ropes shall be attached to the needle beams by a scaffold hitch or an eye splice. The loose end of the rope shall be tied by a bowline knot or by a round turn and a half hitch.

(2) Ropes shall be equivalent in strength to at least 1 inch (2.5 cm) diameter first grade manila rope.

(v) "Multi-level suspension scaffolds." No additional guidelines or tables are being given for these scaffolds.

(w) "Mobile Scaffolds." Stability test as described in the ANSI A92 series documents, as appropriate for the type of scaffold, can be used to establish stability for the purpose of WAC 296-155-484 (23)(f)(ii).

(x) "Repair bracket scaffolds." No additional guidelines or tables are being given for these scaffolds.

(y) "Stilts." No specific guidelines or tables are given.

(z) "Tank builder's scaffold."

(1) The maximum distance between brackets to which scaffolding and guardrail supports are attached shall be no more than 10 feet 6 inches.

(2) Not more than three employees shall occupy a 10 feet 6 inch span of scaffold planking at any time.

(3) A taut wire or synthetic rope supported on the scaffold brackets shall be installed at the scaffold plank level between the innermost edge of the scaffold platform and the curved plate structure of the tank shell to serve as a safety line in lieu of an inner guardrail assembly where the space between the scaffold platform and the tank exceeds 12 inches (30.48 cm). In the event the open space on either side of the rope exceeds 12 inches (30.48 cm), a second wire or synthetic rope appropriately placed, or guardrails in accordance with WAC 296-155-483 (7)(d), shall be installed in order to reduce that open space to less than 12 inches (30.48 cm).

(4) Scaffold planks of rough full-dimensioned 2-inch (5.1 cm) x 12-inch (30.5 cm) Douglas Fir or Southern Yellow Pine of Select Structural Grade shall be used. Douglas Fir planks shall have a fiber stress of at least 1900 lb/in(2) (130,929 n/cm(2)) and a modulus of elasticity of at least 1,900,000 lb/in(2) (130,929,000 n/cm(2)), while Yellow Pine planks shall have a fiber stress of at least 2500 lb/in(2) (172,275 n/cm(2)) and a modulus of elasticity of at least 2,000,000 lb/in(2) (137,820,000 n/cm(2)).

(5) Guardrails shall be constructed of a taut wire or synthetic rope, and shall be supported by angle irons attached to brackets welded to the steel plates. These guardrails shall comply with WAC 296-155-483 (7)(d) guardrail supports shall be located at no greater than 10 feet 6 inch intervals.

NEW SECTION

**WAC 296-155-496 Non-Mandatory Appendix C to Part J-1, List of National Consensus Standards.** ANSI/SIA A92.2-1990 Vehicle-Mounted Elevating and Rotating Aerial Devices

ANSI/SIA A92.3-1990 Manually Propelled Elevating Aerial Platforms

ANSI/SIA A92.5-1990 Boom Supported Elevating Work Platforms

ANSI/SIA A92.6-1990 Self-Propelled Elevating Work Platforms

ANSI/SIA A92.7-1990 Airline Ground Support Vehicle-Mounted Vertical Lift Devices

ANSI/SIA A92.8-1993 Vehicle-Mounted Bridge Inspection and Maintenance Devices

ANSI/SIA A92.9-1993 Mast-Climbing Work Platforms

NEW SECTION

**WAC 296-155-497 Non-Mandatory Appendix D to Part J-1, List of Training Topics for Scaffold Erectors and Dismantlers.** This Appendix D is provided to serve as a guide to assist employers when evaluating the training

needs of employees erecting or dismantling supported scaffolds.

The Agency believes that employees erecting or dismantling scaffolds should be trained in the following topics:

* General Overview of Scaffolding
  * regulations and standards
  * erection/dismantling planning
  * PPE and proper procedures
  * fall protection
  * materials handling
  * access
  * working platforms
  * foundations
  * guys, ties and braces
* Tubular Welded Frame Scaffolds
  * specific regulations and standards
  * components
  * parts inspection
  * erection/dismantling planning
  * guys, ties and braces
  * fall protection
  * general safety
  * access and platforms
  * erection/dismantling procedures
  * rolling scaffold assembly
  * putlogs
* Tube and Clamp Scaffolds
  * specific regulations and standards
  * components
  * parts inspection
  * erection/dismantling planning
  * guys, ties and braces
  * fall protection
  * general safety
  * access and platforms
  * erection/dismantling procedures
  * buttresses, cantilevers, & bridges
* System Scaffolds
  * specific regulations and standards
  * components
  * parts inspection
  * erection/dismantling planning
  * guys, ties and braces
  * fall protection
  * general safety
  * access and platforms
  * erection/dismantling procedures
  * buttresses, cantilevers, & bridges

Scaffold erectors and dismantlers should all receive the general overview, and, in addition, specific training for the type of supported scaffold being erected or dismantled.

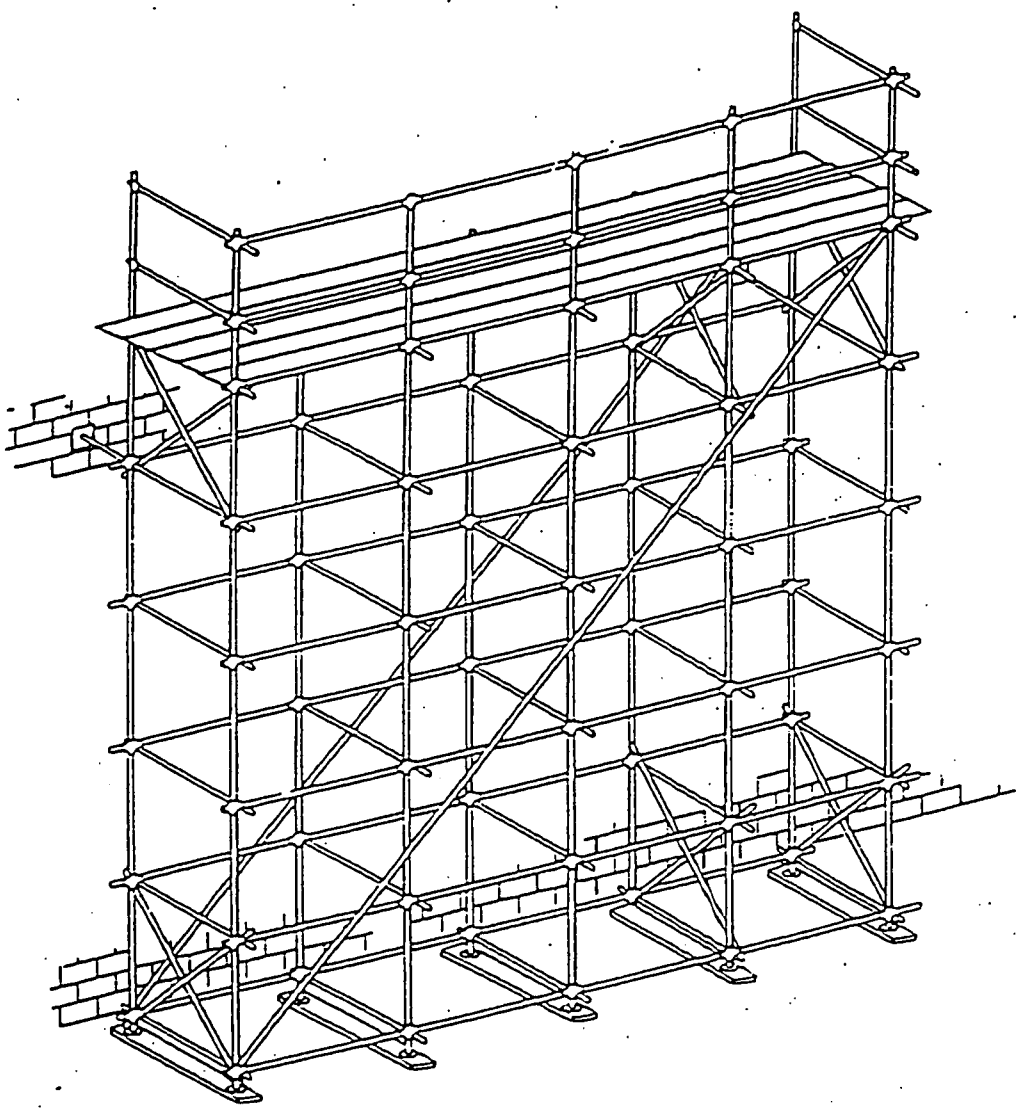
NEW SECTION

**WAC 296-155-498 Non-Mandatory Appendix E to Part J-1, Drawings and Illustrations.** This Appendix provides drawings of particular types of scaffolds and scaffold components, and graphic illustrations of bracing patterns and tie spacing patterns.

This Appendix is intended to provide visual guidance to assist the user in complying with the requirements of Part J-1, chapter 296-155 WAC.

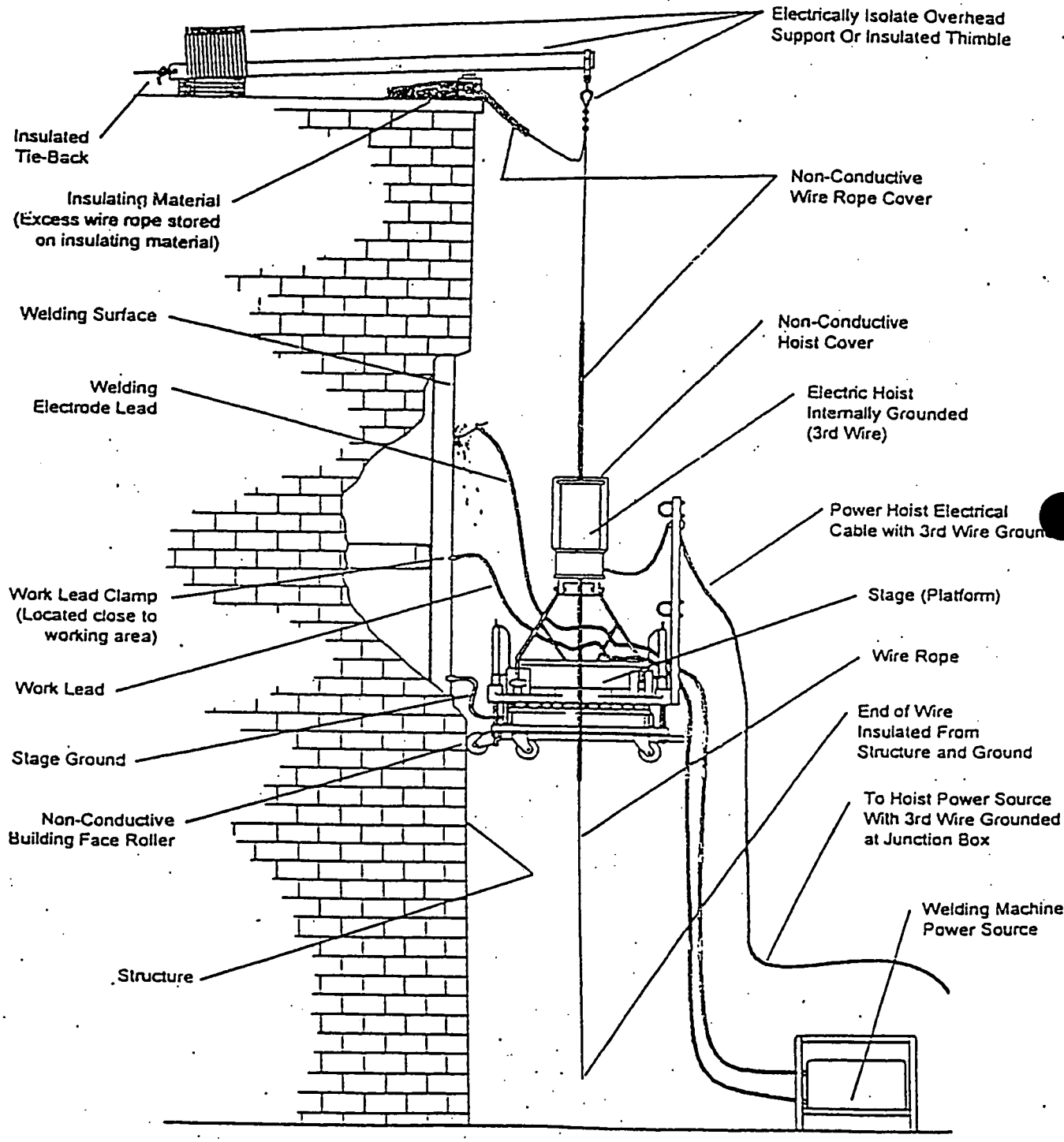
# BRACING – TUBE & COUPLER SCAFFOLDS



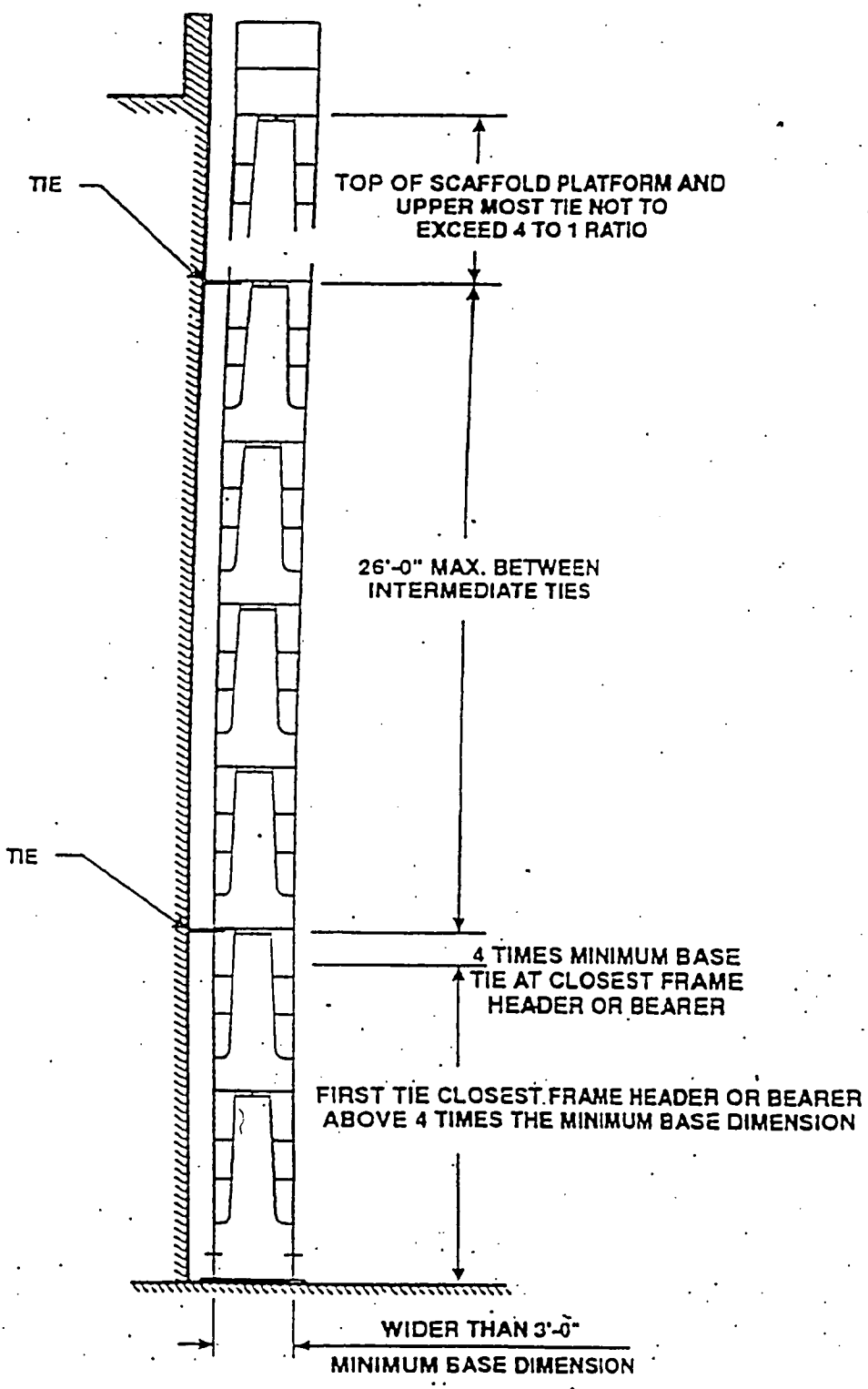


PROPOSED

# SUSPENDED SCAFFOLD PLATFORM WELDING PRECAUTIONS

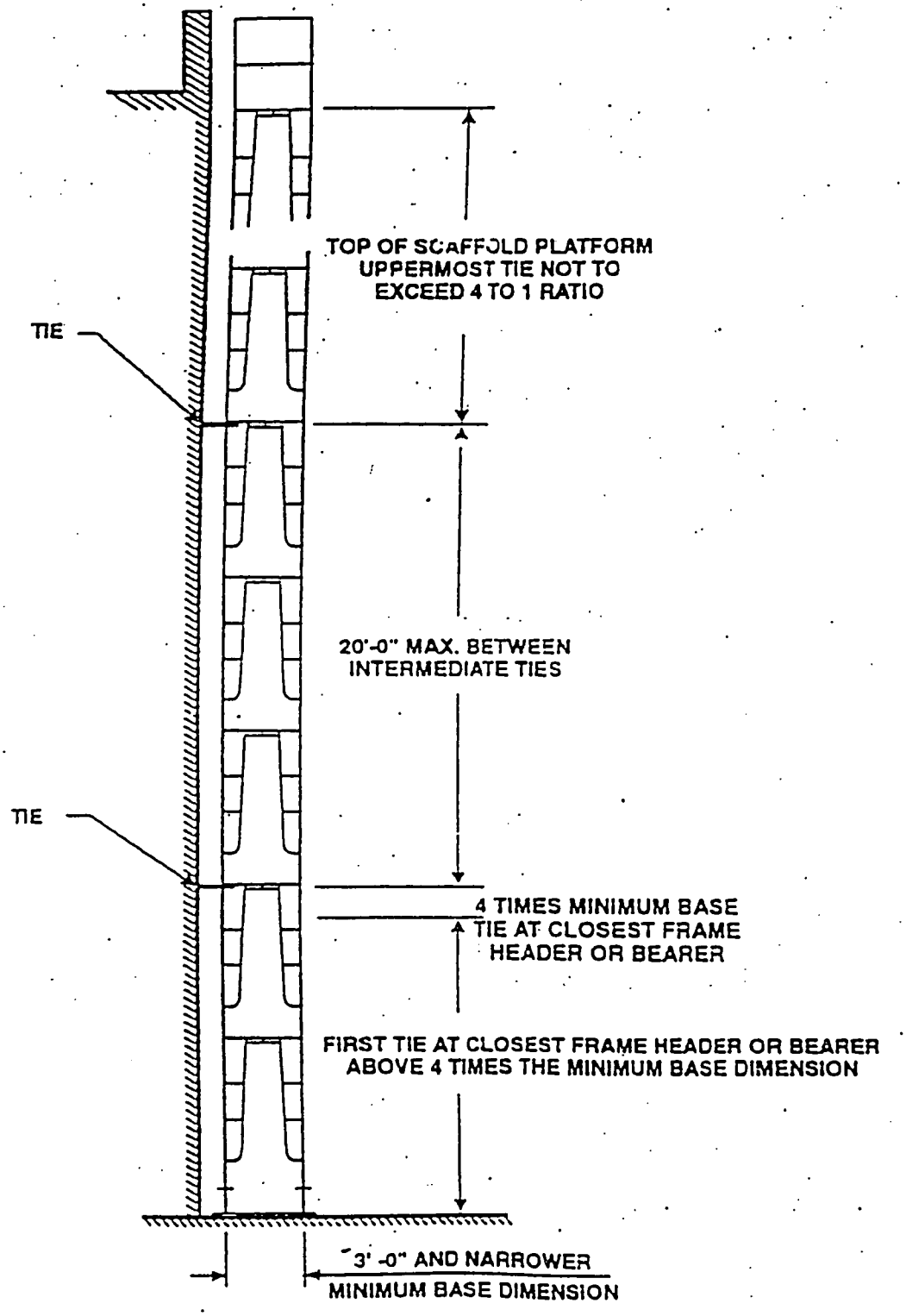


# MAXIMUM VERTICAL TIE SPACING
## WIDER THAN 3'-0" BASES

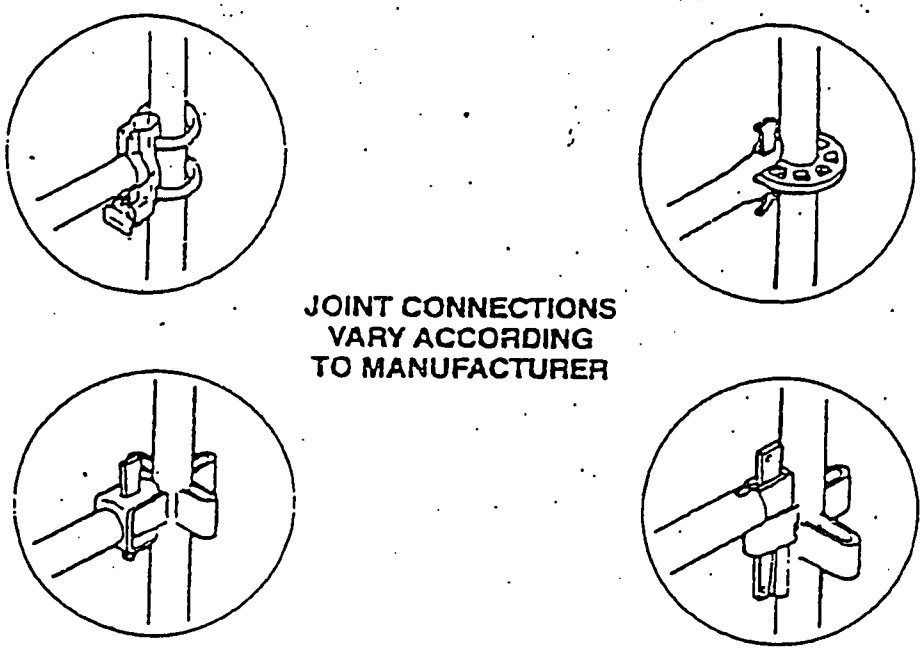


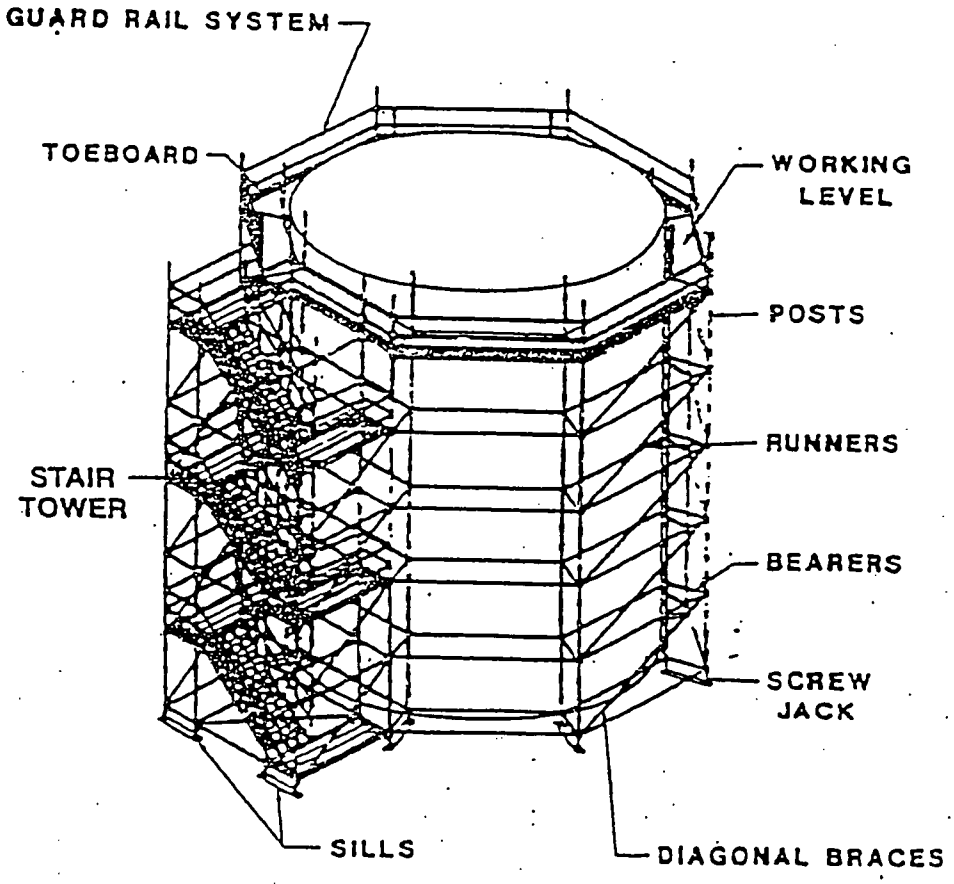
PROPOSED

# MAXIMUM VERTICAL TIE SPACING
## 3'-0" AND NARROWER BASES



# SYSTEM SCAFFOLD



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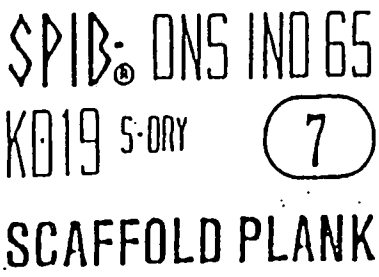
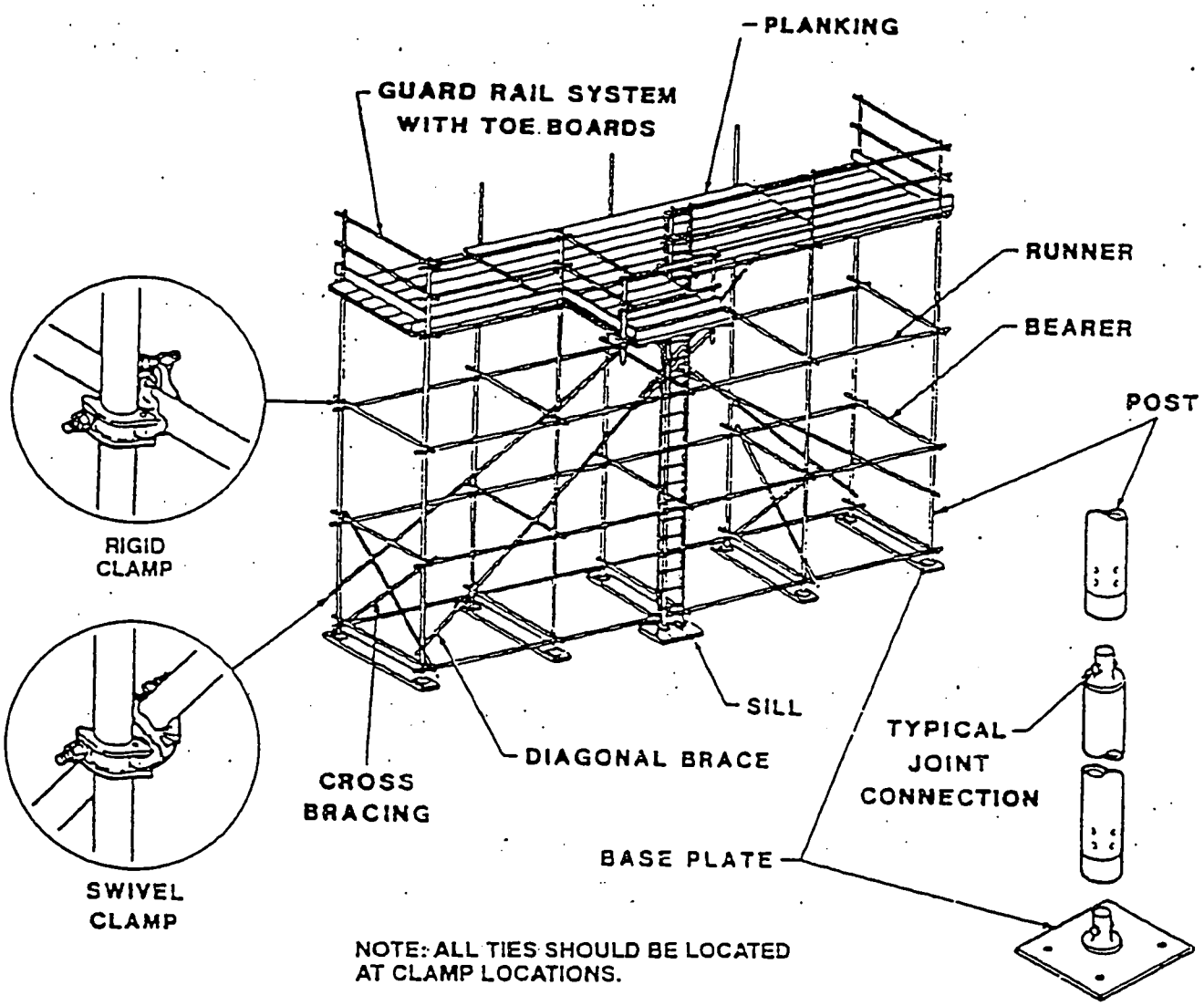



Grade stamp courtesy of Southern Pine Inspection Bureau

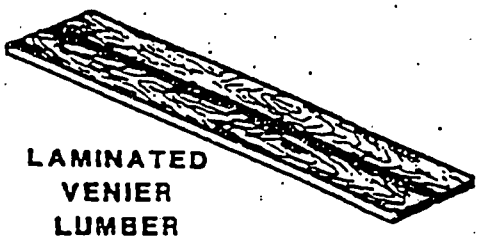

Grade stamp courtesy of West Coast Lumber Inspection Bureau

# TUBE and COUPLER SCAFFOLD

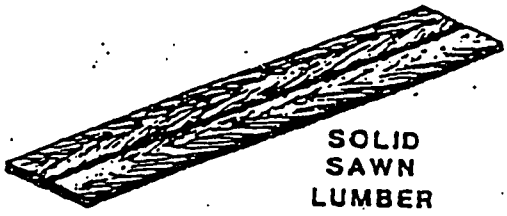


PROPOSED

# SCAFFOLDING WORK SURFACES

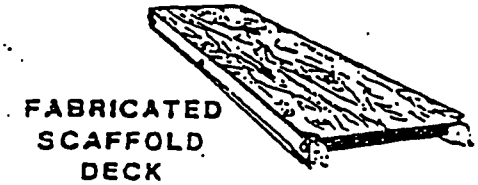


LAMINATED VENIER LUMBER (LVL)

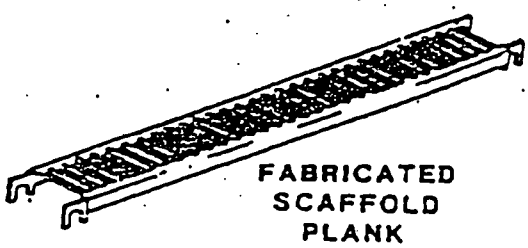


SOLID SAWN LUMBER

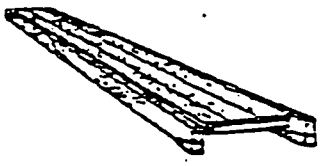
## SCAFFOLD PLANKS



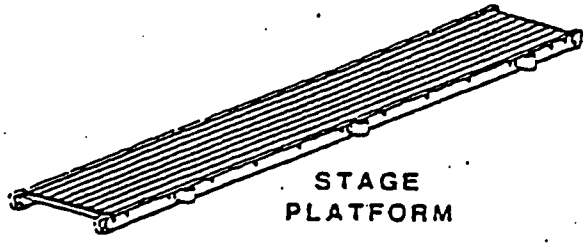
FABRICATED SCAFFOLD DECK



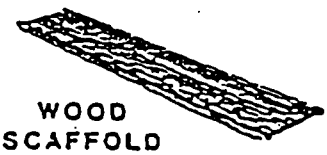
FABRICATED SCAFFOLD PLANK



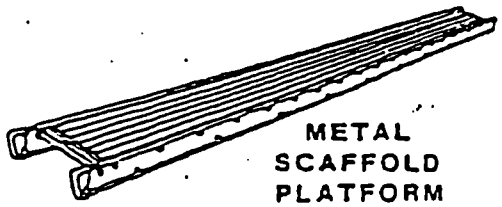
DECORATOR PLANK



STAGE PLATFORM

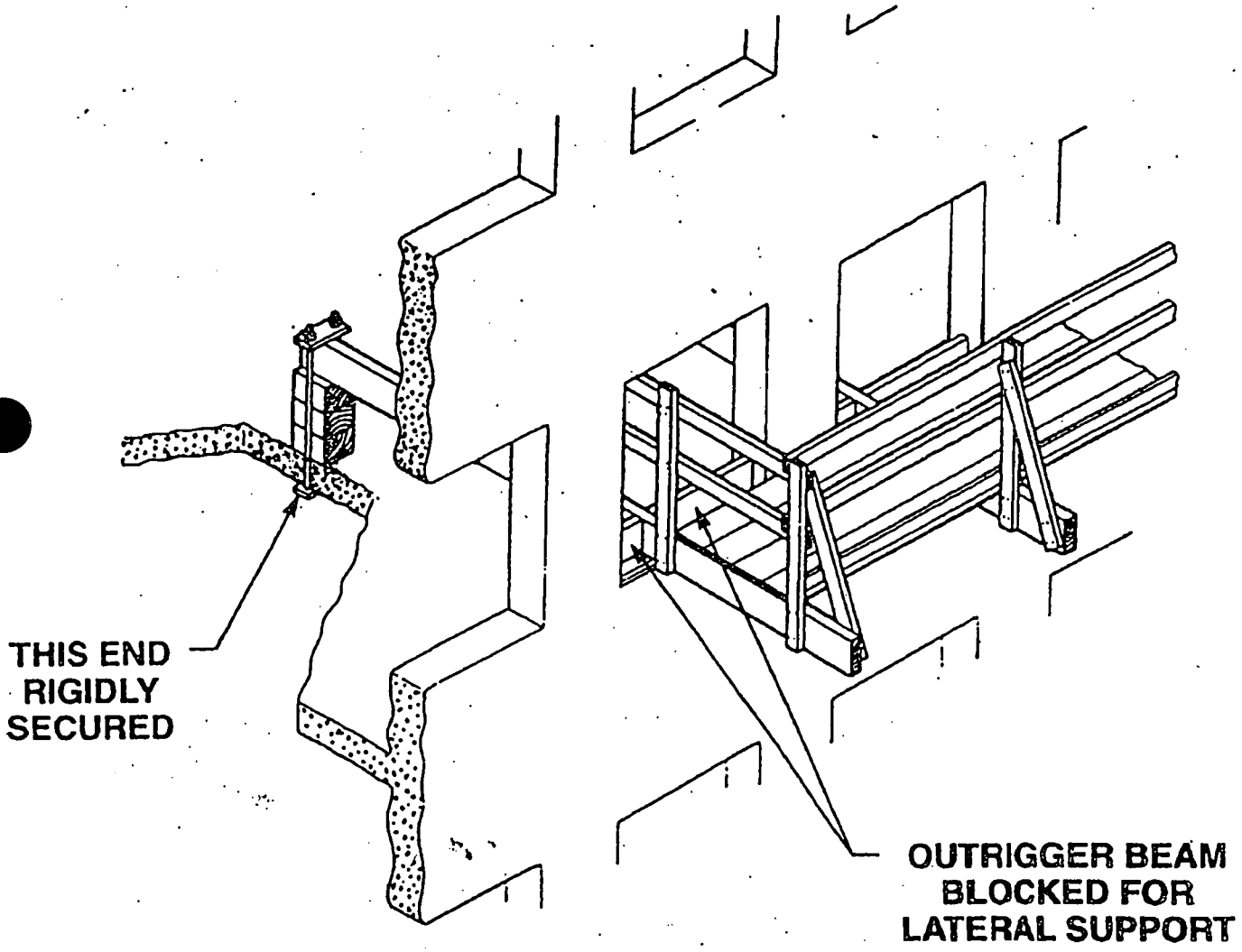


WOOD SCAFFOLD PLATFORM



METAL SCAFFOLD PLATFORM

# OUTRIGGER SCAFFOLD




NEW SECTION

**WAC 296-155-528 Crane or derrick suspended personnel platforms.** (1) Scope, application, and definitions.

(a) Scope and application. This standard applies to the design, construction, testing, use and maintenance of personnel platforms, and the hoisting of personnel platforms on the load lines of cranes or derricks.

(b) Definitions. For the purposes of this section, the following definitions apply:

(i) "Failure" means load refusal, breakage, or separation of components.

(ii) "Hoist" (or hoisting) means all crane or derrick functions such as lowering, lifting, swinging, booming in and out or up and down, or suspending a personnel platform.

(iii) "Load refusal" means the point where the ultimate strength is exceeded.

(iv) "Maximum intended load" means the total load of all employees, tools, materials, and other loads reasonably anticipated to be applied to a personnel platform or personnel platform component at any one time.

(v) "Runway" means a firm, level surface designed, prepared, and designated as a path of travel for the weight and configuration of the crane being used to lift and travel with the crane suspended platform. An existing surface may be used as long as it meets these criteria.

(2) General requirements. The use of a crane or derrick to hoist employees on a personnel platform is prohibited, except when the erection, use, and dismantling of conventional means of reaching the worksite, such as a personnel hoist, ladder, stairway, aerial lift, elevating work platform or scaffold, would be more hazardous, or is not possible because of structural design or worksite conditions.

(3) Cranes and derricks.

(a) Operational criteria.

(b) Hoisting of the personnel platform shall be performed in a slow, controlled, cautious manner with no sudden movements of the crane or derrick, or the platform.

(c) Load lines shall be capable of supporting, without failure, at least seven times the maximum intended load, except that where rotation resistant rope is used, the lines shall be capable of supporting without failure, at least ten times the maximum intended load. The required design factor is achieved by taking the current safety factor of 3.5 (required under WAC 296-155-525 (4)(b)) and applying the fifty percent derating of the crane capacity which is required by (f) of this subsection.

(d) Load and boom hoist drum brakes, swing brakes, and locking devices such as pawls or dogs shall be engaged when the occupied personnel platform is in a stationary working position.

(e) The crane shall be uniformly level within one percent of level grade and located on firm footing. Cranes equipped with outriggers shall have them all fully deployed following manufacturer's specifications, insofar as applicable, when hoisting employees.

(f) The total weight of the loaded personnel platform and related rigging shall not exceed fifty percent of the rated capacity for the radius and configuration of the crane or derrick.

(g) The use of machines having live booms (booms in which lowering is controlled by a brake without aid from other devices which slow the lowering speeds) is prohibited.

(h) Multiple-part line block: When a multiple-part line block is in use, a substantial strap shall be used between the crane hook and common ring, shackle, or other equivalent device, to eliminate employee exposure to the lines running through the block, and to the block itself.

(4) Instruments and components.

(a) Cranes and derricks with variable angle booms shall be equipped with a boom angle indicator, readily visible to the operator.

(b) Cranes with telescoping booms shall be equipped with a device to indicate clearly to the operator, at all times, the boom's extended length, or an accurate determination of the load radius to be used during the lift shall be made prior to hoisting personnel.

(c) A positive acting device shall be used which prevents contact between the load block or overhaul ball and the boom tip (anti-two-blocking device), or a system shall be used which deactivates the hoisting action before damage occurs in the event of a two-blocking situation (two block damage prevention feature).

(d) The load line hoist drum shall have a system or device on the power train, other than the load hoist brake, which regulates the lowering rate of speed of the hoist mechanism (controlled load lowering). Free fall is prohibited.

(5) Rigging.

(a) Lifting bridles on box-type platforms shall consist of four legs of equal length, with one end securely shackled to each corner of the platform and the other end securely attached to a common ring, shackle, or other equivalent device to accommodate the crane hook, or a strap to the crane hook.

(b) Shackle bolts used for rigging of personnel platforms shall be secured against displacement.

(c) A substantial safety line shall pass through the eye of each leg of the bridle adjacent to the common ring, shackle, or equivalent device.

(d) Securely fastened with a minimum amount of slack to the lift line above the headache ball or to the crane hook itself.

(e) All eyes in wire rope slings shall be fabricated with thimbles.

(f) Wire rope, shackles, rings, master links, and other rigging hardware must be capable of supporting, without failure, at least five times the maximum intended load applied or transmitted to that component. Where rotation resistant wire rope is used for slings, they shall be capable of supporting without failure at least ten times the maximum intended load.

(g) Hooks on headache ball assemblies, lower load blocks, or other attachment assemblies shall be of a type that can be closed and locked, eliminating the hook throat opening. Alternatively, an alloy anchor type shackle with a bolt, nut and retaining pin may be used.

(h) Bridles and associated rigging for attaching the personnel platform to the hoist line shall be used only for the platform and the necessary employees, their tools and the materials necessary to do their work, and shall not be used for any other purpose when not hoisting personnel.

(6) Personnel platforms - design criteria.

(a) The personnel platform and suspension system shall be designed by a qualified engineer or a qualified person competent in structural design.

(b) The suspension system shall be designed to minimize tipping of the platform due to movement of employees occupying the platform.

(c) The personnel platform itself, except the guardrail system and body harness anchorages, shall be capable of supporting, without failure, its own weight and at least five times the maximum intended load based on a minimum allowance of five hundred pounds for the first person with light tools, and an additional two hundred fifty pounds for each additional person.

(d) Criteria for guardrail systems contained in chapter 296-155 WAC, Part K and body harness anchorages are contained in chapter 296-155 WAC, Part C-1.

(e) The personnel platform shall be conspicuously posted with a plate or other permanent marking which indicates the weight of the platform and its rated load capacity or maximum intended load.

(7) Platform specifications.

(a) Each personnel platform shall be equipped with a guardrail system which meets the requirements of chapter 296-155 WAC, Part K and, shall be enclosed at least from the toeboard to mid-rail with either solid construction or expanded metal having openings no greater than one-half inch (1.27 cm).

(b) A grab rail shall be installed inside the entire perimeter of the personnel platform.

(c) Access gates, if installed, shall not swing outward during hoisting.

(d) Access gates, including sliding or folding gates, shall be equipped with a restraining device to prevent accidental opening.

(e) Headroom shall be provided which allows employees to stand upright in the platform.

(f) In addition to the use of hard hats, employees shall be protected by overhead protection on the personnel platform when employees are exposed to falling objects.

(g) All rough edges exposed to contact by employees shall be surfaced or smoothed in order to prevent injury to employees from punctures or lacerations.

(h) All welding of the personnel platform and its components shall be performed by a qualified welder familiar with the weld grades, types, and material specified in the platform design.

(i) Occupants of all personnel platforms shall wear a safety belt or harness and lanyard which meets the requirements of chapter 296-155 WAC, Part C-1.

(j) Box-type platform: The workers lanyard shall be secured to an anchorage within the platform meeting the requirements of chapter 296-155 WAC, Part C-1.

(k) Rescue platform:

(i) If the platform is used as a rescue vehicle, the injured worker shall be strapped into the stretcher or basket.

(ii) The basket shall then be secured by lanyard to an anchorage within the platform meeting the requirements of chapter 296-155 WAC, Part C-1.

(l) Boatswains chair: The workers lanyard shall be secured to the lift line above the headache ball or to the crane hook itself.

(m) Barrel-type platform:

(i) The workers lanyard shall be secured to the lift line above the headache ball or to the crane hook itself.

(ii) A solid bar or rod shall be substantially attached in a rigid position to the bottom or side of the platform.

(iii) The bottom of the barrel-type platform shall be of a convex shape to cause the platform to lay on its side when lowered to the ground or floor.

(iv) The bar or rod shall extend a minimum of eight feet above the floor of the platform.

(v) Workers shall enter and exit from barrel-type platforms only when they are in an upright position, stable, and securely attached to the load line.

(vi) The employer shall use methods or devices which allow employees to safely enter or exit barrel-type platforms.

(8) Personnel platform loading.

(a) The personnel platform shall not be loaded in excess of its rated load capacity.

(b) The number of employees occupying the personnel platform shall not exceed the number required for the work being performed.

(c) Personnel platforms shall be used only for employees, their tools, and the materials necessary to do their work, and shall not be used to hoist only materials or tools when not hoisting personnel.

(d) Materials and tools for use during a personnel lift shall be secured to prevent displacement.

(e) Materials and tools for use during a personnel lift shall be evenly distributed within the confines of the platform while the platform is suspended.

(9) Trial lift, inspection, and proof testing.

(a) A trial lift with the unoccupied personnel platform loaded at least to the anticipated liftweight shall be made from ground level, or any other location where employees will enter the platform, to each location at which the personnel platform is to be hoisted and positioned. This trial lift shall be performed immediately prior to placing personnel on the platform. The operator shall determine that all systems, controls, and safety devices are activated and functioning properly; that no interferences exist; and that all configurations necessary to reach those work locations will allow the operator to remain under the fifty percent limit of the hoist's rated capacity. Materials and tools to be used during the actual lift can be loaded in the platform, as provided in subsection (8)(d) and (e) of this section for the trial lift. A single trial lift may be performed at one time for all locations that are to be reached from a single set-up position.

(b) The trial lift shall be repeated prior to hoisting employees whenever the crane or derrick is moved and set up in a new location or returned to a previously used location. Additionally, the trial lift shall be repeated when the lift route is changed unless the operator determines that the route change is not significant (i.e., the route change would not affect the safety of hoisted employees).

(c) After the trial lift, and just prior to hoisting personnel, the platform shall be hoisted a few inches and inspected to ensure that it is secure and properly balanced. Employees shall not be hoisted unless the following conditions are determined to exist:

(i) Hoist ropes shall be free of kinks;

(ii) Multiple part lines shall not be twisted around each other;

(iii) The primary attachment shall be centered over the platform; and

(iv) The hoisting system shall be inspected if the load rope is slack to ensure all ropes are properly stated on drums and in sheaves.

(d) A visual inspection of the crane or derrick, rigging, personnel platform, and the crane or derrick base support or ground shall be conducted by a competent person immediately after the trial lift to determine whether the testing has exposed any defect or produced any adverse effect upon any component or structure.

PROPOSED

(e) Any defects found during inspections which create a safety hazard shall be corrected before hoisting personnel.

(f) At each job site, prior to hoisting employees on the personnel platform, and after any repair or modification, the platform and rigging shall be proof tested to one hundred twenty-five percent of the platform's rated capacity by holding it in a suspended position for five minutes with the test load evenly distributed on the platform (this may be done concurrently with the trial lift). After proof testing, a competent person shall inspect the platform and rigging. Any deficiencies found shall be corrected and another proof test shall be conducted. Personnel hoisting shall not be conducted until the proof testing requirements are satisfied.

(10) Work practices.

(a) Employees shall keep all parts of the body inside the platform during raising, lowering, and positioning. This provision does not apply to an occupant of the platform performing the duties of a signal person.

(b) Before employees exit or enter a hoisted personnel platform that is not landed, the platform shall be secured to the structure where the work is to be performed, unless securing to the structure creates an unsafe situation.

(c) Tag lines shall be used unless their use creates an unsafe condition.

(d) The crane or derrick operator shall remain at the controls at all times when the crane engine is running and the platform is occupied.

(e) Hoisting of employees shall be promptly discontinued upon indication of any dangerous weather conditions or other impending danger.

(f) Employees being hoisted shall remain in continuous sight of and in direct communication with the operator or signal person. In those situations where direct visual contact with the operator is not possible, and the use of a signal person would create a greater hazard for that person, direct communication alone such as by radio may be used.

(g) Hand signals to the operator shall be in accordance with WAC 296-155-525 (2)(c).

(h) Except over water, employees occupying the personnel platform shall use a full body harness system with lanyard appropriately attached to the lower load block or overhaul ball, or to a structural member within the personnel platform capable of supporting a fall impact for employees using the anchorage as specified in chapter 296-155 WAC, Part C-1. When working over water, the requirements of WAC 296-155-235 shall apply.

No lifts shall be made on another of the crane's or derrick's load lines while personnel are suspended on a platform.

(11) Traveling.

(a) Hoisting of employees while the crane is traveling is prohibited, except for portal, tower and locomotive cranes, or where the employer demonstrates that there is no less hazardous way to perform the work.

(b) Under any circumstances where a crane would travel while hoisting personnel, the employer shall implement the following procedures to safeguard employees:

(i) Crane travel shall be restricted to a fixed track or runway;

(ii) Travel shall be limited to the load radius of the boom used during the lift; and

(iii) The boom must be parallel to the direction of travel.

(c) A complete trial run shall be performed to test the route of travel before employees are allowed to occupy the platform. This trial run can be performed at the same time as the trial lift required by subsection (9)(a) of this section which tests the route of the lift.

(d) If travel is done with a rubber tired-carrier, the condition and air pressure of the tires shall be checked. The chart capacity for lifts on rubber shall be used for application of the fifty percent reduction of rated capacity. Notwithstanding subsection (3)(e) of this section, outriggers may be partially retracted as necessary for travel.

(12) Prelift meeting.

(a) A meeting attended by the crane or derrick operator, signal person(s) (if necessary for the lift), employee(s) to be lifted, and the person responsible for the task to be performed shall be held to review the appropriate requirements of this section and the procedures to be followed.

(b) This meeting shall be held prior to the trial lift at each new work location, and shall be repeated for any employees newly assigned to the operation.

AMENDATORY SECTION (Amending Order 86-14, filed 1/21/86)

**WAC 296-155-605 Equipment.** (1) General requirements.

(a) All equipment left unattended at night, adjacent to a highway in normal use, or adjacent to construction areas where work is in progress, shall have appropriate lights or reflectors, or barricades equipped with appropriate lights or reflectors, to identify the location of the equipment.

(b) All tire servicing of multi-piece and single-piece rim wheels are subject to the requirements of WAC 296-155-61701 through 296-155-61713.

(c)(i) Heavy machinery, equipment, or parts thereof, which are suspended or held aloft by use of slings, hoists, or jacks shall be substantially blocked or cribbed to prevent falling or shifting before employees are permitted to work under or between them. Bulldozer and scraper blades, end-loader buckets, dump bodies, and similar equipment, shall be either fully lowered or blocked when being repaired or when not in use. All controls shall be in a neutral position, with the motors stopped and brakes set, unless work being performed required otherwise.

(ii) Whenever the equipment is parked, the parking brake shall be set. Equipment parked on inclines shall have the wheels chocked and the parking brake set.

(d) The use, care and charging of all batteries shall conform to the requirements of part I of this chapter.

(e) All cab glass shall be safety glass, or equivalent, that introduces no visible distortion affecting the safe operation of any machine covered by this part.

(f) All equipment covered by this part shall comply with the requirements of WAC 296-155-525 (~~((2)(e))~~) (3)(a) when working or being moved in the vicinity of power lines or energized transmitters.

(g) Where traffic is diverted onto dusty surfaces, good visibility shall be maintained by the suppression of dust through the periodic application of oil or water to the grade surface, as required.

(h) No equipment, vehicle, tool, or individual shall operate within 10 feet of any power line or electrical distribution equipment except in conformity with the requirements of WAC 296-155-525 (((~~(2)(e)~~))) (3)(a).

(2) Specific requirements. (Reserved.)

AMENDATORY SECTION (Amending Order 94-07, filed 7/20/94, effective 9/20/94)

**WAC 296-155-615 Material handling equipment.** (1) Earthmoving equipment; general.

(a) These rules apply to the following types of earthmoving equipment: Scrapers, loaders, crawler or wheel tractors, bulldozers, off-highway trucks, graders, agricultural and industrial tractors, and similar equipment. The promulgation of specific rules for compactors and rubber-tired "skid-steer" equipment is reserved pending consideration of standards currently being developed.

(b) Seat belts.

(i) Seat belts shall be provided on all equipment covered by this section and shall meet the requirements of the Society of Automotive Engineers, J386-1969, Seat Belts for Construction Equipment. Seat belts for agricultural and light industrial tractors shall meet the seat belt requirements of Society of Automotive Engineers J333a-1970, Operator Protection for Agricultural and Light Industrial Tractors.

(ii) Seat belts need not be provided for equipment which is designed only for standup operation.

(iii) Seat belts shall not be provided for equipment which does not have rollover protective structure (ROPS) or adequate canopy protection.

(c) Access roadways and grades.

(i) No employer shall move or cause to be moved construction equipment or vehicles upon any access roadway or grade unless the access roadway or grade is constructed and maintained to accommodate safely the movement of the equipment and vehicles involved.

(ii) Every emergency access ramp and berm used by an employer shall be constructed to restrain and control runaway vehicles.

(d) Brakes. All earthmoving equipment mentioned in WAC 296-155-615 (1)(a) shall have a service braking system capable of stopping and holding the equipment fully loaded, as specified in Society of Automotive Engineers SAE-J237, Loader Dozer-1971, J236, Graders-1971, and J319b, Scrapers-1971. Brake systems for self-propelled rubber-tired off-highway equipment manufactured after January 1, 1972 shall meet the applicable minimum performance criteria set forth in the following Society of Automotive Engineers Recommended Practices:

| | |
|---|---|
| Self-propelled scrapers | SAE J319b-1971 |
| Self-propelled graders | SAE J236-1971 |
| Trucks and wagons | SAE J166-1971 |
| Front end loaders and dozer | SAE J237-1971 |

(e) Fenders. Pneumatic-tired earthmoving haulage equipment (trucks, scrapers, tractors, and trailing units) whose maximum speed exceeds 15 miles per hour, shall be equipped with fenders on all wheels to meet the requirements of Society of Automotive Engineers SAE J321a-1970, Fenders for Pneumatic-Tired Earthmoving Haulage Equipment. An employer may, of course, at any time seek to show under WAC 296-155-010, that the uncovered wheels present no hazard to personnel from flying materials.

(f) Rollover protective structures (ROPS). See Part V of this chapter for requirements for rollover protective structures and overhead protection.

(g) Rollover protective structures for off-highway trucks. The promulgation of standards for rollover protective structures for off-highway trucks is reserved pending further study and development.

(h) Specific effective dates—Brakes and fenders. Equipment mentioned in WAC 296-155-615 (d) and (e) and manufactured after January 1, 1972, which is used by any employer after that date, shall comply with the applicable rules prescribed therein concerning brakes. Equipment mentioned in WAC 296-155-615 (d) and (e) and manufactured before January 1, 1972, which is used by any employer after that date, shall meet the applicable rules prescribed herein not later than October 1, 1974. It should be noted that employers may request variations from the applicable brakes standards required by this part. Employers wishing to seek variations from the applicable brakes rules may submit any requests for variations in accordance with WAC 296-155-010. Any statements should specify how the variation would protect the safety of the employees by providing for any compensating restrictions on the operation of equipment.

(i) Audible alarms.

(i) All bidirectional machines, such as rollers, compactors, front-end loaders, bulldozers, and similar equipment, shall be equipped with a horn, distinguishable from the surrounding noise level, which shall be operated as needed when the machine is moving in either direction. The horn shall be maintained in an operative condition.

(ii) No employer shall permit earthmoving or compacting equipment which has an obstructed view to the rear to be used in reverse gear unless the equipment has in operation a reverse signal alarm distinguishable from the surrounding noise level or an employee signals that it is safe to do so.

(iii) In circumstances where the surrounding noise level is of such amplitude that reverse signal alarms are not effective, amber strobe lights shall be used.

(iv) Operators of equipment which does not have an obstructed view to the rear shall look to the rear while operating the equipment in reverse.

(j) Scissor points. Scissor points on all front-end loaders, which constitute a hazard to the operator during normal operation, shall be guarded.

(k) Tractor motors shall be cranked only by operators or other experienced persons.

(l) Waterproof and comfortable seat cushions shall be provided on tractors at all times when working.

(m) Riders, except mechanics and persons in training to operate equipment, shall not be allowed on equipment unless a seat with a seatbelt is provided and used.

(n) Winch lines shall be maintained in good condition and provided with spliced eye, knob or hook in working end, except under conditions where unspliced end is required.

(o) No repairs on blade or dozer equipment shall be initiated unless motor has been stopped and dozer blade is

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resting on the ground or securely blocked. The same shall apply to carry-all gates.

(p) Bulldozer blades and carryall gates shall rest on the ground or on blocking when machines are not in operation.

(q) Operator shall not leave controls of tractor with master clutch engaged.

(r) Personnel shall not get on or off machine while machine is in motion.

(s) Where excessive dust conditions are created, such areas shall be sprinkled with water to maintain dust at a minimum.

(t) Respirators shall be worn by operators when subject to harmful dust exposure.

(2) Excavating and other equipment.

(a) Tractors covered in subsection (1) of this section shall have seat belts as required for the operators when seated in the normal seating arrangement for tractor operation, even though backhoes, breakers, or other similar attachments are used on these machines for excavating or other work.

(b) For the purposes of this part and of Part L of this chapter, the nomenclatures and descriptions for measurement of dimensions of machinery and attachments shall be as described in Society of Automotive Engineers 1970 Handbook, pages 1088 through 1103.

(c) The safety requirements, ratios, or limitations applicable to machines or attachment usage covered in Power Crane and Shovel Association's Standards No. 1 and No. 2 of 1968, and No. 3 of 1969, shall be complied with, and shall apply to cranes, machines, and attachments under this part.

(3) Lifting and hauling equipment (other than equipment covered under Part L of this chapter). Industrial trucks (including forklifts) shall meet the requirements of WAC 296-155-605 and the following:

(a) Lift trucks, stackers, etc., shall have the rated capacity clearly posted on the vehicle so as to be clearly visible to the operator. When auxiliary removable counterweights are provided by the manufacturer, corresponding alternate rated capacities also shall be clearly shown on the vehicle. These ratings shall not be exceeded.

(b) No modifications or additions which affect the capacity or safe operation of the equipment shall be made without the manufacturer's or professional engineer's written approval. If such modifications or changes are made, the capacity, operation, and maintenance instruction plates, tags, or decals, shall be changed accordingly. In no case shall the original safety factor of the equipment be reduced.

(c) If a load is lifted by two or more trucks working in unison, the proportion of the total load carried by any one truck shall not exceed its capacity.

(d) Steering or spinner knobs shall not be attached to the steering wheel unless the steering mechanism is of a type that prevents road reactions from causing the steering handwheel to spin. The steering knob shall be mounted within the periphery of the wheel.

(e) All high lift rider industrial trucks shall be equipped with overhead guards which meet the configuration and structural requirements as defined in paragraph 502 of American National Standards Institute B56.1-1975, Safety Standards for Powered Industrial Trucks.

(f) All industrial trucks in use shall meet the applicable requirements of design, construction, stability, inspection, testing, maintenance, and operation, as defined in American National Standards Institute B56.1-1975, Safety Standards for Powered Industrial Trucks.

(g) Unauthorized personnel shall not be permitted to ride on powered industrial trucks. A safe place to ride shall be provided where riding of trucks is authorized.

(h) When a forklift truck is used for elevating workers a platform shall be specifically built for that purpose and shall comply with the following requirements:

(i) The platform shall be securely attached to the forks and shall have standard guardrails and toeboards on all open sides.

(ii) The hydraulic system of the forklift shall be so designed that the lift mechanism will not drop faster than one hundred thirty-five feet per minute in the event of a failure in any part of the system. Forklifts used for elevating platforms shall be identified that they are so designed.

(iii) A safety strap shall be installed or the control lever shall be locked to prevent the boom from tilting.

(iv) An operator shall be at the controls of the forklift equipment while persons are on the platform.

(v) The operator shall be in the normal operating position while raising or lowering the platform.

(vi) The vehicle shall not travel from point to point while workers are on the platform except that inching or maneuvering at very slow speed is permissible.

(vii) The area between workers on the platform and the mast shall be adequately guarded to prevent contact with chains or other shear points.

(viii) All platforms shall be visually inspected daily or before each use by the person in charge of the work being performed, and shall be tested as frequently as is necessary to maintain minimum safety factors.

(ix) Whenever a truck, except for high lift order picker trucks, is equipped with vertical hoisting controls elevatable with the lifting carriage or forks, the following precautions shall be taken for the protection of personnel being elevated.

(A) Provide a platform secured to the lifting carriage and/or forks.

(B) Provide means whereby personnel on the platform can shut off power to the truck.

(C) Provide such protection from falling objects as indicated necessary by the operating conditions.

AMENDATORY SECTION (Amending Order 89-03, filed 5/15/89, effective 6/30/89)

**WAC 296-155-683 Concrete finishing.** (1) ((~~Scaffolding~~)) Scaffolds for use of cement finishers shall comply with ((~~all applicable subsections of WAC 296-155-485~~)) the requirements of chapter 296-155 WAC, Part J-1, Scaffolds.

(2) Where grinders, chippers, and other equipment is used which creates a thrust force while working on scaffolding, such scaffold shall be securely tied to a structure or held in with weighted drop lines.

(3) Grinding and dressing operations carried on within closed rooms, stairwells, elevator shafts, etc., shall be provided with forced air ventilation.

(4) Grinding machine operators shall wear respirators whenever machines are in operation or where dust hazard exists.

(5) Eye protection shall be worn by workers engaged in grinding, chipping, or sacking concrete as required by WAC 296-155-215.

AMENDATORY SECTION (Amending Order 90-18, filed 1/10/91, effective 2/12/91)

**WAC 296-155-688 Vertical slip forms.** (1) Slip forms shall be designed and constructed, and the form movement carried out, under the immediate supervision of a person or persons experienced in slip form design and operation. Drawings prepared by a qualified engineer, showing the jack layout, formwork, working decks, and scaffolding, shall be available at the jobsite, and followed.

(2) The steel rods or pipe on which the jacks climb or by which the forms are lifted shall be designed for this purpose. Such rods must be adequately braced where not encased in concrete.

(3) Forms shall be designed to prevent excessive distortion of the structure during the jacking operation.

(4) All vertical slip forms shall be provided with scaffolding or work platforms completely encircling the area of placement.

(5) Jacks and vertical supports shall be positioned in such a manner that the loads do not exceed the rated capacity of the jacks.

(6) The jacks or other lifting devices shall be provided with mechanical dogs or other automatic holding devices to support the slip forms whenever failure of the power supply or lifting mechanism occurs.

(7) The form structure shall be maintained within all design tolerances specified for plumbness during the jacking operation.

(8) Lifting shall proceed steadily and uniformly and shall not exceed the predetermined safe rate of lift. A jacking system, which provides precise, simultaneous movement of the entire form in small preselected increments, is recommended for large structures.

(9) Workers placing reinforcing steel shall ((~~wear a full body harness tied off by lanyards or otherwise securely fastened~~)) comply with the requirements of chapter 296-155 WAC, Part C-1 when working above the scaffold level.

(10) The total allowable load on slip form platforms shall be determined by the design engineer and enforced by the field supervisor.

(11) Lateral and diagonal bracing of the forms shall be provided to prevent excessive distortion of the structure during the sliding operation.

(12) While the slide is in operation, the form structure shall be maintained in line and plumb.

(13) A field supervisor experienced in slip form construction shall be present on the deck at all times.

AMENDATORY SECTION (Amending Order 90-18, filed 1/10/91, effective 2/12/91)

**WAC 296-155-689 Placing and removal of forms.** (1) When moved or raised by crane, cableway, A-frame, or similar mechanical device, forms shall be securely attached to slings having a minimum safety factor of five. Use of No. 9 tie wire, fiber rope, and similar makeshift lashing shall be prohibited.

(2) Taglines shall be used in moving panels or other large sections of forms by crane or hoist.

(3) All hoisting equipment, including hoisting cable used to raise and move forms shall have a minimum safety factor incorporated in the manufacturer's design, and the manufacturer's recommended loading shall not be exceeded. Field-fabricated or shop-fabricated hoisting equipment shall be designed or approved by a registered professional engineer, incorporating a minimum safety factor of five in its design. Panels and built-up form sections shall be equipped with metal hoisting brackets for attachment of slings.

(4) Forms intended for use where there is a free fall of over ten feet shall be equipped with adequate scaffolding and guardrails, or employees working on the forms shall be ((~~required to wear a full body harness~~)) protected from falls in accordance with chapter 296-155 WAC, Part C-1 during forming and stripping operations.

(5) Vertical forms being raised or removed in sections shall not be released until adequately braced or secured. Overhead forms shall not be released until adequately braced or secured.

(6) Workers or others at lower levels shall be protected from falling materials. Appropriate warning signs shall be erected along walkways.

(7) Forms shall not be removed until the concrete is cured. The concrete shall be adequately set in order to permit safe removal of the forms, shoring, and bracing. Engineer's specifications and local building codes shall be adhered to in determining the length of time forms should remain in place following concrete placement. In addition, tests shall be made on field-cured concrete specimens in order to insure that concrete has obtained sufficient strength to safely support the load prior to removal of forms.

AMENDATORY SECTION (Amending Order 94-07, filed 7/20/94, effective 9/20/94)

**WAC 296-155-700 General requirements.** (1) Erection gangs on structural steel erection shall work under the direction of experienced crew leader.

(2) Workers shall not ride on steel being hoisted, nor slide down ropes, columns or ladders.

(3) Wire rope slings shall be used when lifting loads. Care shall be taken to avoid sharp bends by using wood or similar type padding between wire rope and load. Reinforcing steel shall not be lifted by bundling ties.

(4) If float scaffolds are used during steel erection, they shall be used in accordance with WAC ((~~296-155-485(24)~~)) 296-155-484(19).

AMENDATORY SECTION (Amending WSR 95-04-007, filed 1/18/95, effective 3/1/95)

**WAC 296-155-730 Tunnels and shafts.** (1) Scope and application.

(a) This section applies to the construction of underground tunnels, shafts, chambers, and passageways. This section also applies to cut-and-cover excavations which are both physically connected to ongoing underground construction operations within the scope of this section, and covered



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in such a manner as to create conditions characteristic of underground construction.

(b) This section does not apply to excavation and trenching operations covered by Part N of this chapter, such as foundation operations for above-ground structures that are not physically connected to underground construction operations, and surface excavation.

(c) The employer shall comply with the requirements of this part and chapter in addition to applicable requirements of chapter 296-36 WAC, Safety standards—Compressed air work.

(2) Access and egress.

(a) Each operation shall have a check-in/check-out system that will provide positive identification of every employee underground. An accurate record of identification and location of the employees shall be kept on the surface. This procedure is not required when the construction of underground facilities designed for human occupancy has been sufficiently completed so that the permanent environmental controls are effective, and when the remaining construction activity will not cause any environmental hazard, or structural failure within the facilities.

(b) The employer shall provide and maintain safe means of access and egress to all work stations.

(c) The employer shall provide access and egress in such a manner that employees are protected from being struck by excavators, haulage machines, trains, and other mobile equipment.

(d) The employer shall control access to all openings to prevent unauthorized entry underground. Unused chutes, manways, or other openings shall be tightly covered, bulkheaded, or fenced off, and shall be posted with warning signs indicating "keep out" or similar language. Completed or unused sections of the underground facility shall be barricaded.

(3) Safety instruction. All employees shall be instructed in the recognition and avoidance of hazards associated with underground construction activities including, where appropriate, the following subjects:

(a) Air monitoring;

(b) Ventilation;

(c) Confined space entry procedures;

(d) Permit-required confined space entry procedures;

(e) Illumination;

(f) Communications;

(g) Flood control;

(h) Mechanical equipment;

(i) Personal protective equipment;

(j) Explosives;

(k) Fire prevention and protection; and

(l) Emergency procedures, including evacuation plans and check-in/check-out systems.

(4) Notification.

(a) Oncoming shifts shall be informed of any hazardous occurrences or conditions that have affected, or might affect employee safety, including liberation of gas, equipment failures, earth or rock slides, cave-ins, floodings, fire(s), or explosions.

(b) Information specified in (a) of this subsection shall be recorded in a shift journal which shall be current prior to the end of each shift, and shall be located aboveground.

(c) Oncoming supervisory personnel shall read the notification prior to going underground, and shall signify their understanding of the contents by affixing their respective initials to the log.

(d) The hazard notification log shall be retained on the site until the completion of the project.

(e) The employer shall establish and maintain direct communications for coordination of activities with other employers whose operations at the jobsite affect or may affect the safety of employees underground.

(5) Communications.

(a) When natural unassisted voice communication is ineffective, a power-assisted means of voice communication shall be used to provide communication between the work face, the bottom of the shaft, and the surface.

(b) Two effective means of communication, at least one of which shall be voice communication, shall be provided in all shafts which are being developed or used either for personnel access or for hoisting. Additional requirements for hoist operator communication are contained in subsection (22)(c)(xv) of this section.

(c) Powered communication systems shall operate on an independent power supply, and shall be installed so that the use of or disruption of any one phone or signal location will not disrupt the operation of the system from any other location.

(d) Communication systems shall be tested upon initial entry of each shift to the underground, and as often as necessary at later times, to ensure that they are in working order.

(e) Any employee working alone underground in a hazardous location, who is both out of the range of natural unassisted voice communication and not under observation by other persons, shall be provided with an effective means of obtaining assistance in an emergency.

(6) Emergency provisions. Hoisting capability. When a shaft is used as a means of egress, the employer shall make advance arrangements for power-assisted hoisting capability to be readily available in an emergency, unless the regular hoisting means can continue to function in the event of an electrical power failure at the jobsite. Such hoisting means shall be designed so that the load hoist drum is powered in both directions of rotation and so that the brake is automatically applied upon power release or failure.

(7) Self-rescuers. The employer shall provide self-rescuers having current approval from the National Institute for Occupational Safety and Health and the Mine Safety and Health Administration to be immediately available to all employees at work stations in underground areas where employees might be trapped by smoke or gas. The selection, issuance, use, and care of respirators shall be in accordance with the requirements of chapter 296-62 WAC, Part E.

(8) Designated person. At least one designated person shall be on duty aboveground whenever any employee is working underground. This designated person shall be responsible for securing immediate aid and keeping an accurate record of the number, identification, and location of employees who are underground in case of emergency. The designated person must not be so busy with other responsibilities that the personnel counting and identification function is encumbered.

(9) Emergency lighting. Each employee underground shall have an acceptable portable hand lamp or cap lamp in his or her work area for emergency use, unless natural light or an emergency lighting system provides adequate illumination for escape.

(10) Rescue teams.

(a) On jobsites where 25 or more employees work underground at one time, the employer shall provide (or make arrangements in advance with locally available rescue services to provide) at least two 5-person rescue teams, one on the jobsite or within one-half hour travel time from the entry point, and the other within 2 hours travel time.

(b) On jobsites where less than 25 employees work underground at one time, the employer shall provide (or make arrangements in advance with locally available rescue services to provide) at least one 5-person rescue team to be either on the jobsite or within one-half hour travel time from the entry point.

(c) Rescue team members shall be qualified in rescue procedures, the use and limitations of breathing apparatus, and the use of fire fighting equipment. Qualifications shall be reviewed not less than annually.

(d) On jobsites where flammable or noxious gases are encountered or anticipated in hazardous quantities, rescue team members shall practice donning and using pressure demand mode, self-contained breathing apparatuses monthly.

(e) The employer shall ensure that rescue teams are familiar with conditions at the jobsite.

(11) Hazardous classifications.

(a) Potentially gassy operations. Underground construction operations shall be classified as potentially gassy if either:

(i) Air monitoring discloses 10 percent or more of the lower explosive limit for methane or other flammable gases measured at 12 inches (304.8 mm) +/-0.25 inch (6.35 mm) from the roof, face, floor, or walls in any underground work area for more than a 24-hour period; or

(ii) The history of the geographical area or geological formation indicates that 10 percent or more of the lower explosive limit for methane or other flammable gases is likely to be encountered in such underground operations.

(b) Gassy operations. Underground construction operations shall be classified as gassy if:

(i) Air monitoring discloses 10 percent or more of the lower explosive limit for methane or other flammable gases measured at 12 inches (304.8 mm) +/-0.25 inch (6.35 mm) from the roof, face, floor, or walls in any underground work area for three consecutive days; or

(ii) There has been an ignition of methane or of other flammable gases emanating from the strata that indicates the presence of such gases; or

(iii) The underground construction operation is both connected to an underground work area which is currently classified as gassy and is also subject to a continuous course of air containing the flammable gas concentration.

(c) Declassification to potentially gassy operations. Underground construction gassy operations may be declassified to potentially gassy when air monitoring results remain under 10 percent of the lower explosive limit for methane or other flammable gases for three consecutive days.

(12) Gassy operations—Additional requirements. Only acceptable equipment, maintained in suitable condition, shall be used in gassy operations.

(a) Mobile diesel-powered equipment used in gassy operations shall be either approved in accordance with the requirements of 30 CFR Part 36 (formerly Schedule 31) by MSHA, or shall be demonstrated by the employer to be fully equivalent to such MSHA-approved equipment, and shall be operated in accordance with that part.

(b) Each entrance to a gassy operation shall be prominently posted with signs notifying all entrants of the gassy classification.

(c) Smoking shall be prohibited in all gassy operations and the employer shall be responsible for collecting all personal sources of ignition, such as matches and lighters, from all persons entering a gassy operation.

(d) A fire watch as described in chapter 296-155 WAC, Part H, shall be maintained when hot work is performed.

(e) Once an operation has met the criteria in subsection (11)(a)(i) of this section, warranting classification as gassy, all operations in the affected area, except the following, shall be discontinued until the operation either is in compliance with all of the gassy operation requirements or has been declassified in accordance with (c) of this subsection:

(i) Operations related to the control of the gas concentration;

(ii) Installation of new equipment, or conversion of existing equipment, to comply with this subsection; and

(iii) Installation of above-ground controls for reversing the air flow.

(13) Air quality and monitoring.

(a) General. Air quality limits and control requirements specified in chapter 296-62 WAC, Part H, shall apply except as modified by this subsection.

(b) The employer shall assign a competent person who shall perform all air monitoring required by this section.

(c) Where this section requires monitoring of airborne contaminants "as often as necessary," the competent person shall make a reasonable determination as to which substances to monitor and how frequently to monitor, considering at least the following factors:

(i) Location of jobsite: Proximity to fuel tanks, sewers, gas lines, old landfills, coal deposits, and swamps;

(ii) Geology: Geological studies of the jobsite, particularly involving the soil type and its permeability;

(iii) History: Presence of air contaminants in nearby jobsites, changes in levels of substances monitored on the prior shift; and

(iv) Work practices and jobsite conditions: The use of diesel engines, use of explosives, use of fuel gas, volume and flow of ventilation, visible atmospheric conditions, decompression of the atmosphere, welding, cutting and hot work, and employees' physical reactions to working underground.

(d) The employer shall provide testing and monitoring instruments which are capable of achieving compliance with the provisions of this subsection, and:

(i) Shall maintain the testing and monitoring instruments in good condition;

(ii) Shall calibrate the instruments on a frequency not to exceed 6 months.

(e) Exposure to airborne contaminants shall not exceed the levels established by chapter 296-62 WAC, Part H.

(f) Respirators shall not be substituted for environmental control measures. However, where environmental controls have not yet been developed, or when necessary by the nature of the work involved (for example, welding, sand blasting, lead burning), an employee may work for short periods of time in concentrations of airborne contaminants which exceed the limit of permissible exposure referred to in (d) of this subsection, if the employee wears a respiratory protective device approved by MSHA-NIOSH as protection against the particular hazards involved, and the selection and use of respirators complies with the provisions of chapter 296-62 WAC, Part E.

(g) Employees shall be withdrawn from areas in which there is a concentration of an airborne contaminant which exceeds the permissible exposure limit listed for that contaminant, except as modified in (t)(i) and (ii) of this subsection.

(h) The atmosphere in all underground work areas shall be tested as often as necessary to assure that the atmosphere at normal atmospheric pressure contains at least 19.5 percent oxygen and no more than 22 percent oxygen.

(i) Tests for oxygen content shall be made before tests for air contaminants.

(j) Field-type oxygen analyzers, or other suitable devices, shall be used to test for oxygen deficiency.

(k) The atmosphere in all underground work areas shall be tested quantitatively for carbon monoxide, nitrogen dioxide, hydrogen sulfide, and other toxic gases, dust, vapors, mists, and fumes as often as necessary to ensure that the permissible exposure limits prescribed in chapter 296-62 WAC, Part H, are not exceeded.

(l) The atmosphere in all underground work areas shall be tested quantitatively for methane and other flammable gases as often as necessary to determine:

(i) Whether action is to be taken under (q), (r), and (s) of this subsection; and

(ii) Whether an operation is to be classified potentially gassy or gassy under subsection (11) of this section.

(m) If diesel-engine or gasoline-engine driven ventilating fans or compressors are used, an initial test shall be made of the inlet air of the fan or compressor, with the engines operating, to ensure that the air supply is not contaminated by engine exhaust.

(n) Testing shall be performed as often as necessary to ensure that the ventilation requirements of subsection (15) of this section are met.

(o) When rapid excavation machines are used, a continuous flammable gas monitor shall be operated at the face with the sensor(s) placed as high and close to the front of the machine's cutter head as practicable.

(p) Whenever air monitoring indicates the presence of 5 ppm or more of hydrogen sulfide, a test shall be conducted in the affected underground work area(s), at least at the beginning and midpoint of each shift, until the concentration of hydrogen sulfide has been less than 5 ppm for 3 consecutive days.

(i) Whenever hydrogen sulfide is detected in an amount exceeding 10 ppm, a continuous sampling and indicating hydrogen sulfide monitor shall be used to monitor the affected work area.

(ii) Employees shall be informed when a concentration of 10 ppm hydrogen sulfide is exceeded.

(iii) The continuous sampling and indicating hydrogen sulfide monitor shall be designed, installed, and maintained to provide a visual and aural alarm when the hydrogen sulfide concentration reaches 15 ppm to signal that additional measures, such as respirator use, increased ventilation, or evacuation, might be necessary to maintain hydrogen sulfide exposure below the permissible exposure limit.

(q) When the competent person determines, on the basis of air monitoring results or other information, that air contaminants may be present in sufficient quantity to be dangerous to life, the employer shall:

(i) Prominently post a notice at all entrances to the underground jobsite to inform all entrants of the hazardous condition; and

(ii) Immediately increase sampling frequency levels to insure workers are not exposed to identified contaminants in excess of the permissible exposure limit(s); and

(iii) Ensure that all necessary precautions are taken to comply with pertinent requirements of this section, and chapter 296-62 WAC.

(r) Whenever five percent or more of the lower explosive limit for methane or other flammable gases is detected in any underground work area(s) or in the air return, steps shall be taken to increase ventilation air volume or otherwise control the gas concentration, unless the employer is operating in accordance with the potentially gassy or gassy operation requirements. Such additional ventilation controls may be discontinued when gas concentrations are reduced below five percent of the lower explosive limit, but shall be reinstituted whenever the five percent level is exceeded.

(s) Whenever 10 percent or more of the lower explosive limit for methane or other flammable gases is detected in the vicinity of welding, cutting, or other hot work, such work shall be suspended until the concentration of such flammable gas is reduced to less than 10 percent of the lower explosive limit.

(t) Whenever 20 percent or more of the lower explosive limit for methane or other flammable gases is detected in any underground work area(s) or in the air return:

(i) All employees, except those necessary to eliminate the hazard, shall be immediately withdrawn to a safe location above ground; and

(ii) Employees who remain underground to correct or eliminate the hazard described in (t) above shall be equipped with approved, pressure demand mode, self-contained breathing apparatus, and shall have received adequate training in the proper use of that equipment.

(iii) Electrical power, except for acceptable pumping and ventilation equipment, shall be cut off to the area endangered by the flammable gas until the concentration of such gas is reduced to less than 20 percent of the lower explosive limit.

(14) Additional monitoring for potentially gassy and gassy operations. Operations which meet the criteria for potentially gassy and gassy operations set forth in subsection (13) of this section shall be subject to the additional monitoring requirements of this subsection.

(a) A test for oxygen content shall be conducted in the affected underground work areas and work areas immediately adjacent to such areas at least at the beginning and midpoint of each shift.

(b) When using rapid excavation machines, continuous automatic flammable gas monitoring equipment shall be used to monitor the air at the heading, on the rib, and in the return air duct. The continuous monitor shall signal the heading, and shut down electric power in the affected underground work area, except for acceptable pumping and ventilation equipment, when 20 percent or more of the lower explosive limit for methane or other flammable gases is encountered.

(i) A manual flammable gas monitor shall be used as needed, but at least at the beginning and midpoint of each shift, to ensure that the limits prescribed in subsections (11) and (13) of this section are not exceeded. In addition, a manual electrical shut down control shall be provided near the heading.

(ii) Local gas tests shall be made prior to and continuously during any welding, cutting, or other hot work.

(iii) In underground operations driven by drill-and-blast methods, the air in the affected area shall be tested for flammable gas prior to re-entry after blasting, and continuously when employees are working underground.

(c) Recordkeeping. A record of all air quality tests shall be maintained above ground at the worksite and be made available to the director or his/her representatives upon request. The record shall include the location, date, time, substance and amount monitored. Records of exposures to toxic substances shall be retained in accordance with Part B, chapter 296-62 WAC. All other air quality test records shall be retained until completion of the project.

(15) Ventilation.

(a)(i) Fresh air shall be supplied to all underground work areas in sufficient quantities to prevent dangerous or harmful accumulation of dust, fumes, mists, vapors, or gases.

(ii) Mechanical ventilation shall be provided in all underground work areas except when the employer can demonstrate that natural ventilation provides the necessary air quality through sufficient air volume and air flow.

(b) A minimum of 200 cubic feet (5.7 m3) of fresh air per minute shall be supplied for each employee underground.

(c) The linear velocity of air flow in the tunnel bore, in shafts, and in all other underground work areas shall be at least 30 feet (9.15 m) per minute where blasting or rock drilling is conducted, or where other conditions likely to produce dust, fumes, mists, vapors, or gases in harmful or explosive quantities are present.

(d) The direction of mechanical air flow shall be reversible.

(e) Air that has passed through underground oil or fuel-storage areas shall not be used to ventilate working areas.

(f) Following blasting, ventilation systems shall exhaust smoke and fumes to the outside atmosphere before work is resumed in affected areas.

(g) Ventilation doors shall be designed and installed so that they remain closed when in use, regardless of the direction of the air flow.

(h) When ventilation has been reduced to the extent that hazardous levels of methane or flammable gas may have accumulated, a competent person shall test all affected areas after ventilation has been restored and shall determine whether the atmosphere is within flammable limits before any power, other than for acceptable equipment, is restored or work is resumed.

(i) Whenever the ventilation system has been shut down with all employees out of the underground area, only competent persons authorized to test for air contaminants shall be allowed underground until the ventilation has been restored and all affected areas have been tested for air contaminants and declared safe.

(j) When drilling rock or concrete, appropriate dust control measures shall be taken to maintain dust levels within limits set in chapter 296-155 WAC, Part B-1. Such measures may include, but are not limited to, wet drilling, the use of vacuum collectors, and water mix spray systems.

(k)(i) Internal combustion engines, except diesel-powered engines on mobile equipment, are prohibited underground.

(ii) Mobile diesel-powered equipment used underground in atmospheres other than gassy operations shall be either approved by MSHA in accordance with the provisions of 30 CFR Part 32 (formerly Schedule 24), or shall be demonstrated by the employer to be fully equivalent to such MSHA-approved equipment, and shall be operated in accordance with that Part. (Each brake horsepower of a diesel engine requires at least 100 cubic feet (28.32 m3) of air per minute for suitable operation in addition to the air requirements for personnel. Some engines may require a greater amount of air to ensure that the allowable levels of carbon monoxide, nitric oxide, and nitrogen dioxide are not exceeded.)

(iii) Application shall be made to the mining/explosives section, department of labor and industries, for permission to use specified diesel equipment in a specified underground area and shall include the following:

(A) The type of construction and complete identification data and specifications including analysis of the undiluted exhaust gases of the diesel equipment.

(B) The location where the diesel equipment is to be used.

(C) Before the diesel equipment is taken underground, written permission shall be obtained from the department of labor and industries or its duly authorized representative. A satisfactory test on surface, to show that the exhaust gases do not exceed the maximum percentage of carbon monoxide permitted, shall be required.

(D) Diesel equipment shall only be used underground where the ventilation is controlled by mechanical means and shall not be operated if the ventilating current is less than 100 CFM per horsepower based on the maximum brake horsepower of the engines.

(E) Air measurements shall be made at least once daily in the diesel engine working area and the measurements entered in the Underground Diesel Engine Record Book. Permissible maximum amounts of noxious gases are as follows:

| | | | |
|---|---|---|---|
| At engine exhaust ports | Carbon Monoxide | .10% | 1,000 ppm[3] |
| Next to equipment | Carbon Monoxide | .0035% | 35 ppm |
| General atmosphere | Carbon Monoxide | .0035% | 35 ppm |
| General atmosphere | Nitrogen Dioxide | .0001% | 1 ppm |
| General atmosphere | Aldehydes | .0002% | 2 ppm |

[3] Parts of vapor or gas per million parts of contaminated air by volume at 25°C and 760 mm Hg. pressure.

(l) Potentially gassy or gassy operations shall have ventilation systems installed which shall:

(i) Be constructed of fire-resistant materials; and



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(ii) Have acceptable electrical systems, including fan motors.

(m) Gassy operations shall be provided with controls located aboveground for reversing the air flow of ventilation systems.

(n) In potentially gassy or gassy operations, wherever mine-type ventilation systems using an offset main fan installed on the surface are used, they shall be equipped with explosion-doors or a weak-wall having an area at least equivalent to the cross-sectional area of the airway.

(16) Illumination.

(a) Sufficient lighting shall be provided, in accordance with the requirements of chapter 296-155 WAC, Part B-1, to permit safe operations at the face as well as in the general tunnel or shaft area and at the employees' workplace.

(b) Only acceptable portable lighting shall be used within 50 feet (15.24 m) of any underground heading during explosive handling.

(17) Fire prevention and control. Fire prevention and protection requirements applicable to underground construction operations are found in Part D of this chapter except as modified by the following additional standards.

(a) Open flames and fires are prohibited in all underground construction operations except as permitted for welding, cutting, and other hot work operations.

(i) Smoking may be allowed only in areas free of fire and explosion hazards.

(ii) Readily visible signs prohibiting smoking and open flames shall be posted in areas having fire or explosion hazards.

(iii) The carrying of matches, lighters, or other flame-producing smoking materials shall be prohibited in all underground operations where fire or explosion hazards exist.

(b) The employer may store underground no more than a 24-hour supply of diesel fuel for the underground equipment used at the worksite.

(c) The piping of diesel fuel from the surface to an underground location is permitted only if:

(i) Diesel fuel is contained at the surface in a tank whose maximum capacity is no more than the amount of fuel required to supply for a 24-hour period the equipment serviced by the underground fueling station; and

(ii) The surface tank is connected to the underground fueling station by an acceptable pipe or hose system that is controlled at the surface by a valve, and at the shaft bottom by a hose nozzle; and

(iii) The pipe is empty at all times except when transferring diesel fuel from the surface tank to a piece of equipment in use underground; and

(iv) Hoisting operations in the shaft are suspended during refueling operations if the supply piping in the shaft is not protected from damage.

(d)(i) Gasoline shall not be carried, stored, or used underground.

(ii) Acetylene, liquefied petroleum gas, and methylacetylene propadiene stabilized gas may be used underground only for welding, cutting and other hot work, and only in accordance with Part H of this chapter and subsections (13), (15), (17), and (18) of this section.

(e) Oil, grease, and diesel fuel stored underground shall be kept in tightly sealed containers in fire-resistant areas at least 300 feet (91.44 m) from underground explosive magazines, and at least 100 feet (30.48 m) from shaft stations and steeply inclined passageways. Storage areas shall be positioned or diked so that the contents of ruptured or overturned containers will not flow from the storage area.

(f) Flammable or combustible materials shall not be stored above ground within 100 feet (30.48 m) of any access opening to any underground operation. Where this is not feasible because of space limitations at the jobsite, such materials may be located within the 100-foot limit, provided that:

(i) They are located as far as practicable from the opening; and

(ii) Either a fire-resistant barrier of not less than one-hour rating is placed between the stored material and the opening, or additional precautions are taken which will protect the materials from ignition sources.

(g) Fire-resistant hydraulic fluids shall be used in hydraulically-actuated underground machinery and equipment unless such equipment is protected by a fire suppression system or by multipurpose fire extinguisher(s) rated at a sufficient capacity for the type and size of hydraulic equipment involved, but rated at least 4A:4OB:C.

(h)(i) Electrical installations in underground areas where oil, grease, or diesel fuel are stored shall be used only for lighting fixtures.

(ii) Lighting fixtures in storage areas, or within 25 feet (7.62 m) of underground areas where oil, grease, or diesel fuel are stored, shall be approved for Class I, Division 2 locations, in accordance with Part I of this chapter.

(i) Leaks and spills of flammable or combustible fluids shall be cleaned up immediately.

(j) A fire extinguisher of at least 4A:4OB:C rating or other equivalent extinguishing means shall be provided at the head pulley and at the tail pulley of underground belt conveyors, and at 300-foot intervals along the belt.

(k) Any structure located underground or within 100 feet (30.48 m) of an opening to the underground shall be constructed of material having a fire-resistance rating of at least one hour.

(18) Welding, cutting, and other hot work. In addition to the requirements of Part H of this chapter, the following requirements shall apply to underground welding, cutting, and other hot work.

(a) No more than the amount of fuel gas and oxygen cylinders necessary to perform welding, cutting, or other hot work during the next 24-hour period shall be permitted underground.

(b) Noncombustible barriers shall be installed below welding, cutting, or other hot work being done in or over a shaft or raise.

(19) Ground support.

(a) In tunnels (other than hard rock) timber sets, steel rings, steel frames, concrete liners, or other engineered tunnel support systems shall be used. Every tunnel support system shall be designed by a licensed professional engineer. Design specifications shall be available at the worksite.

(b) Portal areas. Portal openings and access areas shall be guarded by shoring, fencing, head walls, shotcreting, or other equivalent protection to ensure safe access of employees and equipment. Adjacent areas shall be scaled or

otherwise secured to prevent loose soil, rock, or fractured materials from endangering the portal and access area.

(c) Subsidence areas. The employer shall ensure ground stability in hazardous subsidence areas by shoring, by filling in, or by erecting barricades and posting warning signs to prevent entry.

(d) Underground areas.

(i)(A) A competent person shall inspect the roof, face, and walls of the work area at the start of each shift and as often as necessary to determine ground stability.

(B) Competent persons conducting such inspections shall be protected from loose ground by location, ground support, or equivalent means.

(ii) Ground conditions along haulageways and travelways shall be inspected as frequently as necessary to ensure safe passage.

(iii) Loose ground that might be hazardous to employees shall be taken down, scaled, or supported.

(iv) Torque wrenches shall be used wherever bolts that depend on torsionally applied force are used for ground support.

(v) A competent person shall determine whether rock bolts meet the necessary torque, and shall determine the testing frequency in light of the bolt system, ground conditions, and the distance from vibration sources.

(vi) Suitable protection shall be provided for employees exposed to the hazard of loose ground while installing ground support systems.

(vii) Support sets shall be installed so that the bottoms have sufficient anchorage to prevent ground pressures from dislodging the support base of the sets. Lateral bracing (collar bracing, tie rods, or spreaders) shall be provided between immediately adjacent sets to ensure added stability.

(viii) Damaged or dislodged ground supports that create a hazardous condition shall be promptly repaired or replaced. When replacing supports, the new supports shall be installed before the damaged supports are removed.

(ix) A shield or other type of support shall be used to maintain a safe travelway for employees working in dead-end areas ahead of any support replacement operation.

(e) Shafts.

(i) Shafts and wells over 4 feet (1.219 m) in depth that employees must enter shall be supported by a steel casing, concrete pipe, timber, solid rock, or other suitable material.

(ii)(A) The full depth of the shaft shall be supported by casing or bracing except where the shaft penetrates into solid rock having characteristics that will not change as a result of exposure. Where the shaft passes through earth into solid rock, or through solid rock into earth, and where there is potential for shear, the casing or bracing shall extend at least 5 feet (1.53 m) into the solid rock. When the shaft terminates in solid rock, the casing or bracing shall extend to the end of the shaft or 5 feet (1.53 m) into the solid rock, whichever is less.

(B) The casing or bracing shall extend 42 inches (1.07 m) plus or minus 3 inches (8 cm) above ground level, except that the minimum casing height may be reduced to 12 inches (0.3 m), provided that a standard railing is installed; that the ground adjacent to the top of the shaft is sloped away from the shaft collar to prevent entry of liquids; and that effective barriers are used to prevent mobile equipment operating near the shaft from jumping over the 12-inch (0.3 m) barrier.

(iii) After blasting operations in shafts, a competent person shall determine if the walls, ladders, timbers, blocking, or wedges have loosened. If so, necessary repairs shall be made before employees other than those assigned to make the repairs are allowed in or below the affected areas.

(f) Blasting. This subsection applies in addition to the requirements for blasting and explosives operations, including handling of misfires, which are found in chapter 296-52 WAC.

(i) Blasting wires shall be kept clear of electrical lines, pipes, rails, and other conductive material, excluding earth, to prevent explosives initiation or employee exposure to electric current.

(ii) Following blasting, an employee shall not enter a work area until the air quality meets the requirements of subsection (13) of this section.

(g) Drilling.

(i) A competent person shall inspect all drilling and associated equipment prior to each use. Equipment defects affecting safety shall be corrected before the equipment is used.

(ii) The drilling area shall be inspected for hazards before the drilling operation is started.

(iii) Employees shall not be allowed on a drill mast while the drill bit is in operation or the drill machine is being moved.

(iv) When a drill machine is being moved from one drilling area to another, drill steel, tools, and other equipment shall be secured and the mast shall be placed in a safe position.

(v) Receptacles or racks shall be provided for storing drill steel located on jumbos.

(vi) Employees working below jumbo decks shall be warned whenever drilling is about to begin.

(vii) Drills on columns shall be anchored firmly before starting drilling, and shall be retightened as necessary thereafter.

(viii) The employer shall provide mechanical means on the top deck of a jumbo for lifting unwieldy or heavy material.

(ix) When jumbo decks are over 10 feet (3.05 m) in height, the employer shall install stairs wide enough for two persons.

(x) Jumbo decks more than 10 feet (3.05 m) in height shall be equipped with guardrails on all open sides, excluding access openings of platforms, unless an adjacent surface provides equivalent fall protection.

(xi) Only employees assisting the operator shall be allowed to ride on jumbos, unless the jumbo meets the requirements of subsection (20)(e) of this section.

(xii) Jumbos shall be chocked to prevent movement while employees are working on them.

(xiii) Walking and working surfaces of jumbos shall be maintained to prevent the hazards of slipping, tripping, and falling.

(xiv) Jumbo decks and stair treads shall be designed to be slip-resistant and secured to prevent accidental displacement.

(xv) Scaling bars shall be available at scaling operations and shall be maintained in good condition at all times. Blunted or severely worn bars shall not be used.

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(xvi) Before commencing the drill cycle, the face and lifters shall be examined for misfires (residual explosives) and, if found, they shall be removed before drilling commences at the face. Blasting holes shall not be drilled through blasted rock (muck) or water.

(xvii) Employees in a shaft shall be protected either by location or by suitable barrier(s) if powered mechanical loading equipment is used to remove muck containing unfired explosives.

(xviii) A caution sign reading "buried line," or similar wording shall be posted where air lines are buried or otherwise hidden by water or debris.

(20) Haulage.

(a) A competent person shall inspect haulage equipment before each shift.

(i) Equipment defects affecting safety and health shall be corrected before the equipment is used.

(ii) Powered mobile haulage equipment shall be provided with adequate brakes.

(iii) Power mobile haulage equipment, including trains, shall have audible warning devices to warn employees to stay clear. The operator shall sound the warning device before moving the equipment and whenever necessary during travel.

(iv) The operator shall assure that lights which are visible to employees at both ends of any mobile equipment, including a train, are turned on whenever the equipment is operating.

(v) In those cabs where glazing is used, the glass shall be safety glass, or its equivalent, and shall be maintained and cleaned so that vision is not obstructed.

(b) Antirollback devices or brakes shall be installed on inclined conveyor drive units to prevent conveyors from inadvertently running in reverse. Employees shall not be permitted to ride a power-driven chain, belt, or bucket conveyor unless the conveyor is specifically designed for the transportation of persons.

(c) Endless belt-type manlifts are prohibited in underground construction.

(d) General requirements also applicable to underground construction for use of conveyors in construction are found in chapter 296-155 WAC, Part L.

(e) No employee shall ride haulage equipment unless it is equipped with seating for each passenger and protects passengers from being struck, crushed, or caught between other equipment or surfaces. Members of train crews may ride on a locomotive if it is equipped with handholds and nonslip steps or footboards. Requirements applicable to underground construction for motor vehicle transportation of employees are found in chapter 296-155 WAC, Part M.

(f) Conveyor lockout.

(i) Conveyors shall be de-energized and locked out with a padlock, and tagged out with a "Do Not Operate" tag at any time repair, maintenance, or clean-up work is being performed on the conveyor.

(ii) Tags or push button stops are not acceptable.

(iii) Persons shall not be allowed to walk on conveyors except for emergency purposes and then only after the conveyor has been deenergized and locked out in accordance with (f) above, and persons can do so safely.

(g) Powered mobile haulage equipment, including trains, shall not be left unattended unless the master switch or motor is turned off; operating controls are in neutral or park position; and the brakes are set, or equivalent precautions are taken to prevent rolling.

(h) Whenever rails serve as a return for a trolley circuit, both rails shall be bonded at every joint and crossbonded every 200 feet (60.96 m).

(i) When dumping cars by hand, the car dumps shall have tiedown chains, bumper blocks, or other locking or holding devices to prevent the cars from overturning.

(j) Rocker-bottom or bottom-dump cars shall be equipped with positive locking devices to prevent unintended dumping.

(k) Equipment to be hauled shall be loaded and secured to prevent sliding or dislodgement.

(l)(i) Mobile equipment, including rail-mounted equipment, shall be stopped for manual connecting or service work, and;

(ii) Employees shall not reach between moving cars during coupling operations.

(iii) Couplings shall not be aligned, shifted, or cleaned on moving cars or locomotives.

(iv) Safety chains or other connections shall be used in addition to couplers to connect person cars or powder cars whenever the locomotive is uphill of the cars.

(v) When the grade exceeds one percent and there is a potential for runaway cars, safety chains or other connections shall be used in addition to couplers to connect haulage cars or, as an alternative, the locomotive must be downhill of the train.

(vi) Such safety chains or other connections shall be capable of maintaining connection between cars in the event of either coupler disconnect, failure or breakage.

(m) Parked rail equipment shall be chocked, blocked, or have brakes set to prevent inadvertent movement.

(n) Berms, bumper blocks, safety hooks, or equivalent means shall be provided to prevent overtravel and overturning of haulage equipment at dumping locations.

(o) Bumper blocks or equivalent stopping devices shall be provided at all track dead ends.

(p)(i) Only small handtools, lunch pails, or similar small items may be transported with employees in person cars, or on top of a locomotive.

(ii) When small hand tools or other small items are carried on top of a locomotive, the top shall be designed or modified to retain them while traveling.

(q)(i) Where switching facilities are available, occupied personnel cars shall be pulled, not pushed. If personnel cars must be pushed and visibility of the track ahead is hampered, then a qualified person shall be stationed in the lead car to give signals to the locomotive operator.

(ii) Crew trips shall consist of personnel loads only.

(21) Electrical safety. This subsection applies in addition to the general requirements for electrical safety which are found in Part I of this chapter.

(a) Electric power lines shall be insulated or located away from water lines, telephone lines, air lines, or other conductive materials so that a damaged circuit will not energize the other systems.

(b) Lighting circuits shall be located so that movement of personnel or equipment will not damage the circuits or disrupt service.

(c) Oil-filled transformers shall not be used underground unless they are located in a fire-resistant enclosure suitably vented to the outside and surrounded by a dike to retain the contents of the transformers in the event of rupture.

(22) Hoisting unique to underground construction except as modified by this section, the following provisions of chapter 296-155 WAC, Part L apply: Requirements for cranes are found in WAC 296-155-525. WAC ((~~296-155-48533~~)) 296-155-528 contains rules applicable to crane hoisting of personnel, except, that the limitations imposed by WAC ((~~296-155-48533~~)) 296-155-528(2) do not apply to the routine access of employees to the underground via a shaft. Requirements for personnel hoists, material hoists, and elevators are found in WAC 296-155-530 and in this subsection.

(a) General requirements for cranes and hoists.

(i) Materials, tools, and supplies being raised or lowered, whether within a cage or otherwise, shall be secured or stacked in a manner to prevent the load from shifting, snagging, or falling into the shaft.

(ii) A warning light suitably located to warn employees at the shaft bottom and subsurface shaft entrances shall flash whenever a load is above the shaft bottom or subsurface entrances, or the load is being moved in the shaft. This subsection does not apply to fully enclosed hoistways.

(iii) Whenever a hoistway is not fully enclosed and employees are at the shaft bottom, conveyances or equipment shall be stopped at least 15 feet (4.57 m) above the bottom of the shaft and held there until the signalperson at the bottom of the shaft directs the operator to continue lowering the load, except that the load may be lowered without stopping if the load or conveyance is within full view of a bottom signalperson who is in constant voice communication with the operator.

(iv)(A) Before maintenance, repairs, or other work is commenced in the shaft served by a cage, skip, or bucket, the operator and other employees in the area shall be informed and given suitable instructions.

(B) A sign warning that work is being done in the shaft shall be installed at the shaft collar, at the operator's station, and at each underground landing.

(v) Any connection between the hoisting rope and the cage or skip shall be compatible with the type of wire rope used for hoisting.

(vi) Spin-type connections, where used, shall be maintained in a clean condition and protected from foreign matter that could affect their operation.

(vii) Cage, skip, and load connections to the hoist rope shall be made so that the force of the hoist pull, vibration, misalignment, release of lift force, or impact will not disengage the connection. Only closed shackles shall be used for cage and skip rigging.

(viii) When using wire rope wedge sockets, means shall be provided to prevent wedge escapement and to ensure that the wedge is properly seated.

(b) Additional requirements for cranes. Cranes shall be equipped with a limit switch to prevent overtravel at the boom tip. Limit switches are to be used only to limit travel of loads when operational controls malfunction and shall not be used as a substitute for other operational controls.

(c) Additional requirements for hoists.

(i) Hoists shall be designed so that the load hoist drum is powered in both directions of rotation, and so that brakes are automatically applied upon power release or failure.

(ii) Control levers shall be of the "deadman type" which return automatically to their center (neutral) position upon release.

(iii) When a hoist is used for both personnel hoisting and material hoisting, load and speed ratings for personnel and for materials shall be assigned to the equipment.

(iv) Hoist machines with cast metal parts shall not be used.

(v) Material hoisting may be performed at speeds higher than the rated speed for personnel hoisting if the hoist and components have been designed for such higher speeds and if shaft conditions permit.

(vi) Employees shall not ride on top of any cage, skip, or bucket except when necessary to perform inspection or maintenance of the hoisting system, in which case they shall be protected by a body belt/harness system to prevent falling.

(vii) Personnel and materials (other than small tools and supplies secured in a manner that will not create a hazard to employees) shall not be hoisted together in the same conveyance. However, if the operator is protected from the shifting of materials, then the operator may ride with materials in cages or skips which are designed to be controlled by an operator within the cage or skip.

(viii) Line speed shall not exceed the design limitations of the systems.

(ix) Hoists shall be equipped with landing level indicators at the operator's station. Marking of the hoist rope does not satisfy this requirement.

(x) Whenever glazing is used in the hoist house, it shall be safety glass, or its equivalent, and be free of distortions and obstructions.

(xi) A fire extinguisher that is rated at least 2A:10B:C (multipurpose, dry chemical) shall be mounted in each hoist house.

(xii) Hoist controls shall be arranged so that the operator can perform all operating cycle functions and reach the emergency power cutoff without having to reach beyond the operator's normal operating position.

(xiii) Hoists shall be equipped with limit switches to prevent overtravel at the top and bottom of the hoistway.

(xiv) Limit switches are to be used only to limit travel of loads when operational controls malfunction and shall not be used as a substitute for other operational controls.

(xv) Hoist operators shall be provided with a closed-circuit voice communication system to each landing station, with speaker-microphones so located that the operator can communicate with individual landing stations during hoist use.

(xvi) When sinking shafts 75 feet (22.86 m) or less in depth, cages, skips, and buckets that may swing, bump, or snag against shaft sides or other structural protrusions shall be guided by fenders, rails, ropes, or a combination of those means.

(xvii) When sinking shafts more than 75 feet (22.86 m) in depth, all cages, skips, and buckets shall be rope or rail-guided to within a rail length from the sinking operation.

(xviii) Cages, skips, and buckets in all completed shafts, or in all shafts being used as completed shafts, shall be rope or rail-guided for the full length of their travel.

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(xix) Wire rope used in load lines of material hoists shall be capable of supporting, without failure, at least five times the maximum intended load or the factor recommended by the rope manufacturer, whichever is greater. Refer to chapter 296-155 WAC, Part L, for design factors for wire rope used in personnel hoists. The design factors shall be calculated by dividing the breaking strength of wire rope, as reported in the manufacturer's rating tables, by the total static load, including the weight of the wire rope in the shaft when fully extended.

(xx) A competent person shall visually check all hoisting machinery, equipment, anchorages, and hoisting rope at the beginning of each shift and during hoist use, as necessary.

(xxi) Each safety device shall be checked by a competent person at least weekly during hoist use to ensure suitable operation and safe condition.

(xxii) In order to ensure suitable operation and safe condition of all functions and safety devices, each hoist assembly shall be inspected and load-tested to 100 percent of its rated capacity: At the time of installation; after any repairs or alterations affecting its structural integrity; after the operation of any safety device; and annually when in use. The employer shall prepare a certification record which includes the date each inspection and load-test was performed; the signature of the person who performed the inspection and test; and a serial number or other identifier for the hoist that was inspected and tested. The most recent certification record shall be maintained on file until completion of the project.

(xxiii) Before hoisting personnel or material, the operator shall perform a test run of any cage or skip whenever it has been out of service for one complete shift, and whenever the assembly or components have been repaired or adjusted.

(xiv) Unsafe conditions shall be corrected before using the equipment.

(d) Additional requirements for personnel hoists.

(i) Hoist drum systems shall be equipped with at least two means of stopping the load, each of which shall be capable of stopping and holding 150 percent of the hoist's rated line pull. A broken-rope safety, safety catch, or arrestment device is not a permissible means of stopping under this subsection.

(ii) The operator shall remain within sight and sound of the signals at the operator's station.

(iii) All sides of personnel cages shall be enclosed by one-half inch (12.70 mm) wire mesh (not less than No. 14 gauge or equivalent) to a height of not less than 6 feet (1.83 m). However, when the cage or skip is being used as a work platform, its sides may be reduced in height to 42 inches (1.07 m) when the conveyance is not in motion.

(iv) All personnel cages shall be provided with a positive locking door that does not open outward.

(v) All personnel cages shall be provided with a protective canopy. The canopy shall be made of steel plate, at least 3/16 -inch (4.763 mm) in thickness, or material of equivalent strength and impact resistance. The canopy shall be sloped to the outside, and so designed that a section may be readily pushed upward to afford emergency egress. The canopy shall cover the top in such a manner as to protect those inside from objects falling in the shaft.

(vi) Personnel platforms operating on guide rails or guide ropes shall be equipped with broken-rope safety devices, safety catches, or arrestment devices that will stop and hold 150 percent of the weight of the personnel platform and its maximum rated load.

(vii) During sinking operations in shafts where guides and safeties are not yet used, the travel speed of the personnel platform shall not exceed 200 feet (60.96 m) per minute. Governor controls set for 200 feet (60.96 m) per minute shall be installed in the control system and shall be used during personnel hoisting.

(viii) The personnel platform may travel over the controlled length of the hoistway at rated speeds up to 600 feet (182.88 m) per minute during sinking operations in shafts where guides and safeties are used.

(ix) The personnel platform may travel at rated speeds greater than 600 feet (182.88 m) per minute in complete shafts.

REPEALER

The following sections of the Washington Administrative Code are repealed:

| | |
|---|---|
| WAC 296-155-48503 | Table J-1. |
| WAC 296-155-48504 | Table J-2. |
| WAC 296-155-48505 | Table J-3. |
| WAC 296-155-48506 | Table J-4. |
| WAC 296-155-48507 | Table J-5. |
| WAC 296-155-48508 | Table J-6. |
| WAC 296-155-48509 | Table J-7. |
| WAC 296-155-48510 | Table J-8. |
| WAC 296-155-48511 | Table J-9. |
| WAC 296-155-48512 | Table J-10. |
| WAC 296-155-48513 | Table J-11. |
| WAC 296-155-48514 | Table J-12. |
| WAC 296-155-48515 | Table J-13. |
| WAC 296-155-48516 | Table J-14. |
| WAC 296-155-48517 | Table J-15. |
| WAC 296-155-48518 | Table J-16. |
| WAC 296-155-48519 | Table J-17. |
| WAC 296-155-48523 | Manually propelled mobile ladder stands and scaffolds (towers). |
| WAC 296-155-48525 | Manually propelled elevating work platforms. |
| WAC 296-155-48527 | Self propelled elevating work platforms. |
| WAC 296-155-48529 | Boom supported elevating work platforms. |
| WAC 296-155-48531 | Vehicle mounted elevating and rotating aerial devices. |
| WAC 296-155-48533 | Crane or derrick suspended personnel platforms. |
| WAC 296-155-48536 | Forklift elevated work platforms. |

## WSR 97-16-092
### PROPOSED RULES
### STATE BOARD OF EDUCATION
[Filed August 5, 1997, 10:50 a.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 97-10-025.

Title of Rule: WAC 180-87-070 Unauthorized professional practices.

Purpose: To clarify reporting requirements for educational service district superintendents, school district superintendents and Board of Private Schools relating to the code of professional conduct.

Statutory Authority for Adoption: RCW 28A.410.010.

Statute Being Implemented: RCW 28A.410.010.

Summary: This rule change clarifies the State Board of Education's position on self-reporting when educators practice without a required certificate.

Reasons Supporting Proposal: The changes will clarify and increase efficiency.

Name of Agency Personnel Responsible for Drafting, Implementation and Enforcement: Larry Davis, (360) 753-6715 and Richard Wilson, (360) 753-2298, State Board of Education, Olympia.

Name of Proponent: State Board of Education, governmental.

Rule is not necessitated by federal law, federal or state court decision.

Explanation of Rule, its Purpose, and Anticipated Effects: The rule change clarifies the State Board of Education's position on self-reporting when educators practice without a required certificate.

Proposal Changes the Following Existing Rules: The changes will clarify and increase efficiency.

No small business economic impact statement has been prepared under chapter 19.85 RCW. Not applicable.

Section 201, chapter 403, Laws of 1995, does not apply to this rule adoption.

Hearing Location: Educational Service District 105, 33 South 2nd Avenue, Yakima, WA 98902, on September 24, 1997, at 1:30 p.m.

Assistance for Persons with Disabilities: Contact Patty Martin by September 10, 1997, TDD (360) 664-3631, or (360) 753-6715.

Submit Written Comments to: Rules Coordinator, State Board of Education, P.O. Box 47206, Olympia, WA 98504-7206, FAX (360) 586-2357, by September 22, 1997.

Date of Intended Adoption: September 26, 1997.

Larry Davis
Executive Director

AMENDATORY SECTION (Amending WSR 90-02-075, filed 1/2/90, effective 2/2/90)

**WAC 180-87-070 Unauthorized professional practice.** Any act performed without good cause that materially contributes to one of the following unauthorized professional practices is an act of unprofessional practice.

(1) The intentional employment of a person to serve as an employee in a position for which certification is required by rules of the state board of education when such person does not possess((~~, at the time of commencement of such responsibility,~~)) a valid certificate to hold the position for which such person is employed.

(2) The assignment or delegation in a school setting of any responsibility within the scope of the authorized practice of nursing, physical therapy, or occupational therapy to a person not licensed to practice such profession unless such assignment or delegation is otherwise authorized by law, including the rules of the appropriate licensing board.

(3) The practice of education by a certificate holder during any period in which such certificate has been suspended.

(4) The failure of a certificate holder to abide by the conditions within an agreement, executed pursuant to WAC ((~~180-86-150~~)) 180-86-160, to not continue or to accept education employment.

(5) The failure of a certificate holder to comply with any condition, limitation, or other order or decision entered pursuant to chapter 180-86 WAC.

(6) *Provided,* That for the purpose of this section, good cause includes, but is not limited to, exigent circumstances where immediate action is necessary to protect the health, safety, or general welfare of a student, colleague, or other affected person.

## WSR 97-16-093
### PROPOSED RULES
### BUILDING CODE COUNCIL
[Filed August 5, 1997, 3:10 p.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 97-14-112.

Title of Rule: Editorial changes to chapter 51-04 WAC, Policies and procedures for consideration of statewide and local amendments to the State Building Code.

Purpose: To update address and telephone information under WAC 51-04-070; and to correct references to other documents under WAC 51-04-015.

Statutory Authority for Adoption: Chapter 19.27 RCW.

Statute Being Implemented: Chapter 19.27 RCW.

Summary: The proposed rule would correct the published address and telephone number for the state Building Code Council found in WAC 51-04-070. References to other documents, which were reformatted during the past year, are corrected in WAC 51-04-015.

Reasons Supporting Proposal: Chapter 19.27 RCW.

Name of Agency Personnel Responsible for Drafting and Implementation: Tim Nogler, P.O. Box 48300, Olympia, WA 98504-8300, (360) 586-0486.

Name of Proponent: State Building Code Council, governmental.

Rule is not necessitated by federal law, federal or state court decision.

Explanation of Rule, its Purpose, and Anticipated Effects: This proposal would correct address and telephone information found in WAC 51-04-070. This information is currently out of date. This proposal would also correct references to the Uniform Mechanical Code and Uniform Plumbing Code, both of which were reformatted since the last update to WAC 51-04-015.

Proposal does not change existing rules.

PROPOSED

No small business economic impact statement has been prepared under chapter 19.85 RCW. This change does not affect any rules and therefore would not have any economic effect.

Section 201, chapter 403, Laws of 1995, does not apply to this rule adoption. The State Building Code Council is not listed in this section as one of the agencies required to comply with this regulation.

Hearing Location: On Friday, September 12, 1997, at 9:00 a.m., at the Radisson Hotel, Flight Lounge, 17001 Pacific Highway South, SeaTac, WA; and on Friday, October 10, 1997, at 9:00 a.m., at the Spokane City Hall, City Council Chambers, West 808 Spokane Falls Boulevard, Spokane, WA.

Assistance for Persons with Disabilities: Contact Krista Braaksma by September 1, 1997, TDD (360) 753-2200, or (360) 753-5927.

Submit Written Comments to: Mike McEnaney, Chair, State Building Code Council, P.O. Box 48300, Olympia, WA 98504-8300, FAX (360) 586-5880, by October 8, 1997.

Date of Intended Adoption: November 14, 1997.

August 5, 1997
Mike McEnaney
Chair

AMENDATORY SECTION (Amending WSR 90-02-108, filed 1/3/90, effective 2/3/90)

**WAC 51-04-070 Council mailing address.** All requests for information, documentation, etc., should be submitted to:

Washington State Building Code Council
((~~Ninth and Columbia Building~~
~~Mailstop: GH-51~~))
906 Columbia St SW
Post Office Box 48300
Olympia, Washington 98504-((~~4151~~)) 8300
(360) ((~~753-2222~~)) 586-0486

AMENDATORY SECTION (Amending WSR 94-05-058, filed 2/10/94, effective 3/13/94)

**WAC 51-04-015 Definitions.** (1) "Supplements and accumulative supplements" mean the publications between editions of the uniform codes and standards which include changes to the current edition of the uniform codes and standards.

(2) "Council" means the Washington state building code council.

(3) "Emergency state-wide amendment" means any proposed state-wide amendment, the adoption of which is necessary immediately in order to protect life, safety or health of building occupants; preserve the structural integrity of buildings built to the state building code; to correct errors and omissions; or by the direction of the Washington state legislature or federal legislation. Emergency state-wide amendments to the state building code must be adopted in accordance with the Administrative Procedure Act, chapter 34.05 RCW.

(4) "Local government amendment" means any amendment to the state building code, as adopted by cities or counties for implementation and enforcement in their respective jurisdictions.

(5) "Local government residential amendment" means any amendment to the state building code, as adopted by cities or counties for implementation and enforcement in their respective jurisdictions, that applies to single and multifamily buildings as defined by RCW 19.27.015.

(6) "State building code" means the Uniform Building Code and Standards; the Uniform Mechanical Code including ((~~Appendix B, Chapter 22~~)) Fuel Gas Piping; the Uniform Fire Code and Standards; the Uniform Plumbing Code and Standards((~~, excluding Chapters 11 and 12~~)); the state regulations for barrier-free facilities; the state energy code; and any other codes so designated by the Washington state legislature as adopted and amended by the council.

(7) "State-wide amendment" means any amendment to the building code, initiated through council action or by petition to the council from any agency, city or county, or interested individual or organization, that would have the effect of amending the building code for the entire state of Washington. State-wide amendments to the state building code must be adopted in accordance with the Administrative Procedure Act, chapter 34.05 RCW.

(8) "State building code update cycle" means that period during which the uniform code and standards referenced in chapter 19.27 RCW are updated and amended by the council in accordance with the Administrative Procedure Act, chapter 34.05 RCW hereinafter referred to as the "adoption period" and those additional periods when code changes are received for review as proposed amendments to the uniform codes, hereinafter referred to as "submission periods."

(9) "Uniform codes" means the Uniform Building, Mechanical, Plumbing, and Fire Codes as published by the International Conference of Building Officials, International Association of Plumbing and Mechanical Officials, and Western Fire Chiefs respectively.

## WSR 97-16-094
### PROPOSED RULES
### BUILDING CODE COUNCIL
[Filed August 5, 1997, 4:12 p.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 97-14-112.

Title of Rule: Editorial changes to chapter 51-06 WAC, Public records.

Purpose: To update address and phone information in WAC 51-06-020 and 51-06-120. These two WAC sections contain outdated information.

Statutory Authority for Adoption: Chapter 19.27 RCW.

Statute Being Implemented: Chapter 19.27 RCW.

Summary: The proposed changes would correct the published address and telephone number for the State Building Code Council.

Reasons Supporting Proposal: Chapter 19.27 RCW.

Name of Agency Personnel Responsible for Drafting and Implementation: Tim Nogler, P.O. Box 48300, Olympia, WA 98504-8300, (360) 586-0486.

Name of Proponent: State Building Code Council, governmental.

Rule is not necessitated by federal law, federal or state court decision.

Explanation of Rule, its Purpose, and Anticipated Effects: The address and phone number listed for the State Building Code Council under WAC 51-06-020 and 51-06-129 are incorrect. This proposal would correct that information.

Proposal does not change existing rules.

No small business economic impact statement has been prepared under chapter 19.85 RCW. There is no rule associated with this proposal; it is informational only. Therefore, there is no economic impact associated.

Section 201, chapter 403, Laws of 1995, does not apply to this rule adoption. The state Building Code Council is not listed in this section as one of the agencies required to comply with this regulation.

Hearing Location: On Friday, September 12, 1997, at 9:00 a.m., at the Radisson Hotel, Flight Lounge, 17001 Pacific Highway South, SeaTac, WA; and on Friday, October 10, 1997, at 9:00 a.m., at the Spokane City Hall, City Council Chambers, West 808 Spokane Falls Boulevard, Spokane, WA.

Assistance for Persons with Disabilities: Contact Krista Braaksma by September 1, 1997, TDD (360) 753-2200, or (360) 753-5927.

Submit Written Comments to: Mike McEnaney, Chair, State Building Code Council, P.O. Box 48300, Olympia, WA 98504-8300, FAX (360) 586-5880, by October 8, 1997.

Date of Intended Adoption: November 14, 1997.

August 5, 1997
Mike McEnaney
Chair

AMENDATORY SECTION (Amending WSR 90-02-108, filed 1/3/90, effective 2/3/90)

**WAC 51-06-020 Public records available.** All public records of the council as defined in WAC 51-06-030 are available for public inspection and copying at the Department of Community Development, ((~~Ninth and Columbia Building~~)) 906 Columbia St. SW, Olympia, Washington 98504, pursuant to these rules, except as otherwise provided by RCW 42.17.310.

AMENDATORY SECTION (Amending WSR 90-02-108, filed 1/3/90, effective 2/3/90)

**WAC 51-06-120 Address for communications.** All requests for information, documentation, etc., should be submitted to the:

Washington State Building Code Council
((~~Ninth and Columbia Building~~
~~Mailstop: GH-51~~))
906 Columbia St SW
Post Office Box 48300
Olympia, Washington 98504-((~~4151~~)) 8300
(360) ((~~753-2222~~)) 586-0486

## WSR 97-16-099
### WITHDRAWAL OF PROPOSED RULES
### GAMBLING COMMISSION
(By the Code Reviser's Office)
[Filed August 5, 1997, 4:00 p.m.]

WAC 230-20-700, proposed by the Gambling Commission in WSR 97-03-093, appearing in issue 97-03 of the State Register, which was distributed on February 5, 1997, is withdrawn by the code reviser's office under RCW 34.05.335(3), since the proposal was not adopted within the one hundred eighty day period allowed by the statute.

Kerry S. Radcliff, Editor
Washington State Register

## WSR 97-16-104
### PROPOSED RULES
### DEPARTMENT OF FISH AND WILDLIFE
(Wildlife)
[Filed August 5, 1997, 5:01 p.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 97-13-024.

Title of Rule: Personal use rules.

Purpose: Amend personal use rules.

Statutory Authority for Adoption: RCW 77.12.040.

Statute Being Implemented: RCW 77.12.040.

Summary: Relaxes seasons, catch, size, and possession limits for certain lakes and then closes the lakes to fishing.

Reasons Supporting Proposal: These lakes are scheduled for rehabilitation. Seasons are extended, and/or catch, size, and possession limits would provide additional recreational opportunity.

Name of Agency Personnel Responsible for Drafting: Evan Jacoby, 1111 Washington Street, Olympia, 902-2930; Implementation: Bruce Crawford, 1111 Washington Street, Olympia, 902-2325; and Enforcement: Ron Swatfigure, 1111 Washington Street, Olympia, 902-2927.

Name of Proponent: Washington Department of Fish and Wildlife, governmental.

Rule is not necessitated by federal law, federal or state court decision.

Explanation of Rule, its Purpose, and Anticipated Effects: The department is planning to rehabilitate certain lakes. Increased recreational opportunity will exist prior to the rehabilitations, but the lakes will need to be closed to facilitate the rehabilitation process.

Proposal Changes the Following Existing Rules: Relaxes seasons, catch, size, and possession limits for certain lakes prior to rehabilitation and then closes the lakes to facilitate the rehabilitation process.

No small business economic impact statement has been prepared under chapter 19.85 RCW. These rules affect recreational fishing, not small businesses.

Section 201, chapter 403, Laws of 1995, does not apply to this rule adoption. Not hydraulics rules.

Hearing Location: Washington Department of Fish and Wildlife, 1111 Washington Street, Olympia, WA, on September 9, 1997, at 10:00 a.m.

Assistance for Persons with Disabilities: Contact Robin Ayers by August 25, 1997, TDD (360) 902-2207, or (360) 902-2933.

Submit Written Comments to: Evan Jacoby, Washington Department of Fish and Wildlife, Rules Coordinator, 600 Capitol Way North, Olympia, WA 98501, FAX (360) 902-2942, by August 25, 1997.

Date of Intended Adoption: September 9, 1997.

August 5, 1997
Evan Jacoby
Rules Coordinator

PROPOSED

NEW SECTION

**WAC 232-28-61900N Washington game fish—Exceptions to state-wide rules.** Notwithstanding the provisions of WAC 232-12-619 and WAC 232-28-619, the following game fish seasons, catch, size, and possession limits apply:

Heritage Lake (Stevens Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Thomas Lake (Stevens Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Gillette Lake (Stevens Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Sherry Lake (Stevens Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Leo Lake (Stevens/Pend Oreille Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Deadman Lake (Adams Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived.

Coyote/Bobcat Ponds (Adams Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived.

Shiner Lake (Adams Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived.

Hutchinson Lake (Adams Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived.

Coyote/Bobcat/Hays Creeks (Adams Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived.

Halfmoon Lake (Pend Oreille Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Jump Off Joe (Stevens Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Morgan Lake (Adams Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived.

Halfmoon Lake (Adams Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived

Corral Lake (Grant Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Blythe Lake (Grant Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Chukar Lake (Grant Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Scaup Lake (Grant Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Aztec Lake (Grant Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Desert Lake (Grant Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Dune Lake (Grant Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch,

size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Lizard Lake (Grant Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Meadowlark Lake (Grant Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Sedge Lake (Grant Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Tern Lake (Grant Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

North Desert Lake (Grant Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Aeneas Lake (Okanogan Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

June Lake (Grant Co.): Effective 12:01 a.m., August 5, 1997 through 12:00 midnight, September 14, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., September 15, 1997 through 12:00 midnight, October 31, 1997.

No. North Windmill Lake (Grant Co.): Effective 12:01 a.m., August 5, 1997 through 12:00 midnight, September 14, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., September 15, 1997 through 12:00 midnight, October 31, 1997.

North Windmill Lake (Grant Co.): Effective 12:01 a.m., August 5, 1997 through 12:00 midnight, September 14, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., September 15, 1997 through 12:00 midnight, October 31, 1997.

Windmill Lake (Grant Co.): Effective 12:01 a.m., August 5, 1997 through 12:00 midnight, September 14, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., September 15, 1997 through 12:00 midnight, October 31, 1997.

Canal Lake (Grant Co.): Effective 12:01 a.m., August 5, 1997 through 12:00 midnight, September 14, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., September 15, 1997 through 12:00 midnight, October 31, 1997.

Heart Lake (Grant Co.): Effective 12:01 a.m., August 5, 1997 through 12:00 midnight, September 14, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., September 15, 1997 through 12:00 midnight, October 31, 1997.

Pit Lake (Grant Co.): Effective 12:01 a.m., August 5, 1997 through 12:00 midnight, September 14, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., September 15, 1997 through 12:00 midnight, October 31, 1997.

Para-Juvenile Lake (Grant co.): Effective 12:01 a.m., January 15, 1998 through 11:59 p.m., February 28, 1998; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., March 1, 1998 through midnight, April 24, 1998.

McManamon Lake (Adams Co.): Effective 12:01 a.m., January 15, 1998 through 11:59 p.m., February 28, 1998; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., March 1, 998 through midnight, April 24, 1998.

REPEALER

The following section of the Washington Administrative Code is hereby repealed effective 12:01 a.m., April 25, 1998:

| | |
|---|---|
| WAC 232-28-61900N | Washington game fish—Exceptions to state-wide rules. |

## WSR 97-16-110
### PROPOSED RULES
### BUILDING CODE COUNCIL
[Filed August 6, 1997, 10:26 a.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 97-05-064.

Title of Rule: Chapter 51-11 WAC, Washington State Energy Code.

Purpose: To consider amendments to the Washington State Energy Code.

Statutory Authority for Adoption: RCW 19.27A.025, 19.27A.045.

Statute Being Implemented: Chapters 19.27, 19.27A, and 34.05 RCW.

Summary: The proposed rules amend the 1994 Washington State Energy Code (Second Edition). See Explanation of Rule below for further information.

Reasons Supporting Proposal: RCW 19.27A.045, 19.27A.025.

Name of Agency Personnel Responsible for Drafting and Implementation: Judith Darst, P.O. Box 48300, Olympia, WA 98504-8300, (360) 586-2251; and Enforcement: Local jurisdictions.

Name of Proponent: Washington State Building Code Council, governmental.

Agency Comments or Recommendations, if any, as to Statutory Language, Implementation, Enforcement, and Fiscal Matters: The council seeks comments on the issues and options proposed in the rules shown below.

Rule is not necessitated by federal law, federal or state court decision.

Explanation of Rule, its Purpose, and Anticipated Effects: The amendments to the Washington State Energy Code (WSEC) include corrections, revisions and additions as part of the regular code maintenance. Energy efficiency technology and terminology develops and changes rapidly. Proposed changes to the WSEC include editorial corrections, reference corrections, terminology updates, revised installation requirements, new technology allowances, consistency (between residential and nonresidential) revisions, new options for design flexibility, new default values, new legislative directives, clarifications, new equations, and new exceptions. Some of the more substantive changes include specific provisions for skylights, efficiency ratings for combination space and service water heaters, requirements for residential lighting, requirements applied when heating unenclosed spaces, removal of the prohibition of electric resistance heating as the primary heating source for pools over 2,000 gallons, and new lower lighting power allowance for low voltage track lighting.

**Regulatory Review:** In compliance with Executive Order 97-02, Regulatory improvement, the following criteria for regulatory review will be considered at the time of final adoption of the rule.

1. **Need.** This rule is authorized by RCW 19.27A.025 and 19.27A.045. The council regularly reviews state-wide amendment proposals to the Washington State Energy Code, and adopts the amendments as deemed appropriate. The purpose and objective of this review, as given in RCW 19.27.020, is to promote the health, safety and welfare of the occupants or users of buildings; to require minimum construction standards for the state of Washington; to permit the use of modern technical methods; to eliminate restrictive, obsolete, conflicting, duplicating and unnecessary regulations; and to provide standards to make buildings accessible to and usable by persons with physical disabilities. The technical advisory groups appointed by the council have identified rules that are obsolete, duplicative or ambiguous, and have proposed amendments and revisions.

2. **Effectiveness and Efficiency.** The mission of the council is to adopt building codes for uniform application throughout the state. In the course of the regular rule review, the council examined regulatory alternatives and new technologies. The council has identified where alternatives can be used effectively and efficiently. The council efficiently achieves uniform state building codes by serving as the central administrative agency for state-wide adoption of building codes.

3. **Clarity.** The council is revising their filing procedure for state amendments to the national uniform codes. To enhance clarity, only those subsections with a state amendment will be filed under the main section number. The balance of the main section will remain as written in the national uniform code, as adopted by reference, unless otherwise noted. This reformatting change reorganizes and shortens the WACs, and necessitates new WAC number assignments.

4. **Intent and Statutory Authority.** The proposed rule is consistent with the legislative intent of the statute chapters 19.27 and 19.27A RCW. These statutes give the council sufficient authority to maintain the state building code, and to adopt amendments to the Washington State Energy Code.

5. **Coordination.** The council rule-making process has included participation by national, state, and local building, fire, mechanical and plumbing officials, as well as state agency representatives for the Departments of Social and Health Services, Health, Labor and Industries, and the state Fire Marshal. The council actively seeks participation from other state agencies to assure that duplication and inconsistency is eliminated.

6. **Cost.** The council appointed technical advisory groups and an Economic and Regulatory Assessment Committee to examine the costs and benefits associated with the revisions to the building codes.

7. **Fairness.** The state amendments to the Washington State Energy Code proposed by the council are intended to mitigate disproportionate impact on the regulated community. The council is made up of representatives from the regulated community, as well as public and regulatory officials. In addition, the council enlisted the assistance of technical advisory groups, made up of the individuals, organizations and businesses impacted by the building codes, to review code changes and proposals.

Proposal Changes the Following Existing Rules: 1. **Sections 101.3.1, 701, 800, 1701, RS-29 (Sections 3.5 and 4):** These changes correct references to uniform codes, WACs, national standards, accredited authoritative agencies, and systems analysis software information.

2. **Sections 101.3.2.5, 104.2, 201, 402.1.3, 502.1.1, 502.1.5, 502.1.5.1, 502.1.5.2, 503.4.6, 503.8.3.4, Equation 1, Equation 3, 602.6, 602.6.2, 602.7.2, 606, 607, 608, Tables 6-1 through 6-6, 1002.1, 1002.2, Table 10-1, 1003.3, Table 10-2, Table 10-3, Table 10-4, Table 10-5, 1006, 1006.1, Table 10-6A, Table 10-6B, Table 10-6C, Table 10-6D, 1007.1, 1007.2, Table 10-7, 1130, 1132.1, 1312.1, 1323.3, 1331, 1331 (exception):** Terminology and language corrections have been made to these sections: "U-value" has been changed to "U-factor" throughout; changes "shading coefficients" to "solar heat gain coefficients;" changes the National Fenestration Rating council's model size reference from "AA or BB" to "Residential or Nonresidential;" "F-value" has been changed to "F-factor."

3. **Sections 201:** This new amendment adds a definition for Solar Heat Gain Coefficient (SHGC).

4. **Section 502.1.1:** This new amendment revises the metal stud wall effective framing/cavity R-value table and adds values for roof/ceilings.

5. **Section 502.1.4.1:** This new amendment revises installation requirements for blown-in or spray-applied insulation.

6. **Section 502.1.5 (exceptions):** This new amendment adds deemed to satisfy exceptions for specialty glazing: Glazed wall systems, overhead glazing, and solariums.

7. **Sections 502.1.5.1 (exceptions), 502.2.1, Equations 1 and 3, Table 5-1, 602.7.2, Tables 6-1 through 6-6:** These new amendments revise component performance approach (Glazing U-factors, UA calculation procedure, UA equations, Target Component Values) and prescriptive requirements approach (Glazing U-factors, Prescriptive

Requirements) to allow for specialty glazing: Overhead glazing and garden windows.

8. **Section 502.4.3:** This new amendment revises seals and weatherstripping requirements to allow housewrap.

9. **Section 503.2.2:** This new amendment revises space heating and cooling system sizing limits from 150% to 200% of the calculated design loads.

10. **Sections 503.3, 503.4.5, 503.7:** This amendment deletes residential specific requirements and references the appropriate requirements in the nonresidential section.

11. **Section 503.11.1:** This amendment deletes a section because requirements are covered in Table 14-6 footnote.

12. **Section 504.2.1, 1411.3:** This new amendment defines performance efficiency requirements for combination space and service water heaters for both residential and nonresidential applications.

13. **Section 504.8.2:** This amendment deletes a section because public facility requirements do not belong in the residential section.

14. **Section 505, 605:** These new amendments define lighting requirements for the appropriate residential occupancies.

15. **Table 5-12:** This new amendment revise minimum pipe insulation requirements for consistency with NREC.

16. **Section 602.2, 1322 - exception 2 (two options), 1322 - exception 3:** These new amendments give a prescriptive R-5 insulation exception for perimeter edges (of above grade floor slabs or interior concrete walls) that penetrate exterior walls. New amendment Section 1322, Exception 3 allows unheated, uninsulated slabs-on-grade provided that the wall insulation is R-2 above Tables 13-1 and 13-2 requirements.

17. **Tables 6-1 through 6-6:** A prescriptive option was added which allows unlimited glazing if the installed glazing (vertical and overhead) is efficient, as defined.

18. **Table 10-4:** This new amendment adds default values for floors over heated plenum crawlspaces. The table now includes values for concrete, wood joist and metal joist construction.

19. **Section 1005.3, Table 10-5, Table 10-5:** These new amendments disclose metal stud wall construction assembly assumptions and replaces the single metal stud walls default values with a much more comprehensive default table.

20. **Section 1006.1, Table 10-6A, Table 10-6B, Table 10-6E:** These new amendments add default values for specialty glazing: Overhead glazing, and garden windows.

21. **Section 1007.2, Tables 10-7A through 10-7E, Section 2007.2, Tables 20-7A through 20-7E:** These new amendments disclose metal truss framing construction assembly assumptions and provide new metal truss default value tables for both residential and nonresidential occupancies.

22. **Section 1120:** As directed by the legislature, an amendment was added which exempts temporary growing structures used solely for the commercial production of horticultural plants from the code.

23. **Sections 1133, 1210, 1310.2:** These new amendments clarify and update semi-heated space requirements.

24. **Section 1334, Equations 13-3 and 13-4:** These new amendments specify calculation procedures including equations for target and proposed Solar Heat Coefficient Rates.

25. **Tables 13-1 and 13-2:** These amendments clarify below grade wall requirements.

26. **Section 1411.4:** This new amendment excepts personal wireless service facilities from the packaged electric heating and cooling equipment requirements.

27. **Section 1411.5:** These new amendments define requirements when heating unenclosed spaces.

28. **Section 1412.4.1:** This new amendment adds "a manual switch" for control of dampers which close automatically upon power failure. This amendment was requested to avoid conflict between the Uniform Mechanical Code and the WSEC.

29. **Section 1414.1:** This new amendment clarifies the current duct sealing requirements as referenced in Standard RS-18, by stating clearly that duct tape and other pressure sensitive tape is not acceptable in this application, as defined.

30. **Section 1414.2, Table 14-5:** These new amendments clarify current duct and plenum insulation requirements.

31. **Section 1421:** This new amendment changes the simple system threshold for air cooled, constant volume split systems, which provide heating, cooling or both, from a cooling capacity of "54,000 Btu/h" to a cooling capacity of "84,000 Btu/h."

32. **Section 1422:** This new amendment prohibits systems which provide heating and cooling simultaneously to a zone.

33. **Sections 1423 and 1433:** New amendment changes terminology from "packaged rooftop" to "single package unitary" and also amends the total capacity threshold by giving a second option.

34. **Section 1452:** This amendment deletes prohibition of electric resistance heating as the primary heating source for pools over 2,000 gallons.

35. **Sections 1512.1 and 1512.2:** These new amendments clarify exempt spaces and exempt lighting equipment requirements.

36. **Section 1530:** This new amendment provides lighting power allowances for low voltage track lighting.

37. **Table 20-5A:** This new amendment adds default values for metal buildings.

38. **Table 20-6:** This new amendment adds default values for nonresidential vinyl/wood frame vertical glazing.

A small business economic impact statement has been prepared under chapter 19.85 RCW.

Small Business Economic Impact Statement

**Purpose:** The purpose of this analysis is to comply with the requirements of chapter 19.85 RCW, to examine whether these proposed rules will have a disproportionate impact on small businesses.

**Introduction:** The state Building Code Council is proposing to adopt the 1997 version of the Washington State Energy Code (chapter 51-11 WAC). The following sections were identified by the council's Economic and regulatory Assessment Committee (ERAC) as having a potential disproportionate cost impact to small business: (Sections 602.2 (Exterior Walls Above and Below Grade), 1322 excep-

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tion 2 (Opaque Envelope), 1414.1 (Sealing), and 1512.2 (Exempt Lighting Equipment)).

The council appointed Technical Advisory Groups (TAGs) to do a comprehensive review and analysis of proposed changes to the Washington State Energy Code. The TAGs held meetings over a three year period. All national and state-wide code changes were examined. The TAGs findings were reviewed by ERAC. Based on this review, the council found that all changes proposed other than the measures specified in this report are editorial in nature and clarifications on nationally recognized standards which have minimal to no economic impact.

The council members and participants are representative sample of individuals involved in the building construction industry. The make up of the participants were; architects, home builders, building officials, contractors, fire officials, energy professionals, manufacturers, engineers, plumbers, state and local officials, inspectors, industry associations and organizations, companies and business, electricians, and the general public.

**Summary of Proposed Rule Amendments:** Washington State Energy Code (chapter 51-11 WAC), Sections 602.2 (Exterior Walls Above and Below Grade), 1322 exception 2 (Opaque Envelope), 1414.1 (Sealing), and 1512.2 (Exempt Lighting Equipment).

**Industry Analysis**: The four-digit Standard Industrial Classification (SIC) codes for the industries potentially impacted for the two identified code change proposals are listed below:

| SIC # | DESCRIPTION |
|---|---|
| 1521 | Single-family housing construction |
| 1522 | Residential construction |
| 1541 | Industrial buildings and warehouses |
| 1542 | Nonresidential construction |
| 1711 | Plumbing, heating, air-conditioning |
| 1731 | Electrical work |
| 1761 | Roofing, siding, and sheet metal work |

Within each four-digit SIC, data from December 31, 1996, (the most recent) were analyzed to determine the number of small and large businesses, and the number of employees per business. Industry data at the four-digit level, provided by the Employment Security Department, were broad in scope and anonymous. Due to confidentiality laws in the state, the council was not able to analyze businesses on a "per business" or "per employee" basis as established in chapter 19.85 RCW, Regulatory Fairness Act. Therefore, an analysis was prepared based solely on the number of employees per employers within each four-digit SIC.

**Example:** SIC 1521 (Single-family housing construction) has a total of 5,410 employers and 15,490 employees. Of those 5,410 employers, 5,398 of them were small businesses as defined in chapter 19.85 RCW (fifty employees or less) and twelve were large businesses (fifty-one or more employees). A survey was prepared that described these proposed changes and asked businesses to estimate what they believed the cost impact of these changes would be on their business and how they arrived at that figure. The survey also asked businesses how many workers they employed. The council sent surveys to ten percent of businesses within these identified industries to assess the economic impact of the proposals.

The council is able to provide the following detailed information regarding the potentially impacted businesses.

**Number of businesses potentially impacted 10,529**
**Number of employees potentially impacted 63,258**
**Average number of employees/business 6**
***Source: Employment Security Dec. 31, 1996 data.***

**Cost of Compliance**: To determine cost of compliance, 1171 surveys were sent out. However, only four percent were returned. The results of the surveys were limited. The respondents provided information that was incomplete and inconclusive. Cost estimates provided did not account for existing code requirements and were not representative of an incremental increase. The information that was provided is given in the tables below.

**Compliance Cost #1: Exterior Walls Above and Below Grade, WAC 51-11-602.2**

| | Small Business (approx.) | Large Business (approx.) |
|---|---|---|
| Businesses responding: | 25 | 2 |
| Average number of Employees affected: | 7 | 69 |
| Average cost of compliance: | $3,700.00 | No responses |
| Average cost/employee: | $528.57 | ? |

**Compliance Cost #2: Opaque Envelope, WAC 51-11-1322 exception 2**

| | Small Business (approx.) | Large Business (approx.) |
|---|---|---|
| Businesses responding: | 25 | 2 |
| Average number of Employees affected: | 7 | 69 |
| Average cost of compliance: | $2,433.00 | No responses |
| Average cost/employee: | $347.57 | ? |

**Compliance Cost #3: Sealing, WAC 51-11-1414.1**

| | Small Business (approx.) | Large Business (approx.) |
|---|---|---|
| Businesses responding: | 25 | 2 |
| Average number of Employees affected: | 7 | 69 |
| Average cost of compliance: | $15,143.00 | $200,000.00 |
| Average cost/employee: | $2,163.29 | $2,898.55 |

**Compliance Cost #4: Exempt Lighting Equipment, WAC 51-11-1512.2**

| | Small Business (approx.) | Large Business (approx.) |
|---|---|---|
| Businesses responding: | 25 | 2 |
| Average number of Employees affected: | 7 | 69 |
| Average cost of compliance: | $500.00* | No responses |
| Average cost/employee: | $71.43 | ? |

**Based on one cost response.*

Below are the approximate total average costs these proposals would have on the Washington State Energy Code.

**Number of small businesses (50 or less employees)** 25 (57%)
**Average number of employees** 7
**Estimated average cost of compliance per employee** $444.41

**Number of large businesses (51 or more employees)** 2 (5%)
**Average number of employees** 69
**Estimated average cost of compliance per employee** NA

**Number of returned surveys with no responses.** 17 (39%)

**Compliance Cost I: Reporting and compliance requirements:** There are no reporting and/or compliance requirement costs involved with this proposal.

**Compliance Cost II: Associated costs:** Associated costs of materials, labor, and training were included in the initial cost of compliance provided above. There are no

special services, reporting, tracking and/or training needed for these proposals.

**Compliance Cost III: Lost sales or revenue:** The requirements in Section 1414.1 (Duct Sealing Materials), Section 1322 exception 2, (Opaque Envelope Above Grade Floor Slabs), and Section 602.2 (Exterior Walls Both, Above and Below Grade) are currently in practice in the industry. These measures are proposed to provide clarification of already established nationally recognized standards. The effects to sales and revenue to a business complying with proposed Section 1512.2 (Exempt Lighting Equipment) could not be determined in this analysis.

All regulations apply equally to both large and small businesses, and they have minimal to no affect on the sales and/or revenue of a business. Most of the proposals are nationally recognized standards which are in current practice in this industry.

**Compliance Cost IV: Possible disproportionate effect on small businesses:** The Regulatory Fairness Act requires, when possible, a comparison of the compliance costs for small and large businesses on the proposed rules.

The results of the survey were limited but they offered some insight into the possible costs involved with the rule for all businesses. However, the survey results as well as council's evaluation both concur that no disproportional cost impacts are incurred by these new proposals. No substantial figures can be provided, due to lack of data. Most of the changes are intended to clarify and establish current practices of nationally recognized standard.

**Involvement of Small Businesses:** The council has included small businesses in the drafting of this language and the preparation of the small business economic impact study (SBEIS). Small businesses were represented on the technical advisory groups and council committees. Ten percent of each of the identified SIC industries were solicited for information regarding the potential economic impact of the proposed rules.

**Mitigation:** Through a formal and established method of negotiated rule making, the council and the affected industries have considered and mitigated costs associated with the proposed rules. The council solicited feedback from industry. Industry representation has been involved at all public meetings.

The council and its committees are of the opinion that many of the potentially impacted businesses will experience minimal or no extra cost of compliance. Language was drafted so that industry would have adequate time to comply with those sections of the rule that may impose an economic impact on business. Sections or wording of the proposed rules were omitted in an effort to minimize the costs. Again, business representation was an integral part of the review and development of this negotiated rule-making process.

Since the proposed rules have been negotiated into their current form with input from the council and industry, the council is of the opinion that adequate mitigation efforts have been put forth.

**Conclusion:** Based on the results of the survey and the council's economic evaluation, the council recognized that the proposed rules may impose minimal economic impact on businesses in the building construction industry. However, the council also realizes its obligation to ensure the health, safety and welfare of the occupants or users of buildings and structures and the general public through the provisions of the building codes throughout the state, as stated in the council's legislative mandate.

The council has negotiated the proposed rules into their current form in an effort to achieve a minimum safety standard that meets the need of the building construction industry and the citizens of this state.

Again, the council appointed Technical Advisory Groups (TAGs) to do a comprehensive review and analysis of the proposed changes to the Washington State Energy Code. The TAGs held meetings over a three year period. All national and state-wide code changes were examined. The TAG findings were reviewed by ERAC. Based on this review, the council found that all changes proposed other than the measures specified in this report are editorial in nature and clarifications on nationally recognized standards which have minimal to no economic impact.

A copy of the statement may be obtained by writing to Tim Nogler, Managing Director, Washington State Building Code Council, P.O. Box 48300, Olympia, WA 98504-8300, phone (360) 586-0486, or FAX (360) 586-5880.

Section 201, chapter 403, Laws of 1995, does not apply to this rule adoption. The state Building Code Council is not listed in this section as one of the agencies required to comply with this regulation.

Hearing Location: On Friday, September 12, 1997, at 9:00 a.m., at the Radisson Hotel, Flight Lounge, 17001 Pacific Highway South, SeaTac, WA; and on Friday, October 10, 1997, at 9:00 a.m., at the Spokane City Hall, City Council Chambers, West 808 Spokane Falls Boulevard, Spokane, WA.

Assistance for Persons with Disabilities: Contact Krista Braaksma by September 1, 1997, TDD (360) 753-2200, or (360) 753-5927.

Submit Written Comments to: Mike McEnaney, Chair, State Building Code Council, P.O. Box 48300, Olympia, WA 98504-8300, FAX (360) 586-5880, by October 8, 1997.

Date of Intended Adoption: November 14, 1997.

August 6, 1997
Mike McEnaney
Chair

AMENDATORY SECTION (Amending WSR 93-21-052, filed 10/18/93, effective 4/1/94)

**WAC 51-11-0101 Section 101. Scope and general requirements.**

101.1 Title: Chapters 1 through 10 of this Code shall be known as the "Washington State Residential Energy Code" and may be cited as such; and will be referred to herein as "this Code."

101.2 Purpose and Intent: The purpose of this Code is to provide minimum standards for new or altered buildings and structures or portions thereof to achieve efficient use and conservation of energy.

The purpose of this Code is not to create or otherwise establish or designate any particular class or group of persons who will or should be especially protected or benefitted by the terms of this Code.

It is intended that these provisions provide flexibility to permit the use of innovative approaches and techniques to achieve efficient use and conservation of energy. These provisions are structured to permit compliance with the intent of this Code by any one of the following three paths of design:

1. A systems analysis approach for the entire building and its energy-using sub-systems which may utilize renewable energy sources, Chapter 4.

2. A component performance approach for various building elements and mechanical systems and components, Chapter 5.

3. A prescriptive requirements approach, Chapter 6.

Compliance with any one of these approaches meets the intent of this Code. This Code is not intended to abridge any safety or health requirements required under any other applicable codes or ordinances.

The provisions of this Code do not consider the efficiency of various energy forms as they are delivered to the building envelope. A determination of delivered energy efficiencies in conjunction with this Code will provide the most efficient use of available energy in new building construction.

101.3 Scope: This Code sets forth minimum requirements for the design of new buildings and structures that provide facilities or shelter for residential occupancies by regulating their exterior envelopes and the selection of their HVAC, service water heating, electrical distribution and illuminating systems and equipment for efficient use and conservation of energy.

Buildings shall be designed to comply with the requirements of either Chapter 4, 5, or 6 of this Code.

101.3.1 Exempt Buildings: Buildings and structures or portions thereof meeting any of the following criteria shall be exempt from the building envelope requirements of sections 502 and ((~~sections~~)) 602 ((~~and 605~~)), but shall comply with all other requirements for building mechanical systems, service water heating *and lighting systems*.

101.3.1.1: Buildings and structures or portions thereof whose peak design rate of energy usage is less than three and four tenths (3.4) Btu/h per square foot or one point zero (1.0) watt per square foot of floor area for space conditioning requirements.

101.3.1.2: Buildings and structures or portions thereof which are neither heated according to the definition of heated space in Chapter 2, nor cooled by a nonrenewable energy source, provided that the nonrenewable energy use for space conditioning complies with requirements of section 101.3.1.1.

101.3.1.3: Greenhouses isolated from any conditioned space and not intended for occupancy.

101.3.2 Application to Existing Buildings: Additions, historic buildings, changes of occupancy or use, and alterations or repairs shall comply with the requirements in the subsections below.

EXCEPTION: The building official may approve designs of alterations or repairs which do not fully conform with all of the requirements of this Code where in the opinion of the building official full compliance is physically impossible and/or economically impractical and:

1. The alteration or repair improves the energy efficiency of the building; or

2. The alteration or repair is energy efficient and is necessary for the health, safety, and welfare of the general public.

In no case, shall building envelope requirements or mechanical system requirements be less than those requirements in effect at the time of the initial construction of the building.

101.3.2.1 Additions to Existing Buildings: Additions to existing buildings or structures may be made to such buildings or structures without making the entire building or structure comply, provided that the new additions shall conform to the provisions of this Code.

EXCEPTION: New additions which do not fully comply with the requirements of this Code and which have a floor area which is less than seven hundred fifty square feet shall be approved provided that improvements are made to the existing occupancy to compensate for any deficiencies in the new addition. Compliance shall be demonstrated by either systems analysis or component performance calculations. The nonconforming addition and upgraded, existing occupancy shall have an energy budget or heat loss which is less than or equal to the unimproved existing building, with the addition designed to comply with this Code.

101.3.2.2 Historic Buildings: The building official may modify the specific requirements of this Code for historic buildings and require in lieu thereof alternate requirements which will result in a reasonable degree of energy efficiency. This modification may be allowed for those buildings which have been specifically designated as historically significant by the state or local governing body, or listed in The National Register of Historic Places or which have been determined to be eligible for listing.

101.3.2.3 Change of Occupancy or Use:

Any Other than Group R Occupancy which is converted to Group R Occupancy shall be brought into full compliance with this Code.

101.3.2.4 Alterations and Repairs: All alterations and repairs to buildings or portions thereof originally constructed subject to the requirements of this Code shall conform to the provisions of this Code without exception. For all other existing buildings, initial tenant alterations shall comply with the new construction requirements of this Code. Other alterations and repairs may be made to existing buildings and moved buildings without making the entire building comply with all of the requirements of this Code for new buildings, provided the following requirements are met:

101.3.2.5 Building Envelope: The result of the alterations or repairs both:

1. Improves the energy efficiency of the building, and

2. Complies with the overall average thermal transmittance values of the elements of the exterior building envelope in Table 5-1 of Chapter 5 or the nominal R-values and glazing requirements of the reference case in Tables 6-1 to 6-6.

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EXCEPTIONS:

1. Untested storm windows may be installed over existing glazing for an assumed ((~~U-value~~)) U-factor of 0.90, however, where glass and sash are being replaced in Group R Occupancy, glazing ((~~with a maximum area weighted average U-value of 0.40 shall be installed where there is an electric resistance space heating system and glazing with a maximum U-value of 0.65 (Climate Zone I) and 0.60 (Climate Zone II) shall be installed where there is any other space heating system~~)) shall comply with the appropriate reference case in Table 6-1 through Table 6-6.

2. Where the structural elements of the altered portions of roof/ceiling, wall or floor are not being replaced, these elements shall be deemed to comply with this Code if all existing framing cavities which are exposed during construction are filled to the full depth with batt insulation or insulation having an equivalent nominal R-value while, for roof/ceilings, maintaining the required space for ventilation. Existing walls and floors without framing cavities need not be insulated. Existing roofs shall be insulated to the requirements of this Code if

a. The roof is uninsulated or insulation is removed to the level of the sheathing, or

b. All insulation in the roof/ceiling was previously installed exterior to the sheathing or nonexistent.

101.3.2.6 Building Mechanical Systems: Those parts of systems which are altered or replaced shall comply with section 503 of this Code.

101.3.2.7 Service Water Heating: Those parts of systems which are altered or replaced shall comply with section 504.

101.3.2.8 Reserved.

101.3.3 Mixed Occupancy: When a building houses more than one occupancy, each portion of the building shall conform to the requirements for the occupancy housed therein. Where approved by the building official, where minor accessory uses do not occupy more than ten percent of the area of any floor of a building, the major use may be considered the building occupancy.

101.4 Amendments by Local Government: Except as provided in RCW 19.27A.020(7), this Code shall be the maximum and minimum energy code for Group R Occupancy in each town, city and county, no later than July 1, 1991.

AMENDATORY SECTION (Amending WSR 91-01-112, filed 12/19/90, effective 7/1/91)

**WAC 51-11-0104 Plans and specifications.**

104.1 General: If required by the building official, plans and specifications shall be submitted in support of an application for a building permit. If required by the building official, plans and specifications shall be stamped and authenticated by a registered design professional currently licensed in the state of Washington. If required by the building official, all energy calculations submitted under the provisions of Chapter 4 for Other than Group R Occupancy shall be stamped and authenticated by an engineer or architect licensed to practice by the state. All plans and specifications, together with supporting data, shall be submitted to the building official prior to issuance of a building permit.

104.2 Details: The plans and specifications shall show in sufficient detail all pertinent data and features of the building and the equipment and systems as herein governed including, but not limited to: design criteria, exterior envelope component materials, ((~~U-values~~)) U-factors of the envelope systems, R-values of insulating materials, size and type of apparatus and equipment, equipment and systems controls and other pertinent data to indicate compliance with the requirements of this Code.

The building official may accept the professional stamp of an architect or engineer licensed to do business by the state in lieu of a plan and specification check if the engineer or architect stipulates to the best of his knowledge, understanding and belief, the design meets the requirements of this Code.

AMENDATORY SECTION (Amending WSR 94-05-059, filed 2/10/94, effective 4/1/94)

**WAC 51-11-0201 General definitions.**

201.1 Application of Terms: For the purposes of this Code, certain abbreviations, terms, phrases, words and their derivatives, shall be as set forth in this chapter. Where terms are not defined, they shall have their ordinary accepted meanings within the context with which they are used. In the event there is a question about the definition of a term, the definitions for terms in the codes enumerated in RCW 19.27.031 and the edition of Webster's dictionary referenced therein shall be considered as the sources for providing ordinarily accepted meanings.

**AAMA:** American Architectural Manufacturers Association

**Addition:** See the Washington State Building Code.

**Advanced framed ceiling:** Advanced framing assumes full and even depth of insulation extending to the outside edge of exterior walls. (See Standard Framing.)

**Advanced framed walls:** Studs framed on twenty-four inch centers with double top plate and single bottom plate. Corners use two studs or other means of fully insulating corners, and one stud is used to support each header. Headers consist of double 2X material with R-10 insulation between the header and exterior sheathing. Interior partition wall/exterior wall intersections are fully insulated in the exterior wall.

**AFUE. Annual fuel utilization efficiency:** Unlike steady state conditions, this rating is based on average usage including on and off cycling as set out in the standardized Department of Energy Test Procedures.

**Air conditioning, comfort:** The process of treating air to control simultaneously its temperature, humidity, cleanliness and distribution to meet requirements of the conditioned space.

**ASHRAE:** American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc.

**ASTM:** American Society for Testing and Materials

**Automatic:** Self-acting, operating by its own mechanism when actuated by some impersonal influence, as for example, a change in current strength, pressure, temperature or mechanical configuration. (See **Manual.**)

**Below grade walls:** Walls or the portion of walls which are entirely below the finish grade or which extend two feet or less above the finish grade.

**Building, existing:** See the Washington State Building Code.

**Boiler capacity:** The rate of heat output in Btu/h measured at the boiler outlet, at the design inlet and outlet conditions and rated fuel/energy input.

**Building envelope:** The elements of a building which enclose conditioned spaces through which thermal energy may be transferred to or from the exterior or to or from spaces exempted by the provisions of Section 101.3.1.

**Building official:** The official authorized to act in behalf of a jurisdiction code enforcement agency or its authorized representative.

**Building project:** A building or group of buildings, including on-site energy conversion or electric-generating facilities, which utilize a single submittal for a construction permit or are within the boundary of a contiguous area under one ownership.

**Comfort envelope:** The area on a psychrometric chart enclosing all those conditions described in Standard RS-4, Figure No. 1, as being comfortable.

**Conditioned space:** All spaces which are provided with heated and/or cooled air or which are capable of being maintained at temperatures over fifty degrees F during the heating season, including adjacent connected spaces separated by an uninsulated component (e.g., basements, utility rooms, garages, corridors).

**Cooled space:** Space within a building which is provided with a positive cooling supply.

**COP - Coefficient of performance:** The ratio of the rate of net heat output (heating mode) or heat removal (cooling mode) to the rate of total on-site energy input to the heat pump, expressed in consistent units and under designated rating conditions. (See Net Heat Output, Net Heat Removal, Total On-Site Energy Input.)

**Deadband:** The temperature range in which no heating or cooling is used.

**Degree day, heating:** A unit, based upon temperature difference and time, used in estimating fuel consumption and specifying nominal heating load of a building in winter. For any one day when the mean temperature is less than sixty-five degrees F there exist as many degree days as there are Fahrenheit degrees difference in temperature between the mean temperature for the day and sixty-five degrees F.

**Door:** An operable opening area in the shell of a conditioned space, excluding sliding glass doors, which is designed and used as a means of ingress and egress. A door may also include a double door one of which is fixed and one of which is operable.

**Door area:** Total area of door measured using the rough opening and including the door and frame.

**Dwelling unit:** See the Washington State Building Code.

**EER. Energy efficiency ratio:** The ratio of net equipment cooling capacity in Btu/h to total rate of electric input in watts under designated operating conditions.

**Efficiency, HVAC system:** The ratio of useful energy (at the point of use) to the energy input for a designated time period, expressed in percent.

**Emissivity:** The ability to absorb infrared radiation. A low emissivity implies a higher reflectance of infrared radiation.

**Energy:** The capacity for doing work; taking a number of forms which may be transformed from one into another, such as thermal (heat), mechanical (work), electrical and chemical; in customary units, measured in kilowatt-hours (kWh) or British thermal units (Btu). (See **New energy.**)

**Energy, recovered:** (See **Recovered energy.**)

**Exterior envelope:** (See **Building envelope.**)

**Floor over unconditioned space:** A floor which separates a conditioned space from an unconditioned space which is buffered from exterior ambient conditions including vented crawl spaces and unconditioned basements or other similar spaces, or exposed to exterior ambient conditions including open parking garages and enclosed garages which are mechanically ventilated.

**F-Value:** The perimeter heat loss factor expressed in Btu/hr●ft●°F.

**Glazing:** All areas, including the frames, in the shell of a conditioned space that let in natural light including windows, clerestories, skylights, sliding glass doors and glass block walls. The daylight opening area in all other doors shall be considered glazing for the purpose of calculating glazing area. The daylight opening area in all other doors is included in the door ((~~U-value~~)) U-factor and shall not be considered in calculations of glazing ((~~U-values~~)) U-factors.

**Glazing area:** Total area of the glazing measured using the rough opening, and including the glazing, sash, and frame. For sliding glass doors the glazing area is the rough opening area. For all other doors the glazing area is the daylight opening area.

**Gross conditioned floor area:** The horizontal projection of that portion of interior space which is contained within exterior walls and which is conditioned directly or indirectly by an energy-using system, and which has an average height of five feet or greater, measured from the exterior faces.

**Gross exterior wall area:** The normal projection of the building envelope wall area bounding interior space which is conditioned by an energy-using system; includes opaque wall, window and door areas. The gross area of walls consists of all opaque wall areas, including foundation walls, between floor spandrels, peripheral edges of floors, window areas including sash, and door areas, where such surfaces are exposed to exterior ambient conditions and enclose a conditioned space including interstitial areas between two such spaces.

**Gross floor area:** The sum of the areas of the several floors of the building, including basements, cellars, mezzanine and intermediate floored tiers and penthouses of headroom height, measured from the exterior faces of exterior walls or from the center line of walls separating buildings, but excluding: Covered walkways, open roofed-over areas, porches and similar spaces. Pipe trenches, exterior terraces or steps, chimneys, roof overhangs and similar features.

**Gross roof/ceiling area:** The sum of the areas of the roof/ceiling assembly, consisting of the total interior surface area of all elements, including skylights, which enclose a conditioned space.

**Guest room:** See the Washington State Building Code.

**Heat:** The form of energy that is transferred by virtue of a temperature difference.

**Heat storage capacity:** The physical property of materials (mass) located inside the building envelope to absorb, store, and release heat.

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**Heated space:** Space within a building which is provided with a positive heating supply. Finished living space within a basement or registers or heating devices designed to supply heat to a basement space shall automatically define that space as heated space. (See Positive Heating Supply.)

**HSPF. Heating season performance factor:** The total heating output (in Btu) of a heat pump during its normal annual usage period for heating divided by the total (watt hour) electric power input during the same period, as determined by test procedures consistent with the U.S. Department of Energy "Test Procedure for Central Air Conditioners, Including Heat Pumps" published in the December 27, 1979, Federal Register, Vol 44, No. 24, IOCFR. 430. When specified in Btu per watt hour an HSPF of 6.826 is equivalent to a COP of 2.0.

**Humidistat:** A regulatory device, actuated by changes in humidity, used for automatic control of relative humidity.

**HVAC:** Heating, ventilating and air conditioning.

**HVAC system components:** HVAC system components provide, in one or more factory-assembled packages, means for chilling and/or heating water with controlled temperature for delivery to terminal units serving the conditioned spaces of the buildings. Types of HVAC system components include, but are not limited to, water chiller packages, reciprocating condensing units and water source (hydronic) heat pumps. (See **HVAC system equipment.**)

**HVAC system efficiency:** (See **Efficiency, HVAC system.**)

**HVAC system equipment:** HVAC system equipment provides, in one (single package) or more (split system) factory-assembled packages, means for air circulation, air cleaning, air cooling with controlled temperature and dehumidification; and optionally, either alone or in combination with a heating plant, the functions of heating and humidifying. The cooling function may be either electrically or heat operated and the refrigerant condenser may be air, water or evaporatively cooled. Where the equipment is provided in more than one package, the separate packages shall be designed by the manufacturer to be used together. The equipment may provide the heating function as a heat pump or by the use of electric elements. (The word "equipment" used without modifying adjective may, in accordance with common industry usage, apply either to HVAC system equipment or HVAC system components.)

**Illumination:** The density of the luminous flux incident on a surface; it is the quotient of the luminous flux by the area of the surface when the latter is uniformly illuminated.

**Infiltration:** The uncontrolled inward air leakage through cracks and interstices in any building element and around windows and doors of a building caused by the pressure effects of wind and/or the effect of differences in the indoor and outdoor air density.

**Insulation baffle:** A rigid material, resistant to wind driven moisture, the purpose of which is to allow air to flow freely into the attic or crawl space and to prevent insulation from blocking the ventilation of these spaces, or the loss of insulation. Example materials for this purpose are sheet metal, or wax impregnated cardboard.

**Luminaire:** A complete lighting unit consisting of a lamp or lamps together with the parts designed to distribute the light, to position and protect the lamps and to connect the lamps to the electric power supply.

**Manual:** Capable of being operated by personal intervention. (See **Automatic.**)

**Net heat output:** The change in the total heat content of the air entering and leaving the equipment (not including supplementary heat and heat from boilers).

**Net heat removal:** The total heat content of the air entering and leaving the equipment (without heat) or the difference in total heat content of the water or refrigerant entering and leaving the component.

**New energy:** Energy, other than recovered energy, utilized for the purpose of heating or cooling. (See **energy.**)

**Nominal R-value:** The thermal resistance of insulation as specified by the manufacturer according to recognized trade and engineering standards.

**Nonrenewable energy sources:** All energy sources that are not renewable energy sources including natural gas, oil, coal, wood, liquified petroleum gas, steam, and any utility-supplied electricity.

**Occupancy:** See the Washington State Building Code.

**Opaque envelope areas:** All exposed areas of a building envelope which enclose conditioned space, except openings for windows, skylights, doors, glazing and building service systems.

**Open blown:** Loose fill insulation pneumatically installed in an unconfined attic space.

**Outdoor air:** Air taken from the outdoors and, therefore, not previously circulated through the system.

**Packaged terminal air conditioner:** A factory-selected combination of heating and cooling components, assemblies or sections intended to serve a room or zone. (For the complete technical definition, see Standard RS-10.)

**Packaged terminal heat pump:** A factory-selected combination of heating and cooling components, assemblies or sections intended for application in an individual room or zone. (For the complete technical definition, see Standard RS-21.)

**Permeance (perm):** The ability of a material of specified thickness to transmit moisture in terms of amount of moisture transmitted per unit time for a specified area and differential pressure (grains per hour•ft$^2$•inches of HG). Permeance may be measured using ASTM E-96-72 or other approved dry cup method as specified in RS-1.

**Pool cover:** A vapor-retardant cover which lies on or at the surface of the pool.

**Positive cooling supply:** Mechanical cooling deliberately supplied to a space, such as through a supply register. Also, mechanical cooling indirectly supplied to a space through uninsulated surfaces of space cooling components, such as evaporator coil cases and cooling distribution systems which are capable of maintaining air temperatures within the space of eighty-five degrees F, or lower, at the exterior design conditions specified in Section 302.1. To be considered exempt from inclusion in this definition, such surfaces shall comply with the insulation requirements of this Code.

**Positive heating supply:** Heat deliberately supplied to a space by design, such as a supply register, radiator or heating element. Also, heat indirectly supplied to a space through uninsulated surfaces of service water heaters and space heating components, such as furnaces, boilers and

heating and cooling distributions systems which are capable of maintaining air temperature within the space of fifty degrees F, or higher, at the exterior design conditions specified in Section 302.1. To be considered exempt from inclusion in this definition, such surfaces shall comply with the insulation requirements of this Code.

**Power:** In connection with machines, the time rate of doing work. In connection with the transmission of energy of all types, the rate at which energy is transmitted; in customary units, it is measured in watts (W) or British Thermal Units per hour (Btu/h).

**Public facility rest room:** A rest room used by the transient public on a regular (rather than casual) basis. Examples include rest rooms in service stations, airports, train terminals and convention halls. Rest rooms incorporated with private guest rooms in hotels, motels or dormitories and rest room facilities intended for the use of employees and not usually used by the general public are not considered public facility rest rooms.

**Radiant slab:** A slab on grade containing heated pipes, ducts, or electric heating cables that constitute a radiant slab or portion thereof for a complete or partial heating of the structure.

**Readily accessible:** See the Washington State Mechanical Code.

**Recooling:** The removal of heat by sensible cooling of the supply air (directly or indirectly) that has been previously heated above the temperature to which the air is to be supplied to the conditioned space for proper control of the temperature of that space.

**Recovered energy:** Energy utilized which would otherwise be wasted (i.e. not contribute to a desired end use) from an energy utilization system.

**Reheat:** The application of sensible heat to supply air that has been previously cooled below the temperature of the conditioned space by either mechanical refrigeration or the introduction of outdoor air to provide cooling.

**Renewable energy sources:** Renewable energy sources of energy (excluding minerals) are derived from: (1) incoming solar radiation, including but not limited to, natural daylighting and photosynthetic processes; (2) energy sources resulting from wind, waves and tides, lake or pond thermal differences; and (3) energy derived from the internal heat of the earth, including nocturnal thermal exchanges.

**Reset:** Adjustment of the set point of a control instrument to a higher or lower value automatically or manually to conserve energy.

**Roof/ceiling assembly:** A roof/ceiling assembly shall be considered as all components of the roof/ceiling envelope through which heat flows, thus creating a building transmission heat loss or gain, where such assembly is exposed exterior ambient conditions to and encloses a conditioned space. The gross area of a roof/ceiling assembly consists of the total interior surface of such assembly, including skylights.

**Sequence:** A consecutive series of operations.

**Service systems:** All energy-using systems in a building that are operated to provide services for the occupants or processes housed therein, including HVAC, service water heating, illumination, transportation, cooking or food preparation, laundering or similar functions.

**Service water heating:** Supply of hot water for domestic or commercial purposes other than comfort heating.

**Shaded:** Glazed area which is externally protected from direct solar radiation by use of devices permanently affixed to the structure or by an adjacent building, topographical feature, or vegetation.

**Shall:** Denotes a mandatory code requirement.

**Single family:** One and two family residential dwelling units with no more than two units in a single building.

**Skylight:** A glazing surface that has a slope of less than sixty degrees from the horizontal plane.

**Slab-on-grade, exterior:** Any portion of a slab floor in contact with the ground which is less than or equal to twenty-four inches below the final elevation of the nearest exterior grade.

**Slab-below-grade:** Any portion of a slab floor in contact with the ground which is more than twenty-four inches below the final elevation of the nearest exterior grade.

**Small business:** Any business entity (including a sole proprietorship, corporation, partnership, or other legal entity) which is owned and operated independently from all other businesses, which has the purpose of making a profit, and which has fifty or fewer employees, or which has a million dollars or less per year in gross sales, of window products.

**Solar energy source:** Source of natural daylighting and of thermal, chemical or electrical energy derived directly from conversion of incident solar radiation.

**Solar heat gain coefficient (SHGC):** The ratio of the solar heat gain entering the space through the glazing product to the incident solar radiation. Solar heat gain includes directly transmitted solar heat and absorbed solar radiation which is then reradiated, conducted or convected into the space.

**Standard framing:** All framing practices not defined as "intermediate" or "advanced" shall be considered standard. (See Advanced framed ceiling, Advanced framed walls, Intermediate framed wall.)

**Substantial contact:** A condition where adjacent building materials are placed in a manner that proximal surfaces are contiguous, being installed and supported as to eliminate voids between materials, without compressing or degrading the thermal performance of either product.

**System:** A combination of central or terminal equipment or components and/or controls, accessories, interconnecting means, and terminal devices by which energy is transformed so as to perform a specific function, such as HVAC, service water heating or illumination.

**Tapering:** Installation of a reduced level of ceiling insulation at the eaves, due to reduced clearance.

**Thermal by-pass:** An area where the envelope surrounding the conditioned space is breached, or where an ineffective application compromises the performance of a thermal or infiltration barrier, increasing the structure's energy consumption by exposing finished surfaces to ambient conditions and additional heat transfer.

**Thermal conductance (C):** Time rate of heat flow through a body (frequently per unit area) from one of its bounding surfaces to the other for a unit temperature difference between the two surfaces, under steady conditions ($Btu/hr \bullet ft^2 \bullet °F$).

**Thermal resistance (R):** The reciprocal of thermal conductance ($hr \bullet ft^2 \bullet °F/Btu$).

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**Thermal transmittance (U):** The coefficient of heat transmission (air to air). It is the time rate of heat flow per unit area and unit temperature difference between the warm side and cold side air films (Btu/hr●ft²●°F). The ((~~U-value~~)) U-factor applies to the fractional combinations of different materials used in series along the heat flow path.

**Thermal transmittance, overall (((~~U°~~))) ($U_o$):** The overall (average) heat transmission of a gross area of the exterior building envelope (Btu/hr●ft²●°F). The ((~~U°-value~~)) $U_o$-factor applies to the combined effect of the time rate of heat flows through the various parallel paths, such as windows, doors and opaque construction areas, comprising the gross area of one or more exterior building components, such as walls, floors or roof/ceiling.

**Thermostat:** An automatic control device actuated by temperature and designed to be responsive to temperature.

**Total on-site energy input:** The combination of all the energy inputs to all elements and accessories as included in the equipment components, including but not limited to, compressor(s), compressor sump heater(s), circulating pump(s), purge devices, fan(s), and the HVAC system component control circuit.

**Transmission coefficient:** The ratio of the solar heat gain through a glazing system to that of an unshaded single pane of double strength window glass under the same set of conditions.

((~~U-Value~~)) **U-factor: (See thermal transmittance.)**

**U-VALUE: (See U-factor.) Uniform Building Code:** The Washington State Uniform Building Code as modified by the Washington State Building Code Council.

**Uniform Mechanical Code:** The Washington State Uniform Mechanical Code as modified by the Washington State Building Code Council.

**Unitary cooling and heating equipment:** One or more factory-made assemblies which include an evaporator or cooling coil, a compressor and condenser combination, and may include a heating function as well. Where such equipment is provided in more than one assembly, the separate assemblies shall be designed to be used together.

**Unitary heat pump:** One or more factory-made assemblies which include an indoor conditioning coil, compressor(s) and outdoor coil or refrigerant-to-water heat exchanger, including means to provide both heating and cooling functions. When such equipment is provided in more than one assembly, the separate assemblies shall be designed to be used together.

**Vapor retarder:** A layer of low moisture transmissivity material (not more than 1.0 perm dry cup) placed over the warm side (in winter) of insulation, over the exterior of below grade walls, and under floors as ground cover to limit the transport of water and water vapor through exterior walls, ceilings, and floors. Vapor retarding paint, listed for this application, also complies with this Code.

**Vaulted ceilings:** All ceilings where enclosed joist or rafter space is formed by ceilings applied directly to the underside of roof joists or rafters.

**Ventilation:** The process of supplying or removing air by natural or mechanical means to or from any space. Such air may or may not have been conditioned.

**Ventilation air:** That portion of supply air which comes from outside (outdoors) plus any recirculated air that has been treated to maintain the desired quality of air within a designated space.

**Walls (exterior):** Any member or group of members which defines the exterior boundaries or courts of a building and which have a slope of sixty degrees or greater with the horizontal plane, and separates conditioned from unconditioned space. Band joists between floors are to be considered a part of exterior walls.

**Zone:** A space or group of spaces within a building with heating and/or cooling requirements sufficiently similar so that comfort conditions can be maintained throughout by a single controlling device. Each dwelling unit in residential buildings shall be considered a single zone.

AMENDATORY SECTION (Amending WSR 94-05-059, filed 2/10/94, effective 4/1/94)

**WAC 51-11-0402 Systems analysis.**

402.1 Special Requirements for All Group R Occupancy:

402.1.1 Energy Budgets: Proposed buildings designed in accordance with this section shall be designed to use no more energy from non-renewable sources for space heating, and domestic hot water heating than a standard building whose enclosure elements and energy consuming systems are designed in accordance with section 502.2 of this Code for the appropriate climate zone, and heating system type. Energy derived from renewable sources may be excluded from the total annual energy consumption attributed to the alternative building.

402.1.2 Calculation of Energy Consumption: The application for a building permit shall include documentation which demonstrates, using a calculation procedure as listed in Chapter 8, or an approved alternate, that the proposed building's annual space heating energy use does not exceed the annual space heating and water heating energy use of a standard building conforming to Chapter 5 of this Code for the appropriate climate zone. The total calculated annual energy consumption shall be shown in units of kWh/ft²/year or Btu/ft²/year of conditioned area.

402.1.3 Input Values: The following standardized input values shall be used in calculating annual space heating budgets:

| PARAMETER | VALUE |
|---|---|
| Thermostat set point, heating | 65° F |
| Thermostat set point, cooling | 78° F |
| Thermostat night set back | 65° F |
| Thermostat night set back period | 0 hours |
| Internal gain | |
| R-3 units | 3000 Btu/hr |
| R-1 units | 1500 Btu/hr |
| Domestic Hot Water Heater Setpoint | 120° F |
| Domestic Hot Water Consumption | 20 gallons/person/day. |

| | |
|---|---|
| Minimum heat storage | Calculated using standard engineering practice for the actual building or as approved. |
| Site weather data | Typical meteorological year (TMY) or ersatz TMY data for the closest appropriate TMY site or other sites as approved. |
| Heating equipment efficiency | |
| Electric resistance heat | 1.00 |
| Heat Pumps | 6.80 HSPF. |
| Other Fuels | 0.78 AFUE. |

The standard building shall be modeled with glazing area distributed equally among the four cardinal directions. Parameter values that may be varied by the building designer to model energy saving options include, but are not limited to, the following:

1. Overall thermal transmittance, $U_o$, of building envelope or individual building components;

2. Heat storage capacity of building;

3. Glazing orientation; area; and ((~~shading~~)) solar heat gain coefficients;

4. Heating system efficiency.

402.1.4 Solar Shading and Access: Building designs using passive solar features with eight percent or more south facing equivalent glazing to qualify shall provide to the building official a sun chart or other approved documentation depicting actual site shading for use in calculating compliance under this section. The building shall contain at least forty-five Btu/°F for each square foot of south facing glass.

402.1.5 Infiltration: Infiltration levels used shall be set at 0.35 air changes per hour for thermal calculation purposes only.

402.1.6 Heat Pumps: The heating season performance factor (HSPF) for heat pumps shall be calculated using procedures consistent with section 5.2 of the U.S. Department of Energy Test Procedure for Central Air Conditioners, including heat pumps published in the December 27, 1979 Federal Register Vol. 44, No. 24.10 CFR 430. Climate data as specified above, the proposed buildings overall thermal performance value (Btu/°F) and the standardized input assumptions specified above shall be used to model the heat pumps HSPF.

402.2 Energy Analysis: Compliance with this chapter will require an analysis of the annual energy usage, hereinafter called an annual energy analysis.

EXCEPTION: Chapters 5, and 6 of this Code establish criteria for different energy-consuming and enclosure elements of the building which, will eliminate the requirement for an annual systems energy analysis while meeting the intent of this Code.

A building designed in accordance with this chapter will be deemed as complying with this Code if the calculated annual energy consumption is not greater than a similar building (defined as a "standard design") whose enclosure elements and energy-consuming systems are designed in accordance with Chapter 5.

For an alternate building design to be considered similar to a "standard design," it shall utilize the same energy source(s) for the same functions and have equal floor area and the same ratio of envelope area to floor area, environmental requirements, occupancy, climate data and usage operational schedule.

402.3 Design: The standard design, conforming to the criteria of Chapter 5 and the proposed alternative design shall be designed on a common basis as specified herein:

The comparison shall be expressed as kBtu or kWh input per square foot of conditioned floor area per year at the building site.

402.4 Analysis Procedure: The analysis of the annual energy usage of the standard and the proposed alternative building and system design shall meet the following criteria:

a. The building heating/cooling load calculation procedure used for annual energy consumption analysis shall be detailed to permit the evaluation of effect of factors specified in section 402.5.

b. The calculation procedure used to simulate the operation of the building and its service systems through a full-year operating period shall be detailed to permit the evaluation of the effect of system design, climatic factors, operational characteristics, and mechanical equipment on annual energy usage. Manufacturer's data or comparable field test data shall be used when available in the simulation of systems and equipment. The calculation procedure shall be based upon eight thousand seven hundred sixty hours of operation of the building and its service systems.

402.5 Calculation Procedure: The calculation procedure shall cover the following items:

a. Design requirements—Environmental requirements as required in Chapter 3.

b. Climatic data—Coincident hourly data for temperatures, solar radiation, wind and humidity of typical days in the year representing seasonal variation.

c. Building data—Orientation, size, shape, mass, air, moisture and heat transfer characteristics.

d. Operational characteristics—Temperature, humidity, ventilation, illumination, control mode for occupied and unoccupied hours.

e. Mechanical equipment—Design capacity, part load profile.

f. Building loads—Internal heat generation, lighting, equipment, number of people during occupied and unoccupied periods.

EXCEPTION: Group R Occupancy shall comply with calculation procedures in Chapter 8, or an approved alternate.

402.6 Documentation: Proposed alternative designs, submitted as requests for exception to the standard design criteria, shall be accompanied by an energy analysis comparison report. The report shall provide technical detail on the

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two building and system designs and on the data used in and resulting from the comparative analysis to verify that both the analysis and the designs meet the criteria of Chapter 4 of this Code.

AMENDATORY SECTION (Amending WSR 95-01-126, filed 12/21/94, effective 6/30/95)

**WAC 51-11-0502 Building envelope requirements.**

502.1 General:

502.1.1: The stated U- or ((~~F-value~~)) F-factor of any component assembly, listed in Table 5-1 or 5-2, such as roof/ceiling, opaque wall or opaque floor may be increased and the ((~~U-value~~)) U-factor for other components decreased, provided that the total heat gain or loss for the entire building envelope does not exceed the total resulting from compliance to the ((~~U-values~~)) U-factors specified in this Section.

The ((~~U-values~~)) U-factors for typical construction assemblies are included in Chapter 10. These values shall be used for all calculations. Where proposed construction assemblies are not represented in Chapter 10, values shall be calculated in accordance with Chapters 19-27 in Standard RS-1 listed in Chapter 7, using the framing factors listed in Chapter 10 where applicable.

For envelope assemblies containing metal framing, the ((~~U-value~~)) U-factor shall be determined by one of the following methods:

1. Results of laboratory or field measurements.

2. Standard RS-25, listed in Chapter 7, where the metal framing is bonded on one or both sides to a metal skin or covering.

3. The zone method as provided in Chapter 22 of Standard RS-1, listed in Chapter 7.

4. Results of parallel path correction factors for effective framing/cavity R-values as provided from the following table for metal stud walls and roof/ceilings:

((~~WALL FRAMING — CAVITY INSULATION~~

| | ~~R-11~~ | ~~R-19~~ |
|---|---|---|
| ~~2 x 4 @ 16" o.c.~~ | ~~5.50~~ | |
| ~~2 x 4 @ 24" o.c.~~ | ~~6.60~~ | |
| ~~2 x 6 @ 16" o.c.~~ | | ~~7.60~~ |
| ~~2 x 6 @ 24" o.c.~~ | | ~~8.55~~)) |

| | Framing | | Cavity Insulation | | |
|---|---|---|---|---|---|
| | | | | Effective R-Value | |
| | Nominal Depth, Inches | Actual Depth, Inches | Nominal R-Value | Framing 16" o.c. | Framing 24" o.c. |
| Wall | 4 | 3-1/2 | R-11 | R-5.5 | R-6.6 |
| | 4 | 3-1/2 | R-13 | R-6.0 | R-7.2 |
| | 4 | 3-1/2 | R-15 | R-6.4 | R-7.8 |
| | 6 | 5-1/2 | R-19 | R-7.1 | R-8.6 |
| | 6 | 5-1/2 | R-21 | R-7.4 | R-9.0 |
| | 8 | 7-1/4 | R-25 | R-7.8 | R-9.6 |
| Roof | | Insulation is uncompressed | R-11 | R-5.5 | R-6.1 |
| | | | R-19 | R-7.0 | R-9.1 |
| | | | R-30 | R-9.3 | R-11.4 |

502.1.2: For consideration of thermal mass effects, see section 402.4.

502.1.3: When return air ceiling plenums are employed, the roof/ceiling assembly shall:

a. For thermal transmittance purposes, not include the ceiling proper nor the plenum space as part of the assembly; and

b. For gross area purposes, be based upon the interior face of the upper plenum surface.

502.1.4 Insulation:

502.1.4.1 General: All insulating materials shall comply with sections 2602 and/or 707 of the Uniform Building Code. Substantial contact of the insulation with the surface being insulated is required. All insulation materials shall be installed according to the manufacturer's instructions to achieve proper densities and maintain uniform R-values and shall be installed in a manner which will permit inspection of the manufacturer's R-value identification mark. To the maximum extent possible, insulation shall extend over the full component area to the intended R-value.

Alternatively, the thickness of roof/ceiling and wall insulation that is either blown in or spray-applied shall be identified by inches of thickness, density and R-value markers installed at least one for every 300 square feet (28 $m^2$) through the attic, ceiling and/or wall space. In attics, the markers shall be affixed to the trusses or joists and marked with the minimum initial installed thickness and minimum settled thickness with numbers a minimum 1.0 inch (25 mm) in height. Each marker shall face the attic access. The thickness of installed attic insulation shall meet or exceed the

minimum initial installed thickness shown by the marker. In cathedral ceilings and walls, the markers shall be affixed to the rafter and wall frame at alternating high and low intervals and marked with the minimum installed density and R-value with numbers a minimum 1.0 inch (25 mm) in height. Each marker shall face the conditioned room area.

502.1.4.2 Insulation Materials: All insulation materials including facings such as vapor barriers or breather papers installed within floor/ceiling assemblies, roof/ceiling assemblies, walls, crawl spaces, or attics shall have a flame spread rating of less than 25 and a smoke density not to exceed 450 when tested in accordance with UBC Standard 8-1.

EXCEPTIONS:

1. Foam plastic insulation shall comply with section 2602 of the Uniform Building Code.

2. When such materials are installed in concealed spaces of Types III, IV and V construction, the flame spread and smoke developed limitations do not apply to facing, provided that the facing is installed in substantial contact with the unexposed surface of the ceiling, floor or wall finish.

3. Cellulose insulation shall comply with section 707 of the Uniform Building Code.

502.1.4.3 Clearances: Where required, insulation shall be installed with clearances according to manufacturer's specifications. Insulation shall be installed so that required ventilation is unobstructed. For blown or poured loose fill insulation, clearances shall be maintained through installation of a permanent retainer.

502.1.4.4 Access Hatches and Doors: Access doors from conditioned spaces to unconditioned spaces (e.g., attics and crawl spaces) shall be weatherstripped and insulated to a level equivalent to the insulation on the surrounding surfaces. Access shall be provided to all equipment which prevents damaging or compressing the insulation. A wood framed or equivalent baffle or retainer must be provided when loose fill insulation is installed, the purpose of which is to prevent the loose fill insulation from spilling into the living space when the attic access is opened, and to provide a permanent means of maintaining the installed R-value of the loose fill insulation.

502.1.4.5 Roof/Ceiling Insulation: Open-blown or poured loose fill insulation may be used in attic spaces where the slope of the ceiling is not more than 3 feet in 12 and there is at least 30 inches of clear distance from the top of the bottom chord of the truss or ceiling joist to the underside of the sheathing at the roof ridge. When eave vents are installed, baffling of the vent openings shall be provided so as to deflect the incoming air above the surface of the insulation. Baffles shall be, rigid material, resistant to wind driven moisture. Requirements for baffles for ceiling insulation shall meet the Uniform Building Code section 1505.3 for minimum ventilation requirements. When feasible, the baffles shall be installed from the top of the outside of the exterior wall, extending inward, to a point 6 inches vertically above the height of noncompressed insulation, and 12 inches vertically above loose fill insulation.

502.1.4.6 Wall Insulation: Insulation installed in exterior walls shall comply with the provisions of this section. All wall insulation shall fill the entire cavity. Exterior wall cavities isolated during framing shall be fully insulated to the levels of the surrounding walls. All faced insulation shall be face stapled to avoid compression.

502.1.4.7 Floor Insulation: Floor insulation shall be installed in a permanent manner in substantial contact with the surface being insulated. Insulation supports shall be installed so spacing is no more than 24 inches on center. Foundation vents shall be placed so that the top of the vent is below the lower surface of the floor insulation.

EXCEPTION: Insulation may be omitted from floor areas over heated basements, heated garages or underfloor areas used as HVAC supply plenums. See Uniform Mechanical Code section 607 for underfloor supply plenum requirements. When foundation walls are insulated, the insulation shall be attached in a permanent manner. The insulation shall not block the airflow through foundation vents when installed. When foundation vents are not placed so that the top of the vent is below the lower surface of the floor insulation, a permanently attached baffle shall be installed at an angle of 30° from horizontal, to divert air flow below the lower surface of the floor insulation.

502.1.4.8 Slab-On-Grade: Slab-on-grade insulation, installed inside the foundation wall, shall extend downward from the top of the slab for a minimum distance of 24 inches or downward and then horizontally beneath the slab for a minimum combined distance of 24 inches. Insulation installed outside the foundation shall extend downward to a minimum of 24 inches or to the frostline. Above grade insulation shall be protected.

EXCEPTION: For monolithic slabs, the insulation shall extend downward from the top of the slab to the bottom of the footing.

502.1.4.9 Radiant Slabs: The entire area of a radiant slab shall be thermally isolated from the soil, with a minimum of R-10 insulation. The insulation shall be an approved product for its intended use. If a soil gas control system is present below the radiant slab, which results in increased convective flow below the radiant slab, the radiant slab shall be thermally isolated from the sub-slab gravel layer.

502.1.4.10 Below Grade Walls: Below grade exterior wall insulation used on the exterior (cold) side of the wall shall extend from the top of the below grade wall to the top of the footing and shall be approved for below grade use. Above grade insulation shall be protected.

Insulation used on the interior (warm) side of the wall shall extend from the top of the below grade wall to the below grade floor level.

502.1.5 Glazing and Door ((~~U-Values~~)) U-factors: Glazing and door ((~~U-values~~)) U-factors shall be determined in accordance with sections 502.1.5.1 and 502.1.5.2. All products shall be labeled with the NFRC certified or default ((~~U-value~~)) U-factor. The labeled ((~~U-value~~)) U-factor shall be used in all calculations to determine compliance with this Code. Sealed insulating glass shall conform to, or be in test for, ASTM E-774-81 class A.

EXCEPTIONS:

1. For glazed wall systems, assemblies with all of the following features are deemed to satisfy the vertical glazing U-factor requirement in Table 6-1 through 6-6 options with vertical glazing U-0.40 and greater:

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a. Double glazing with a minimum 1/2 inch gap width, having a low-emissivity coating with e=0.10 maximum, with 90% minimum argon gas fill, and a non-aluminum spacer (as defined in footnote 1 to Table 10-6B), and

b. Frame that is thermal break aluminum (as defined in footnote 9 to Table 10-6B), wood, aluminum clad wood, or aluminum clad vinyl.

The only labeling requirement for products using this exception shall be a description of the product and a label stating: "This product is deemed to satisfy the Table 6-1 through 6-6 vertical glazing U-factor requirement using the exception to Section 502.1.5 in the Washington State Energy Code."

2. For overhead glazing, assemblies with all of the following features are deemed to satisfy the overhead glazing U-factor requirement in all Table 6-1 through 6-6 options **except** the unlimited glazing area options (Option VIII in Table 6-2, Option IX in Table 6-4, and Option VIII for Climate Zone 1 and Option IX for Climate Zone 2 in Table 6-6) but shall be included in all glazing area calculations and shall not exceed 5 percent of the conditioned floor area:

a. Either, double glazing with a minimum 1/2 inch gap width, having a low-emissivity coating with e=0.20 maximum, with 90% minimum argon gas fill, or, triple glazed plastic domes, and

b. Frame that is thermal break aluminum (as defined in footnote 9 to Table 10-6B), wood, aluminum clad wood, or aluminum clad vinyl.

The only labeling requirement for products using this exception shall be a description of the product and a label stating: "This product is deemed to satisfy the Table 6-1 through 6-6 overhead glazing U-factor requirement using the exception to Section 502.1.5 in the Washington State Energy Code."

3. For solariums with a floor area which does not exceed 300 square feet, assemblies which comply with the features listed in exception 2 are deemed to satisfy the vertical glazing and overhead glazing U-factor requirement in Table 6-1 through 6-6 options with vertical glazing U-0.40 and greater.

The only labeling requirement for products using this exception shall be a description of the product and a label stating: "This product is deemed to satisfy the Table 6-1 through 6-6 vertical glazing and overhead glazing U-factor requirements using the exception to Section 502.1.5 in the Washington State Energy Code."

502.1.5.1 Standard Procedure for Determination of Glazing ((~~U-Values~~)) U-Factors: ((~~U-values~~)) U-factors for glazing shall be determined, certified and labeled in accordance with the National Fenestration Rating Council (NFRC) Product Certification Program (PCP), as authorized by an independent certification and inspection agency licensed by the NFRC. Compliance shall be based on the Residential Model Size ((~~AA~~)). Product samples used for ((~~U-value~~)) U-factor determinations shall be production line units or representative of units as purchased by the consumer or contractor. Products that are listed in the NFRC Certified Products Directory or certified to the NFRC standard shall not use default values.

EXCEPTIONS:

1. ((~~Untested~~)) Glazing products without NFRC ratings may be assigned default ((~~U-values~~)) U-factors from Table 10-6A for vertical glazing and from Table 10-6E for overhead glazing.

2. ((~~Overhead glazing and~~)) Units without NFRC ratings produced by a small business may be assigned default ((~~U-values~~)) U-factors from Table 10-6A for garden windows, from Table 10-6B for other vertical glazing, and from Table 10-6E for overhead glazing.

((~~3. Passive air inlets are not required to be part of the tested assembly.~~

~~4. Compliance for tested overhead glazing shall be based on NFRC Model Size BB.~~))

502.1.5.2 Standard Procedure for Determination of Door ((~~U-Values~~)) U-factors: Half-lite and full-lite doors, including fire doors, shall be assigned default ((~~U-values~~)) U-factors from Table 10-6D. All other doors, including fire doors, shall be assigned default ((~~U-values~~)) U-factors from Table 10-6C.

EXCEPTIONS:

1. ((~~U-values~~)) U-factors determined, certified and labeled in accordance with the National Fenestration Rating Council (NFRC) Product Certification Program (PCP), as authorized by an independent certification and inspection agency licensed by the NFRC.

2. The default values for the opaque portions of doors shall be those listed in Table 10-6C, provided that the ((~~U-value~~)) U-factor listed for a door with a thermal break shall only be allowed if both the door and the frame have a thermal break.

3. One unlabeled or untested exterior swinging door with the maximum area of 24 square feet may be installed for ornamental, security or architectural purposes. Products using this exception shall not be included in either the ((~~U-value~~)) U-factor or glazing area calculation requirements.

502.1.6 Moisture Control:

502.1.6.1 Vapor Retarders: Vapor retarders shall be installed on the warm side (in winter) of insulation as specified in the following cases.

EXCEPTION: Vapor retarder installed with not more than 1/3 of the nominal R-value between it and the conditioned space.

502.1.6.2 Floors: Floors separating conditioned space from unconditioned space shall have a vapor retarder installed. The vapor retarder shall have a one perm dry cup rating or less (i.e., four mil[0.004 inch thick] polyethylene or kraft faced material).

502.1.6.3 Roof/Ceilings: Roof/ceiling assemblies where the ventilation space above the insulation is less than an average of 12 inches shall be provided with a vapor retarder. Faced batt insulation where used as a vapor retarder shall be face stapled. Single rafter joist vaulted ceiling cavities shall be of sufficient depth to allow a minimum one inch vented air space above the insulation.

502.1.6.4: Vapor retarders shall not be required in roof/ceiling assemblies where the ventilation space above the insulation averages 12 inches or greater.

502.1.6.5: Vapor retarders shall not be required where all of the insulation is installed between the roof membrane and the structural roof deck.

502.1.6.6 Walls: Walls separating conditioned space from unconditioned space shall have a vapor retarder installed. Faced batt insulation shall be face stapled.

502.1.6.7 Ground Cover: A ground cover of six mil (0.006 inch thick) black polyethylene or approved equal shall be laid over the ground within crawl spaces. The ground cover shall be overlapped 12 inches minimum at the joints and shall extend to the foundation wall.

EXCEPTION: The ground cover may be omitted in crawl spaces if the crawl space has a concrete slab floor with a minimum thickness of 3-1/2 inches.

502.2 Thermal Criteria for Group R Occupancy:

502.2.1 UA Calculations: The proposed UA as calculated using Equations 2 and 3 shall not exceed the target UA

as calculated using Equation 1. For the purpose of determining equivalent thermal performance, the glazing area for the target UA shall be calculated using figures in Table 5-1((, ~~and all the glazing~~)). For the target UA, calculation, the overhead glazing shall be located in roof/ceiling area and the remainder of the glazing allowed per Table 5-1 shall be located in the wall area. For the target overhead glazing thermal transmittance ($U_{OG}$) where either

1. the total proposed overhead glazing area exceeds 5%, the target overhead glazing U-factor shall be U-0.40, or

2. the total proposed overhead glazing area is less than or equal to 5% of the floor area,

a. if the proposed U-factor exceeds U-0.40 but is U-0.70 or less, then the target overhead glazing U-factor shall be the same as the proposed.

b. if the proposed U-factor exceeds U-0.70, then the target overhead glazing U-factor shall be U-0.70. The opaque door area shall be the same in the target UA and the proposed UA.

EXCEPTION: Log and solid timber walls that have a minimum average thickness of 3.5" and with space heat type other than electric resistance, are exempt from wall target UA and proposed UA calculations.

502.2.2 Space Heat Type: The following two categories comprise all space heating types:

1. Electric Resistance: Space heating systems which include baseboard units, radiant units and forced air units as either the primary or secondary heating system.

EXCEPTION: Electric resistance systems for which the total electric heat capacity in each individual dwelling unit does not exceed the greater of: 1) One thousand watts (1000 w) per dwelling unit, or; 2) One watt per square foot (1 w/ft$^2$) of the gross floor area.

2. Other: All gas, wood, oil and propane space heating systems, unless electric resistance is used as a secondary heating system, and all heat pump space heating systems. (See EXCEPTIONS, Electric Resistance, section 502.2.2 above.)

502.3 Reserved.

502.4 Air Leakage:

502.4.1 General: The requirements of this section shall apply to all buildings and structures, or portions thereof, and only to those locations separating outdoor ambient conditions from interior spaces that are heated or mechanically cooled.

502.4.2 Doors and Windows, General: Exterior doors and windows shall be designed to limit air leakage into or from the building envelope. Site-constructed doors and windows shall be sealed in accordance with Section 502.4.3.

502.4.3 Seals and Weatherstripping:

a. Exterior joints around windows and door frames, openings between walls and foundation, between walls and roof and wall panels; openings at penetrations of utility services through walls, floors and roofs; and all other openings in the building envelope for all occupancies and all other openings in between units in R-1 occupancy shall be sealed, caulked, gasketed or weatherstripped to limit air leakage. Other exterior joints and seams shall be similarly treated, or taped, or covered with moisture vapor permeable housewrap.

b. All exterior doors or doors serving as access to an enclosed unheated area shall be weatherstripped to limit leakage around their perimeter when in a closed position.

c. Site built windows are exempt from testing but shall be made tight fitting. Fixed lights shall have glass retained by stops with sealant or caulking all around. Operating sash shall have weatherstripping working against overlapping trim and a closer/latch which will hold the sash closed. The window frame to framing crack shall be made tight with caulking, overlapping membrane or other approved technique.

d. Openings that are required to be fire resistive are exempt from this section.

502.4.4 Recessed Lighting Fixtures: When installed in the building envelope, recessed lighting fixtures shall meet one of the following requirements:

1. Type IC rated, manufactured with no penetrations between the inside of the recessed fixture and ceiling cavity and sealed or gasketed to prevent air leakage into the unconditioned space.

2. Type IC rated, installed inside a sealed box constructed from a minimum 1/2 inch thick gypsum wall board, or constructed from a preformed polymeric vapor barrier, or other air tight assembly manufactured for this purpose.

3. Type IC rated, certified under ASTM E283 to have no more than 2.0 cfm air movement from the conditioned space to the ceiling cavity. The lighting fixture shall be tested at 75 Pascals or 1.57 lbs/ft$^2$ pressure difference and have a label attached, showing compliance.

**Reviser's note:** The brackets and enclosed material in the text of the above section occurred in the copy filed by the agency and appear in the Register pursuant to the requirements of RCW 34.08.040.

AMENDATORY SECTION (Amending WSR 93-21-052, filed 10/18/93, effective 4/1/94)

**WAC 51-11-0503 Building mechanical systems.**

503.1 General: This section covers the determination of design requirements, system and component performance, control requirements, insulating systems and duct construction.

EXCEPTION: Special applications, including but not limited to hospitals, laboratories, thermally sensitive equipment, and computer rooms may be exempted from the requirements of this section when approved by the building official.

503.2 Calculations of Heating and Cooling Loads, and System Sizing Limits: The design parameters specified in Chapter 3 shall apply for all computations.

503.2.1 Calculation Procedures: Heating and cooling design loads for the purpose of sizing HVAC systems are required and shall be calculated in accordance with accepted engineering practice, including infiltration and ventilation.

503.2.2 Space Heating and Space Cooling System Sizing Limits: Building mechanical systems for all buildings which provide space heating and/or space cooling shall be

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sized no greater than ((~~one~~)) two hundred ((~~fifty~~)) percent (200%) of the heating and cooling design loads as calculated above.

EXCEPTIONS: The following limited exemptions from the sizing limit shall be allowed, however, in all cases heating and/or cooling design load calculations shall be submitted.

1. For equipment which provides both heating and cooling in one package unit, including heat pumps with electric heating and cooling and gas-pack units with gas heating and electric cooling, compliance need only be demonstrated for either the space heating or space cooling system size.

2. Natural gas- or oil-fired space heating equipment whose total rated space heating output in any one dwelling unit is fifty-six thousand Btu/h or less may exceed the one hundred fifty percent sizing limit provided that the installed equipment has an annual fuel utilization efficiency (AFUE) of not less than the sum of seventy-eight percent plus one percent for every five thousand Btu/h that the space heating equipment output exceeds the design heating load of the dwelling unit.

3. Stand-by equipment may be installed if controls and other devices are provided which allow redundant equipment to operate only when the primary equipment is not operating.

503.3 Simultaneous Heating and Cooling: ((~~Each temperature control zone shall include thermostatic controls installed and operated to sequence the use of heating and cooling energy to satisfy the thermal and/or humidity requirement of the zone. Controls shall prevent reheating (heating air that is cooler than system mixed air), recooling (cooling air that is warmer than the system mixed air), mixing or simultaneous supply of warm air (warmer than system return air mixed air) and cold air (cooler than system mixed air), or other simultaneous operation of heating and cooling systems to one zone. For the purposes of this section, system mixed air is defined as system return air mixed with the minimum ventilation air requirement by section 303~~)) Systems and equipment that provide simultaneous heating and cooling shall comply with the requirements in, as appropriate, Section 1422 or Section 1435.

((~~EXCEPTIONS:~~

~~1. Variable air volume systems designed to reduce the air supply to each zone during periods of occupancy to the larger of the following:~~

~~a. Thirty percent or less of the peak supply volume.~~

~~b. The minimum allowed to meet ventilation requirements of section 303.~~

~~c. 0.5 cfm/ft$^2$ of zone conditioned area before reheating, recooling or mixing takes place. Consideration shall be given to supply air temperature reset control.~~

~~2. The energy for reheating, or providing warm air in mixing systems, is provided entirely from recovered energy that would otherwise be wasted, or from renewable energy sources. In addition, the system shall comply with section 503.7 without exception.~~

~~3. Areas where specific humidity levels are required to satisfy process needs.~~

~~4. Where special pressurization relationships or cross contamination requirements are such that variable air volume systems are impractical, supply air temperatures shall be reset by representative building load or outside air temperature.~~))

503.4 HVAC Equipment Performance Requirements:

503.4.1 Equipment Components:

503.4.1.1: The requirements of this section apply to equipment and mechanical component performance for heating, ventilating and air-conditioning systems. Equipment efficiency levels are specified. Data furnished by the equipment supplier or certified under a nationally recognized certification program or rating procedure shall be used to satisfy these requirements. Equipment efficiencies shall be based on the standard rating conditions in Tables 5-4, 5-5 or 5-6 as appropriate.

503.4.1.2: Where components from more than one manufacturer are assembled into systems regulated under this section, compliance for each component shall be as specified in sections 503.4.2 through 503.4.6 of this Code.

503.4.2: HVAC System Heating Equipment Heat Pump-heating Mode. Heat pumps whose energy input is entirely electric shall have a coefficient of performance (COP) heating, not less than the values in Table 5-7. Heat Pumps with supplementary backup heat other than electricity shall meet the requirements of Table 5-7.

503.4.2.1: These requirements apply to, but are not limited to, unitary (central) heat pumps (air source and water source) in the heating mode, water source (hydronic) heat pumps as used in multiple-unit hydronic HVAC systems, and heat pumps in the packaged terminal air-conditioner in the heating mode.

503.4.2.3 Supplementary Heater: The heat pump shall be installed with a control to prevent supplementary backup heater operation when the operating load can be met by the heat pump compression cycle alone.

503.4.2.4 Heat Pump Controls: Requirements for heat pump controls are listed in section 503.8.3.5 of this Code.

503.4.3 HVAC System Combustion Equipment: For Group R Occupancy, all gas, oil, and propane central heating systems shall have a minimum AFUE of 0.78*. All other Group R Occupancy heating equipment fueled by gas, oil, or propane shall be equipped with an intermittent ignition device, or shall comply with the efficiencies as required in the 1987 National Appliances Energy Conservation Act (Public Law 100-12).

* HVAC Heating system efficiency trade-offs shall be made using Chapters 4 or 6 of this Code.

503.4.4 Packaged and Unitary HVAC System Equipment, Electrically Operated, Cooling Mode: HVAC system equipment as listed below, whose energy input in the cooling mode is entirely electric, shall have an energy efficiency ratio (EER) or a seasonal energy efficiency ratio (SEER) cooling not less than values in Table 5-8.

503.4.4.1: These requirements apply to, but are not limited to, unitary (central) and packaged terminal heat pumps (air source and water source); packaged terminal air conditioners.

503.4.5 ((~~Reserved.~~

~~503.4.6 Reserved.~~)) **Other HVAC Equipment:** HVAC equipment, other than that addressed in Sections 503.4.2 through 503.4.4, shall have a minimum performance at the specified rating conditions not less than the values shown in Tables 14-1 through 14-3.

503.5 Reserved.

503.6 Balancing: The HVAC system design shall provide a means for balancing air and water systems.

Balancing the system shall include, but not be limited to, dampers, temperature and pressure test connections and balancing valves.

503.7 Cooling with Outdoor Air (Economizer Cycle): ((~~Each fan system shall be designed to use up to and including one hundred percent of the fan system capacity for cooling with outdoor air automatically whenever its use will result in lower usage of new energy. Activation of economizer cycle shall be controlled by sensing outdoor air enthalpy or outdoor air dry bulb temperature alone or alternate means approved by the building official~~)) Systems and equipment that provide mechanical cooling shall comply with Section 1413 and, as appropriate, Section 1423 or Section 1433.

((~~EXCEPTIONS: Cooling with outdoor air is not required under any one or more of the following conditions:~~

~~1. The fan system capacity is less than three thousand five hundred cfm or total cooling capacity is less than ninety thousand Btu/h.~~

~~2. The quality of the outdoor air is so poor as to require extensive treatment of the air and approval by the building official.~~

~~3. The need for humidification or dehumidification requires the use of more energy than is conserved by the outdoor air cooling on an annual basis.~~

~~4. The use of outdoor air cooling may affect the operation of other systems so as to increase the overall energy consumption of the building.~~

~~5. When energy recovered from an internal/external zone heat recovery system exceeds the energy conserved by outdoor air cooling on an annual basis.~~

~~6. When all space cooling is accomplished by a circulating liquid which transfers space heat directly or indirectly to a heat rejection device such as a cooling tower without use of a refrigeration system.~~

~~7. When the use of one hundred percent outside air will cause coil frosting, controls may be added to reduce the quantity of outside air. However, the intent of this exception is to use one hundred percent air in lieu of mechanical cooling when less energy usage will result and this exception applies only to direct expansion systems when the compressor is running.~~))

503.8 Controls:

503.8.1 Temperature Control: Each system shall be provided with at least one adjustable thermostat for the regulation of temperature. Each thermostat shall be capable of being set by adjustment or selection of sensors as follows:

503.8.1.1: When used to control heating only: Fifty-five degrees to seventy-five degrees F.

503.8.1.2: When used to control cooling only: Seventy degrees to eighty-five degrees F.

503.8.1.3: When used to control both heating and cooling, it shall be capable of being set from fifty-five degrees to eighty-five degrees F and shall be capable of operating the system heating and cooling in sequence. The thermostat and/or control system shall have an adjustable deadband of not less than ten degrees F.

503.8.2 Humidity Control: If a system is equipped with a means for adding moisture to maintain specific selected relative humidities in space or zones, a humidistat shall be provided. Humidistats shall be capable of being set to prevent new energy from being used to produce space-relative humidity above thirty percent.

EXCEPTION: Special uses requiring different relative humidities may be permitted when approved by the building official.

503.8.3 Zoning for Temperature Control:

503.8.3.1 One- and Two-Family Dwellings: At least one thermostat for regulation of space temperature shall be provided for each separate system. In addition, a readily accessible manual or automatic means shall be provided to partially restrict or shut off the heating and/or cooling input to each zone or floor.

503.8.3.2 Multifamily Dwellings: For multifamily dwellings, each individual dwelling unit shall have at least one thermostat for regulation of space temperature. A readily accessible manual or automatic means shall be provided to partially restrict or shut off the heating and/or cooling input to each room. Spaces other than living units shall meet the requirements of 503.8.3.3.

503.8.3.3 Reserved.

503.8.3.4 Control Setback and Shut-off:

((~~1.~~)) Residential Occupancy Groups. One- and Two-Family and Multifamily dwellings—The thermostat required in section 503.8.3.1 or section 503.8.3.2, or an alternate means such as a switch or clock, shall provide a readily accessible, manual or automatic means for reducing the energy required for heating and cooling during the periods of non-use or reduced need, such as, but not limited to unoccupied periods and sleeping hours. Lowering thermostat set points to reduce energy consumption of heating systems shall not cause energy to be expended to reach the reduced setting.

((~~2. Reserved.~~))

503.8.3.5 Heat Pump Controls: Programmable thermostats are required for all heat pump systems. The cut-on temperature for the compression heating shall be higher than the cut-on temperature for the supplementary heat, and the cut-off temperature for the compression heating shall be higher than the cut-off temperature for the supplementary heat. Heat pump thermostats will be capable of providing at least two programmable setback periods per day. The automatic setback thermostat shall have the capability of limiting the use of supplemental heat during the warm-up period.

503.9 Air Handling Duct System Insulation: Ducts, plenums and enclosures installed in or on buildings shall be thermally insulated per Table 5-11.

EXCEPTIONS: Duct insulation (except where required to prevent condensation) is not required in any of the following cases:

1. When the heat gain or loss of the ducts, without insulation, will not increase the energy requirements of the building.
2. Within the HVAC equipment.
3. Exhaust air ducts.
4. Supply or return air ducts installed in unvented crawl spaces with insulated walls, basements, or cellars in one- and two-family dwellings.

503.10 Duct Construction: All duct work shall be constructed in accordance with Standards RS-15, RS-16, RS-

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17, RS-18, RS-19 or RS-20, as applicable, and the Uniform Mechanical Code.

503.10.1: High-pressure and medium-pressure ducts shall be leak tested in accordance with the applicable standards in Chapter 7 of this Code with the rate of air leakage not to exceed the maximum rate specified in that standard.

503.10.2: When low-pressure supply air ducts are located outside of the conditioned space, all HVAC ductwork seams and joints, both longitudinal and transverse, shall be taped and sealed with products approved by the building official only. Ductwork joints shall be mechanically fastened with a minimum of three fasteners per joint for a cylindrical duct. Use Table 5- 11 for duct insulation requirements.

503.10.3: Requirements for Automatic or manual dampers are found in the Washington State Ventilation and Indoor Air Quality Code.

503.11 Piping Insulation: All piping installed to serve buildings (and within) shall be thermally insulated in accordance with Table 5-12. For service hot water systems see section 504.7. If water pipes are outside of conditioned space then the pipe insulation requirement shall be R-3 minimum for nonrecirculating hot and cold water pipes. For recirculating service hot and cold water pipes use Table 5-12 for pipe sizes and temperatures.

EXCEPTION: Piping insulation is not required within unitary HVAC equipment.

((~~503.11.1 Other Insulation Thickness: Insulation thickness in Table 5-12 is based on insulation having thermal resistance in the range of 4.0 to 4.6 per inch of thickness on a flat surface at a mean temperature of seventy-five degrees F. Minimum insulation thickness shall be increased for materials having R-values less than 4.0 per inch, or may be reduced for materials having R-values greater than 4.6 per inch.~~

~~a. For materials with thermal resistance greater than R = 4.6 per inch, the minimum insulation thickness may be reduced as follows:~~

~~4.6 x (Table 5-12 Thickness) = New Minimum Thickness~~
~~Actual Resistance~~

~~b. For materials with thermal resistance less than R = 4.0 per inch, the minimum insulation thickness shall be increased as follows:~~

~~4.0 x (Table 5-10 Thickness) = New Minimum Thickness~~
~~Actual Resistance~~

~~c. Additional insulation with vapor barriers shall be provided to prevent condensation where required by the building official.~~))

AMENDATORY SECTION (Amending WSR 92-01-140, filed 12/19/91, effective 7/1/92)

**WAC 51-11-0504 Service water heating.**

504.1 Scope: The purpose of this section is to provide criteria for design and equipment selection that will produce energy savings when applied to service water heating.

504.2 Water Heaters, Storage Tanks and Boilers:

504.2.1 Performance Efficiency: All Storage water heaters shall meet the requirements of the 1987 National Appliance Energy Conservation Act and be so labeled. All electric water heaters in unheated spaces or on concrete floors shall be placed on an incompressible, insulated surface with a minimum thermal resistance of R-10.

For combination space and service water heaters with a principal function of providing space heat, the Combined Annual Efficiency (CAE) may be calculated by using ASHRAE Standard 124-1991. Storage water heaters used in combination space heat and water heat applications shall have either an Energy Factor (EF) or a Combined Annual Efficiency (CAE) of not less than the following:

| | Energy Factor (EF) | Combined Annual Efficiency (CAE) |
|---|---|---|
| < 50 gallon storage | 0.58 | 0.71 |
| 50 to 70 gallon storage | 0.57 | 0.71 |
| > 70 gallon storage | 0.55 | 0.70 |

504.2.2 Insulation: Heat loss from unfired hot-water storage tanks shall be limited to a maximum of 9.6 Btu/hr/ft$^2$ of external tank surface area. The design ambient temperature shall be no higher than sixty-five degrees F.

504.2.3 Combination Service Water Heating/Space Heating Boilers: Service water heating equipment shall not be dependent on year round operation of space heating boilers.

EXCEPTIONS: 1. Systems with service/space heating boilers having a standby loss Btu/h less than:

$$(13.3 \text{ pmd} + 400)/n$$

determined by the fixture count method where:

pmd = probably maximum demand in gallons/hour as determined in accordance with Chapter 37 of Standard RS-11.

n = fraction of year when outdoor daily mean temperature exceeds 64.9° F.

The standby loss is to be determined for a test period of twenty-four-hour duration while maintaining a boiler water temperature of ninety degrees F above an ambient of sixty degrees F and a five foot stack on appliance.

2. For systems where the use of a single heating unit will lead to energy savings, such unit shall be utilized.

504.3 Automatic Controls: Service water heating systems shall be equipped with automatic temperature controls capable of adjustment from the lowest to the highest

acceptable temperature settings for the intended use. Temperature setting range shall be set to one hundred twenty degrees F or forty-nine degrees C.

504.4 Shutdown: A separate switch shall be provided to permit turning off the energy supplied to electric service water heating systems. A separate valve shall be provided to permit turning off the energy supplied to the main burner(s) of all other types of service water heater systems.

504.5 Swimming Pools:

504.5.1: All pool heaters shall be equipped with readily accessible ON/OFF switch to allow shutting off the operation of the heater without adjusting the thermostat setting. Controls shall be provided to allow the water temperature to be regulated from the maximum design temperature down to sixty-five degrees F.

504.5.2 Pool Covers: Heated swimming pools shall be equipped with a pool cover, approved by the building official.

504.6 Pump Operation: Circulating hot water systems shall be controlled so that the circulation pump(s) can be conveniently turned off, automatically or manually, when the hot water system is not in operation.

504.7 Pipe Insulation: For recirculating and non-recirculating systems, piping shall be thermally insulated in accordance with section 503.11 and Table 5-12.

504.8 Conservation of Hot Water:

504.8.1 Showers and Lavatories: Showers and lavatories used for other than safety reasons shall be equipped with flow control devices or specially manufactured showerheads or aerators to limit the total water flow rate as set forth in chapter 51-26 WAC, as measured with both hot and cold faucets turned on to their maximum flow.

((~~504.8.2 Lavatories in Restrooms of Public Facilities:~~

~~504.8.2.1: Lavatories in restrooms of public facilities shall be equipped with a metering valve designed to close by spring or water pressure when left unattended (self closing) and limit the flow rate as set forth in chapter 51-26 WAC.~~

~~EXCEPTION: Separate lavatories for physically handicapped persons shall not be equipped with self closing valves.~~

~~504.8.2.2: Lavatories in restrooms of public facilities shall be equipped with devices which limit the outlet temperature to a maximum of one hundred ten degrees F.~~))

AMENDATORY SECTION (Amending WSR 93-21-052, filed 10/18/93, effective 4/1/94)

**WAC 51-11-0505 ((~~Reserved.~~)) Lighting.**

**505.1 Lighting Controls:** Hotel and motel guest rooms and guest suites shall have a master control device at the main room entry that controls all permanently installed luminaires and switched receptacles.

**505.2 Lighting Power:** Common area corridors, lobbies, and toilet facilities shall comply with the prescriptive lighting option in Section 1521 or with the lighting power allowance for common areas in Table 15-1 as calculated in accordance with Sections 1530 and 1531.

Exception: Single-family residential buildings.

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AMENDATORY SECTION (Amending WSR 94-05-059, filed 2/10/94, effective 4/1/94)

**WAC 51-11-0525 Equation 1—Group R Occupancy.**

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~~EQUATION 1—GROUP R OCCUPANCY~~
~~TARGET UA~~

~~$UA_T = U_W A_W + U_{BGW} A_{BGW} + U_G A_G + U_F A_F + U_{RC} A_{RC} + U_{CC} A_{CC} + U_D A_D + F_S P_S$~~

~~Where:~~

~~$UA_T$ = the target combined thermal transmittance of the gross exterior wall, floor and roof/ceiling assembly area.~~

~~$U_W$ = the thermal transmittance value of the opaque above grade wall area found in Table 5-1.~~

~~$A_W$ = opaque above grade wall area.~~

~~$U_{BGW}$ = the thermal transmittance value of the below grade opaque wall area found in Table 5-1.~~

~~$A_{BGW}$ = opaque below grade wall area.~~

~~$U_G$ = the thermal transmittance value of the glazing area found in Table 5-1.~~

~~$A_G$ = 15% of the total floor area of the conditioned space.~~

~~$U_F$ = the thermal transmittance value of the floor area found in Table 5-1.~~

~~$A_F$ = floor area over unconditioned space.~~

~~$U_{RC}$ = the thermal transmittance value of the roof/ceiling area found in Table 5-1.~~

~~$A_{RC}$ = roof/ceiling area.~~

~~$U_{CC}$ = the thermal transmittance value of the cathedral ceiling area found in Table 5-1.~~

~~$A_{CC}$ = cathedral ceiling area.~~

~~$U_D$ = the thermal transmittance value of the opaque door area found in Table 5-1.~~

~~$A_D$ = opaque door area.~~

~~$F_S$ = concrete slab component F-value found in Table 5-1.~~

~~$P_S$ = lineal ft. of concrete slab perimeter.~~

PROPOSED

## EQUATION 1 -- GROUP R OCCUPANCY TARGET UA

$$UA_T = U_W A_W + U_{BGW} A_{BGW} + U_{VG} A_{VG} \pm U_{OG} A_{OG} + U_F A_F + U_{RC} A_{RC} + U_{CC} A_{CC} + U_D A_D + F_S P_S$$

**Where:**

$UA_T$ = the target combined thermal transmittance of the gross exterior wall, floor and roof/ceiling assembly area.

$U_W$ = the thermal transmittance value of the opaque above grade wall area found in Table 5-1.

$A_W$ = opaque above grade wall area.

$U_{BGW}$ = the thermal transmittance value of the below grade opaque wall area found in Table 5-1.

$A_{BGW}$ = opaque below grade wall area.

$U_{VG}$ = the thermal transmittance value of the vertical glazing area found in Table 5-1.

$A_{VG}$ = 15% of the total floor area of the conditioned space minus $A_{OG}$.

$U_{OG}$ = the thermal transmittance value of the overhead glazing area found in Table 5-1 (see Table 5-1 footnote 2).

$A_{OG}$ = overhead glazing area.

$U_F$ = the thermal transmittance value of the floor area found in Table 5-1.

$A_F$ = floor area over unconditioned space.

$U_{RC}$ = the thermal transmittance value of the roof/ceiling area found in Table 5-1.

$A_{RC}$ = roof/ceiling area.

$U_{CC}$ = the thermal transmittance value of the cathedral ceiling area found in Table 5-1.

$A_{CC}$ = cathedral ceiling area.

$U_D$ = the thermal transmittance value of the opaque door area found in Table 5-1.

$A_D$ = opaque door area.

$F_S$ = concrete slab component F-factor ~~F-value~~ found in Table 5-1.

$P_S$ = lineal ft. of concrete slab perimeter.

AMENDATORY SECTION (Amending WSR 94-05-059, filed 2/10/94, effective 4/1/94)

**WAC 51-11-0527 Equation 3—Group R Occupancy.**

PROPOSED

~~EQUATION 3 — GROUP R OCCUPANCY~~
~~PROPOSED UA~~

~~$UA = U_W A_W + U_{BGW} A_{BGW} + U_G A_G + U_F A_F + U_{RC} A_{RC} + U_{CC} A_{CC} + U_D A_D + F_S P_S$~~

~~Where:~~

~~$UA$ = the combined thermal transmittance of the gross exterior wall, floor and roof/ceiling assembly area.~~

~~$U_W$ = the thermal transmittance of the opaque wall area.~~

~~$A_W$ = opaque wall area.~~

~~$U_{BGW}$ = the thermal transmittance value of the below grade opaque wall area.~~

~~$A_{BGW}$ = opaque below grade wall area.~~

~~$U_G$ = the thermal transmittance of the glazing (window or skylight) area.~~

~~$A_G$ = glazing area, including windows in exterior doors.~~

~~$U_F$ = the thermal transmittance of the floor area.~~

~~$A_F$ = floor area over unconditioned space.~~

~~$U_{RC}$ = the thermal transmittance of the roof/ceiling area.~~

~~$A_{RC}$ = roof/ceiling area.~~

~~$U_{CC}$ = the thermal transmittance of the cathedral ceiling area.~~

~~$A_{CC}$ = cathedral ceiling area.~~

~~$U_D$ = the thermal transmittance value of the opaque door area.~~

~~$A_D$ = opaque door area.~~

~~$F_S$ = concrete slab component F value.~~

~~$P_S$ = lineal ft. of concrete slab perimeter.~~

~~NOTE: Where more than one type of wall, window, roof/ceiling, door and skylight is used, the U and A terms for those items shall be expanded into sub elements as:~~

~~$U_{W1}A_{W1} + U_{W2}A_{W2} + U_{W3}A_{W3} + \ldots$etc.~~

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## EQUATION 3 – GROUP R OCCUPANCY
## PROPOSED UA

$$UA = U_W A_W + U_{BGW} A_{BGW} + U_{VG} A_{VG} \pm U_{OG} A_{OG} + U_F A_F + U_{RC} A_{RC} + U_{CC} A_{CC} + U_D A_D + F_S P_S$$

**Where:**

| | | |
|---|---|---|
| $UA$ | = | the combined thermal transmittance of the gross exterior wall, floor and roof/ceiling assembly area. |
| $U_W$ | = | the thermal transmittance of the opaque wall area. |
| $A_W$ | = | opaque wall area. |
| $U_{BGW}$ | = | the thermal transmittance value of the below grade opaque wall area. |
| $A_{BGW}$ | = | opaque below grade wall area. |
| $U_{VG}$ | = | the thermal transmittance value of the vertical glazing ~~(window or skylight)~~ area. |
| $A_{VG}$ | = | vertical glazing area, including windows in exterior doors. |
| $U_{OG}$ | = | the thermal transmittance value of the overhead glazing area. |
| $A_{OG}$ | = | overhead glazing area. |
| $U_F$ | = | the thermal transmittance of the floor area. |
| $A_F$ | = | floor area over unconditioned space. |
| $U_{RC}$ | = | the thermal transmittance of the roof/ceiling area. |
| $A_{RC}$ | = | roof/ceiling area. |
| $U_{CC}$ | = | the thermal transmittance of the cathedral ceiling area. |
| $A_{CC}$ | = | cathedral ceiling area. |
| $U_D$ | = | the thermal transmittance value of the opaque door area. |
| $A_D$ | = | opaque door area. |
| $F_S$ | = | concrete slab component F-factor~~F-value~~. |
| $P_S$ | = | lineal ft. of concrete slab perimeter. |

**NOTE:** Where more than one type of wall, window, roof/ceiling, door and skylight is used, the U and A terms for those items shall be expanded into sub-elements as:

$$U_{W1}A_{W1} + U_{W2}A_{W2} + U_{W3}A_{W3} + \ldots\text{etc.}$$

AMENDATORY SECTION (Amending WSR 95-01-126, filed 12/21/94, effective 6/30/95)

**WAC 51-11-0530 Table 5-1.**

PROPOSED

~~TABLE 5-1~~

~~TARGET COMPONENT VALUES FOR GROUP R OCCUPANCY~~

| ~~Component~~ | ~~Electric Resistance~~ ~~Climate Zone~~ | | ~~Other Fuels~~ ~~Climate Zone~~ | |
|---|---|---|---|---|
| | ~~1~~ | ~~2~~ | ~~1~~ | ~~2~~ |
| ~~Glazing % Floor Area~~ | ~~15%~~ | ~~15%~~ | ~~15%~~ | ~~15%~~ |
| ~~Glazing U Factor~~ | ~~U = 0.400~~ | ~~U = 0.400~~ | ~~U = 0.650~~ | ~~U = 0.600~~ |
| | | | | |
| ~~Doors~~ | ~~U = 0.200~~ ~~(R 5)~~ | ~~U = 0.200~~ ~~(R 5)~~ | ~~U = 0.400~~ ~~(R 2.5)~~ | ~~U = 0.400~~ ~~(R 2.5)~~ |
| ~~Ceilings~~ | | | | |
| ~~Attic~~ | ~~U = 0.031~~ ~~(R 38)~~ | ~~U = 0.031~~ ~~(R 38)~~ | ~~U = 0.036~~ ~~(R 30)~~ | ~~U = 0.031~~ ~~(R 38)~~ |
| ~~Single Rafter/ Joist Vaulted~~ | ~~U = 0.034~~ ~~(R 30)~~ | ~~U = 0.034~~ ~~(R 30)~~ | ~~U = 0.034~~ ~~(R 30)~~ | ~~U = 0.034~~ ~~(R 30)~~ |
| ~~Walls~~ | ~~U = 0.058~~ ~~(R 19A)~~ | ~~U = 0.044~~ ~~(R 19+5A)~~ | ~~U = 0.062[1]~~ ~~(R 19)~~ | ~~U = 0.062[1]~~ ~~(R 19+5)~~ |
| ~~Floors~~ | ~~U = 0.029~~ ~~(R 30)~~ | ~~U = 0.029~~ ~~(R 30)~~ | ~~U = 0.041~~ ~~(R 19)~~ | ~~U = 0.029~~ ~~(R 30)~~ |
| ~~Slab on Grade~~ ~~Slab R Value~~ | ~~F = 0.54~~ ~~(R 10)~~ | ~~F = 0.54~~ ~~(R 10)~~ | ~~F = 0.54~~ ~~(R 10)~~ | ~~F = 0.54~~ ~~(R 10)~~ |
| ~~Below Grade Interior~~ | | | | |
| ~~Wall R Value~~ | ~~R 19~~ | ~~R 19~~ | ~~R 19~~ | ~~R 19~~ |
| ~~2' Depth: Walls~~ ~~Slab~~ | ~~U = 0.043~~ ~~F = 0.69~~ | ~~U = 0.043~~ ~~F = 0.69~~ | ~~U = 0.043~~ ~~F = 0.69~~ | ~~U = 0.043~~ ~~F = 0.69~~ |
| ~~3.5' Depth: Walls~~ ~~Slab~~ | ~~U = 0.041~~ ~~F = 0.64~~ | ~~U = 0.041~~ ~~F = 0.64~~ | ~~U = 0.041~~ ~~F = 0.64~~ | ~~U = 0.041~~ ~~F = 0.64~~ |
| ~~7' Depth: Walls~~ ~~Slab~~ | ~~U = 0.037~~ ~~F = 0.57~~ | ~~U = 0.037~~ ~~F = 0.57~~ | ~~U = 0.037~~ ~~F = 0.57~~ | ~~U = 0.037~~ ~~F = 0.57~~ |
| ~~Below Grade Exterior~~ | | | | |
| ~~Wall R Value~~ | ~~R 10~~ | ~~R 12~~ | ~~R 10~~ | ~~R 12~~ |
| ~~2' Depth: Walls~~ ~~Slab~~ | ~~U = 0.070~~ ~~F = 0.60~~ | ~~U = 0.061~~ ~~F = 0.60~~ | ~~U = 0.070~~ ~~F = 0.60~~ | ~~U = 0.061~~ ~~F = 0.60~~ |
| ~~3.5' Depth: Walls~~ ~~Slab~~ | ~~U = 0.064~~ ~~F = 0.57~~ | ~~U = 0.057~~ ~~F = 0.57~~ | ~~U = 0.064~~ ~~F = 0.57~~ | ~~U = 0.057~~ ~~F = 0.57~~ |
| ~~7' Depth: Walls~~ ~~Slab~~ | ~~U = 0.056~~ ~~F = 0.42~~ | ~~U = 0.050~~ ~~F = 0.42~~ | ~~U = 0.056~~ ~~F = 0.42~~ | ~~U = 0.050~~ ~~F = 0.42~~ |

~~1. Log and Solid Timber walls that have a minimum average thickness of 3.5" are exempt from wall target UA and proposed UA calculations.~~

PROPOSED

## TABLE 5-1
## TARGET COMPONENT VALUES FOR GROUP R OCCUPANCY

| Component | Electric Resistance Climate Zone 1 | Electric Resistance Climate Zone 2 | Other Fuels Climate Zone 1 | Other Fuels Climate Zone 2 |
|---|---|---|---|---|
| Glazing % Floor Area | 15% | 15% | 15% | 15% |
| Vertical Glazing U-Factor | U = 0.400 | U = 0.400 | U = 0.650 | U = 0.600 |
| Overhead Glazing U-Factor[2] | U = 0.400 | U = 0.400 | U = 0.400 | U = 0.400 |
| Doors | U = 0.200 (R-5) | U = 0.200 (R-5) | U = 0.400 (R-2.5) | U = 0.400 (R-2.5) |
| Ceilings | | | | |
| Attic | U = 0.031 (R-38) | U = 0.031 (R-38) | U = 0.036 (R-30) | U = 0.031 (R-38) |
| Single Rafter/ Joist Vaulted | U = 0.034 (R-30) | U = 0.034 (R-30) | U = 0.034 (R-30) | U = 0.034 (R-30) |
| Walls | U = 0.058 (R-19A) | U = 0.044 (R-19+5A) | U = 0.062[1] (R-19) | U = 0.062[1] (R-19+5) |
| Floors | U = 0.029 (R-30) | U = 0.029 (R-30) | U = 0.041 (R-19) | U = 0.029 (R-30) |
| Slab on Grade Slab R-Value | F = 0.54 (R-10) | F = 0.54 (R-10) | F = 0.54 (R-10) | F = 0.54 (R-10) |
| Below Grade Interior | | | | |
| Wall R-Value | R-19 | R-19 | R-19 | R-19 |
| 2' Depth: Walls | U = 0.043 | U = 0.043 | U = 0.043 | U = 0.043 |
| Slab | F = 0.69 | F = 0.69 | F = 0.69 | F = 0.69 |
| 3.5' Depth: Walls | U = 0.041 | U = 0.041 | U = 0.041 | U = 0.041 |
| Slab | F = 0.64 | F = 0.64 | F = 0.64 | F = 0.64 |
| 7' Depth: Walls | U = 0.037 | U = 0.037 | U = 0.037 | U = 0.037 |
| Slab | F = 0.57 | F = 0.57 | F = 0.57 | F = 0.57 |
| Below Grade Exterior | | | | |
| Wall R-Value | R-10 | R-12 | R-10 | R-12 |
| 2' Depth: Walls | U = 0.070 | U = 0.061 | U = 0.070 | U = 0.061 |
| Slab | F = 0.60 | F = 0.60 | F = 0.60 | F = 0.60 |
| 3.5' Depth: Walls | U = 0.064 | U = 0.057 | U = 0.064 | U = 0.057 |
| Slab | F = 0.57 | F = 0.57 | F = 0.57 | F = 0.57 |
| 7' Depth: Walls | U = 0.056 | U = 0.050 | U = 0.056 | U = 0.050 |
| Slab | F = 0.42 | F = 0.42 | F = 0.42 | F = 0.42 |

1. Log and Solid Timber walls that have a minimum average thickness of 3.5" are exempt from wall target UA and proposed UA calculations.
2. If the total proposed overhead glazing area is less than or equal to 5% of the floor area and
   a. the proposed U-factor exceeds U-0.40 but is U-0.70 or less, then the target overhead glazing U-factor shall be the same as the proposed, or
   b. the proposed U-factor exceeds U-0.70, then the target overhead glazing U-factor shall be U-0.70.

PROPOSED

AMENDATORY SECTION (Amending WSR 92-01-140, filed 12/19/91, effective 7/1/92)

**WAC 51-11-0541 Table 5-12.**

~~TABLE 5-12 MINIMUM PIPE INSULATION REQUIREMENTS*~~

| | | INSULATION THICKNESS FOR GIVEN PIPE DIAMETERS[1] | | | | |
|---|---|---|---|---|---|---|
| PIPING SYSTEM | FLUID TEMP RANGE (°F) | LESS THAN 12 FOOT PIPE RUN[2] UP TO 2" | 1" AND LESS | GREATER THAN 1" TO 2" | GREATER THAN 2" TO 4" | GREATER THAN 4" TO 6" |
| HEATING & HOT WATER SYSTEMS | | | | | | |
| Steam & Hot Water Pressure/temperature | | | | | | |
| High | 306°F ⇔ 450°F | 1.5" | 2.5" | 2.5" | 3.0" | 3.5" |
| Medium | 251°F ⇔ 305°F | 1.5" | 2.0" | 2.5" | 2.5" | 3.0" |
| Low | 201°F ⇔ 250°F | 1.0" | 1.5" | 1.5" | 2.0" | 2.0" |
| All Other | 100°F ⇔ 200°F | 0.5" | 1.0" | 1.0" | 1.5" | 1.5" |
| Steam Condensate (for feed water) | Any | 1.0" | 1.0" | 1.5" | 2.0" | 2.0" |
| COOLING SYSTEMS | | | | | | |
| Chilled Water | 40°F ⇔ 55°F | 0.5" | 0.5" | 0.75" | 1.0" | 1.0" |
| Refrigerant/brine | Below 40°F | 1.0" | 1.0" | 1.5" | 1.5" | 1.5" |

[1] For piping exposed to ambient air, increase thickness by 0.5".
[2] Pipe runouts not exceeding 12 feet in length to individual units, with a pipe diameter of less than 2 inches.
* Column headings for pipe diameters amended 5/30/90.

PROPOSED

# TABLE 5-12
## MINIMUM PIPE INSULATION REQUIREMENTS

| Fluid Design Operating Temp. Range, °F | Insulation Conductivity | | Nominal Pipe Diameter (in.) | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Conductivity Range Btu • in./(h • ft$^2$ • °F) | Mean Rating Temp. °F | Runouts[2] up to 2 | 1 and less | > 1 to 2 | > 2 to 4 | > 4 to 6 | > 6 |
| Heating systems (Steam, Steam Condensate and Hot water) | | | Nominal Insulation Thickness | | | | | |
| Above 350 | 0.32-0.34 | 250 | 1.5 | 2.5 | 2.5 | 3.0 | 3.5 | 3.5 |
| 251-350 | 0.29-0.31 | 200 | 1.5 | 2.0 | 2.5 | 2.5 | 3.5 | 3.5 |
| 201-250 | 0.27-0.30 | 150 | 1.0 | 1.5 | 1.5 | 2.0 | 2.0 | 3.5 |
| 141-200 | 0.25-0.29 | 125 | 0.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| 105-140 | 0.24-0.28 | 100 | 0.5 | 1.0 | 1.0 | 1.0 | 1.5 | 1.5 |
| Domestic and Service Hot Water Systems | | | | | | | | |
| 105 and Greater | 0.24-0.28 | 100 | 0.5 | 1.0 | 1.0 | 1.5 | 1.5 | 1.5 |
| Cooling Systems (Chilled Water, Brine and Refrigerant) | | | | | | | | |
| 40-55 | 0.23-0.27 | 75 | 0.5 | 0.5 | 0.75 | 1.0 | 1.0 | 1.0 |
| Below 40 | 0.23-0.27 | 75 | 1.0 | 1.0 | 1.5 | 1.5 | 1.5 | 1.5 |

1. Alternative Insulation Types. Insulation thicknesses in Table 14-6 are based on insulation with thermal conductivities within the range listed in Table 14-6 for each fluid operating temperature range, rated in accordance with ASTM C 335-84 at the mean temperature listed in the table. For insulation that has a conductivity outside the range shown in Table 14-6 for the applicable fluid operating temperature range at the mean rating temperature shown (when rounded to the nearest 0.01 Btu • in./(h • ft$^2$ • °F)), the minimum thickness shall be determined in accordance with the following equation:

$$T = PR[(1 + t/PR)^{K/k} - 1]$$

Where

T = Minimum insulation thickness for material with conductivity K, inches.
PR = Pipe actual outside radius, inches
t = Insulation thickness from Table 14-6, inches
K = Conductivity of alternate material at the mean rating temperature indicated in Table 14-6 for the applicable fluid temperature range, Btu • in/(h • ft$^2$ • °F)
k = The lower value of the conductivity range listed in Table 14-6 for the applicable fluid temperature range, Btu • in/(h • ft$^2$ • °F)

2. Runouts to individual terminal units not exceeding 12 ft. in length.

Reviser's note: The brackets and enclosed material in the text of the above section occurred in the copy filed by the agency and appear in the Register pursuant to the requirements of RCW 34.08.040.

PROPOSED

AMENDATORY SECTION (Amending WSR 94-05-059, filed 2/10/94, effective 4/1/94)

**WAC 51-11-0602 Building envelope requirements for Group R Occupancy.**

602.1 Roof/Ceiling: Ceilings below vented attics and single-rafter, joist-vaulted ceilings shall be insulated to not less than the nominal R-value specified for ceilings in Tables 6-1 to 6-6 as applicable.

602.2 Exterior Walls Both Above and Below Grade: Above grade exterior walls shall be insulated to not less than the nominal R-value specified in Tables 6-1 to 6-6 as applicable. The following walls should be considered to meet R-19 without additional documentation:

1. 2 x 6 framed and insulated with R-19 fiberglass batts.

2. 2 x 4 framed and insulated with R-13 fiberglass batts plus R-3.2 foam sheathing.

3. 2 x 4 framed and insulated with R-11 fiberglass batts plus R-5.0 foam sheathing.

EXCEPTION: The perimeter edge of an above grade floor slab which penetrates the exterior wall and the perimeter edge of an interior concrete wall which penetrates the exterior wall shall be insulated on the exterior with R-5 insulation minimum. All other elements of walls shall be fully insulated in accordance with Tables 6-1 to 6-6 as applicable.

602.3 Exterior Walls (Below Grade): Below grade exterior walls surrounding conditioned space shall be insulated to not less than the nominal R-value specified for below grade walls in Tables 6-1 to 6-6 as applicable.

602.4 Slab-on-grade Floors: Slab-on-grade floors shall be insulated along their perimeter to not less than the nominal R-values specified for slab-on-grade floors in Tables 6-1 to 6-6 as applicable. Slab insulation shall be installed in compliance with section 502.1.4.8. See Chapter 5, section 502.1.4.9, for additional requirements for radiant slab heating.

602.5 Floors Over Unconditioned Space: Floors over unconditioned spaces, such as vented crawl spaces, unconditioned basements, and parking garages shall be insulated to not less than the nominal R-value shown for floors over unconditioned spaces, in Tables 6-1 to 6-6.

602.6 Exterior Doors: Doors shall comply with Sections 602.6.1 and 602.6.2.

EXCEPTIONS:

1. Doors whose area and ((~~U-value~~)) U-factor are included in the calculations for compliance with the requirements for glazing in section 602.7 shall be exempt from the door ((~~U-value~~)) U-factor requirements prescribed in Tables 6-1 to 6-6.

2. One unlabeled or untested exterior swinging door with the maximum area of 24 square feet may be installed for ornamental, security or architectural purposes. Products using this exception shall not be included in either the ((~~U-value~~)) U-factor or glazing area calculation requirements.

602.6.1 Exterior Door Area: For half-lite and full-lite doors, the glazing area shall be included in calculating the allowed total glazing area in Section 602.7.1. Single glazing used for ornamental, security or architectural purposes shall be calculated using the exception to Section 602.7.2.

602.6.2 Exterior Door ((~~U-Value~~)) U-Factor: Doors, including fire doors, shall have a maximum area weighted average ((~~U-value~~)) U-factor not exceeding that prescribed in Tables 6-1 to 6-6.

602.7 Glazing:

602.7.1 Glazing Area: The total glazing area as defined in Chapter 2 shall not exceed the percentage of gross conditioned floor area specified in Tables 6-1 to 6-6. This area shall also include any glazing in doors.

602.7.2 Glazing ((~~U-Value~~)) U-Factor: The total glazing area as defined in Chapter 2 shall have an area weighted average ((~~U-value~~)) U-factor calculated separately for vertical and overhead glazing not to exceed that specified in Tables 6-1 to 6-6. ((~~U-values~~)) U-factors for glazing shall be determined in accordance with section 502.1.5((~~.1~~)). These areas and ((~~U-values~~)) U-factors shall also include any doors using the exception of section 602.6.

If the ((~~U-values~~)) U-factors for all glazing products are below the ((~~U-value~~)) U-factor specified, then no calculations are required. If compliance is to be achieved through an area weighted calculation, then the areas and ((~~U-values~~)) U-factors shall be included in the plans submitted with a building permit application.

EXCEPTION: Single glazing for ornamental, security, or architectural purposes and double glazed garden windows with a wood or vinyl frame shall be exempt from the U-factor calculations but shall have its area doubled and shall be included in the percentage of the total glazing area as allowed for in Tables 6-1 to 6-6. The maximum area (before doubling) allowed for the total of all single glazing and garden windows is one percent of the floor area.

602.8 Air Leakage For Group R Occupancy: The minimum air leakage control measures shall be as specified in section 502.4 as applicable.

AMENDATORY SECTION (Amending WSR 93-21-052, filed 10/18/93, effective 4/1/94)

**WAC 51-11-0605 ((~~Reserved.~~)) Lighting.** Controls and lighting power shall comply with the requirements in Section 505.

AMENDATORY SECTION (Amending WSR 95-01-126, filed 12/21/94, effective 6/30/95)

**WAC 51-11-0625 Table 6-1.**

PROPOSED

~~**TABLE 6-1**~~

~~**PRESCRIPTIVE REQUIREMENTS[1] FOR GROUP R OCCUPANCY CLIMATE ZONE 1 • HEATING BY ELECTRIC RESISTANCE**~~

| ~~Option~~ | ~~Glazing % Floor Area~~ | ~~Glazing U-Value~~ | ~~Doors[9] U-Value~~ | ~~Ceiling[2]~~ | ~~Vaulted Ceiling[3]~~ | ~~Wall Above Grade~~ | ~~Wall• int[4] Below Grade~~ | ~~Wall• ext[4] Below Grade~~ | ~~Floor[5]~~ | ~~Slab[4] on Grade~~ |
|---|---|---|---|---|---|---|---|---|---|---|
| ~~I.~~ | ~~10%~~ | ~~0.46~~ | ~~0.40~~ | ~~R-38~~ | ~~R-30~~ | ~~R-21~~ | ~~R-21~~ | ~~R-10~~ | ~~R-30~~ | ~~R-10~~ |
| ~~II.~~ | ~~12%~~ | ~~0.43~~ | ~~0.20~~ | ~~R-38~~ | ~~R-30~~ | ~~R-19~~ | ~~R-19~~ | ~~R-10~~ | ~~R-30~~ | ~~R-10~~ |
| ~~III.~~ | ~~12%~~ | ~~0.40~~ | ~~0.40~~ | ~~R-38~~ | ~~R-30~~ | ~~R-21~~ | ~~R-21~~ | ~~R-10~~ | ~~R-30~~ | ~~R-10~~ |
| ~~IV.*~~ | ~~15%~~ | ~~0.40~~ | ~~0.20~~ | ~~R-38~~ | ~~R-30~~ | ~~R-19~~ | ~~R-19~~ | ~~R-10~~ | ~~R-30~~ | ~~R-10~~ |
| ~~V.~~ | ~~18%~~ | ~~0.39~~ | ~~0.20~~ | ~~R-38~~ | ~~R-30~~ | ~~R-21~~ | ~~R-21~~ | ~~R-10~~ | ~~R-30~~ | ~~R-10~~ |
| ~~VI.~~ | ~~21%~~ | ~~0.36~~ | ~~0.20~~ | ~~R-38~~ | ~~R-30~~ | ~~R-21~~ | ~~R-21~~ | ~~R-10~~ | ~~R-30~~ | ~~R-10~~ |
| ~~VII.[7]~~ | ~~25%~~ | ~~0.32[7]~~ | ~~0.20~~ | ~~R-38~~ | ~~R-30~~ | ~~R-19+R-5[8]~~ | ~~R-21~~ | ~~R-10~~ | ~~R-30~~ | ~~R-10~~ |
| ~~VIII.[7]~~ | ~~30%~~ | ~~0.29[7]~~ | ~~0.20~~ | ~~R-38~~ | ~~R-30~~ | ~~R-19+R-5[8]~~ | ~~R-21~~ | ~~R-10~~ | ~~R-30~~ | ~~R-10~~ |

~~* Reference Case~~

~~1 Minimum requirements for each option listed. For example, if a proposed design has a glazing ratio to the conditioned floor area of 19%, it shall comply with all of the requirements of the 21% glazing option (or higher). Proposed designs which cannot meet the specific requirements of a listed option above may calculate compliance by Chapters 4 or 5 of this Code.~~

~~2 Requirement applies to all ceilings except single rafter or joist vaulted ceilings. 'Adv' denotes Advanced Framed Ceiling.~~

~~3 Requirement applicable only to single rafter or joist vaulted ceilings.~~

~~4 Below grade walls shall be insulated either on the exterior to a minimum level of R-10, or on the interior to the same level as walls above grade. Exterior insulation installed on below grade walls shall be a water resistant material, manufactured for its intended use, and installed according to the manufacturer's specifications. See Section 602.2.~~

~~5 Floors over crawl spaces or exposed to ambient air conditions.~~

~~6 Required slab perimeter insulation shall be a water resistant material, manufactured for its intended use, and installed according to manufacturer's specifications. See Section 602.4.~~

~~7 The following options shall be applicable to buildings less than three stories: 0.35 maximum for glazing areas of 25% or less; 0.32 maximum for glazing areas of 30% or less.~~

~~8 This wall insulation requirement denotes R-19 wall cavity insulation plus R-5 foam sheathing.~~

~~9 Doors, including all fire doors, shall be assigned default U-values from Table 10-6C or 10-6D.~~

PROPOSED

## TABLE 6-1
## PRESCRIPTIVE REQUIREMENTS[1] FOR GROUP R OCCUPANCY
## CLIMATE ZONE 1 • HEATING BY ELECTRIC RESISTANCE

| Option | Glazing Area[10]: % of Floor ~~Area~~ | Vertical Glazing U-Factor ~~Value~~ | Overhead Glazing U-Factor[11] | Doors[9] U-Factor ~~Value~~ | Ceiling[2] | Vaulted Ceiling[3] | Wall Above Grade | Wall• int[4] Below Grade | Wall• ext[4] Below Grade | Floor[5] | Slab[4] on Grade |
|---|---|---|---|---|---|---|---|---|---|---|---|
| I. | 10% | 0.46 | 0.70 | 0.40 | R-38 | R-30 | R-21 | R-21 | R-10 | R-30 | R-10 |
| II. | 12% | 0.43 | 0.70 | 0.20 | R-38 | R-30 | R-19 | R-19 | R-10 | R-30 | R-10 |
| III. | 12% | 0.40 | 0.70 | 0.40 | R-38 | R-30 | R-21 | R-21 | R-10 | R-30 | R-10 |
| IV.* | 15% | 0.40 | 0.70 | 0.20 | R-38 | R-30 | R-19 | R-19 | R-10 | R-30 | R-10 |
| V. | 18% | 0.39 | 0.70 | 0.20 | R-38 | R-30 | R-21 | R-21 | R-10 | R-30 | R-10 |
| VI. | 21% | 0.36 | 0.70 | 0.20 | R-38 | R-30 | R-21 | R-21 | R-10 | R-30 | R-10 |
| VII.[7] | 25% | 0.32[7] | 0.70 | 0.20 | R-38 | R-30 | R-19 +R-5[8] | R-21 | R-10 | R-30 | R-10 |
| VIII.[7] | 30% | 0.29[7] | 0.70 | 0.20 | R-38 | R-30 | R-19 +R-5[8] | R-21 | R-10 | R-30 | R-10 |

* Reference Case

1. Minimum requirements for each option listed. For example, if a proposed design has a glazing ratio to the conditioned floor area of 19%, it shall comply with all of the requirements of the 21% glazing option (or higher). Proposed designs which cannot meet the specific requirements of a listed option above may calculate compliance by Chapters 4 or 5 of this Code.

2. Requirement applies to all ceilings except single rafter or joist vaulted ceilings. 'Adv' denotes Advanced Framed Ceiling.

3. Requirement applicable only to single rafter or joist vaulted ceilings.

4. Below grade walls shall be insulated either on the exterior to a minimum level of R-10, or on the interior to the same level as walls above grade. Exterior insulation installed on below grade walls shall be a water resistant material, manufactured for its intended use, and installed according to the manufacturer's specifications. See Section 602.2.

5. Floors over crawl spaces or exposed to ambient air conditions.

6. Required slab perimeter insulation shall be a water resistant material, manufactured for its intended use, and installed according to manufacturer's specifications. See Section 602.4.

7. The following options shall be applicable to buildings less than three stories: 0.35 maximum for glazing areas of 25% or less; 0.32 maximum for glazing areas of 30% or less.

8. This wall insulation requirement denotes R-19 wall cavity insulation plus R-5 foam sheathing.

9. Doors, including all fire doors, shall be assigned default U-factor~~U-values~~ from Table 10-6C or 10-6D.

10. Where a maximum glazing area is listed, the total glazing area (combined vertical plus overhead) as a percent of gross conditioned floor area shall be less than or equal to that value. For all options, the total overhead glazing area shall not exceed 5% of the gross conditioned floor area. Overhead glazing with U-factor of U=0.040 or less is not included in glazing area calculations.

11. Overhead glazing shall have U-factors determined in accordance with NFRC 100 or as specified in Section 502.1.5.

AMENDATORY SECTION (Amending WSR 95-01-126, filed 12/21/94, effective 6/30/95)

**WAC 51-11-0626 Table 6-2.**

PROPOSED

## ~~TABLE 6-2~~
## ~~PRESCRIPTIVE REQUIREMENTS[1] FOR GROUP R OCCUPANCY~~
## ~~CLIMATE ZONE 1 • HEATING BY OTHER FUELS~~

| ~~Option~~ | ~~HVAC[9] Equip. Effic.~~ | ~~Glazing % Floor Area~~ | ~~Glazing U-Value~~ | ~~Doors[10] U-Value~~ | ~~Ceiling[2]~~ | ~~Vaulted Ceiling[3]~~ | ~~Wall Above Grade~~ | ~~Wall• int[4] Below Grade~~ | ~~Wall• ext[4] Below Grade~~ | ~~Floor[5]~~ | ~~Slab[6] on Grade~~ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ~~I.~~ | ~~Med.~~ | ~~10%~~ | ~~0.70~~ | ~~0.40~~ | ~~R-30~~ | ~~R-30~~ | ~~R-15~~ | ~~R-15~~ | ~~R-10~~ | ~~R-19~~ | ~~R-10~~ |
| ~~II.~~ | ~~Med.~~ | ~~12%~~ | ~~0.65~~ | ~~0.40~~ | ~~R-30~~ | ~~R-30~~ | ~~R-15~~ | ~~R-15~~ | ~~R-10~~ | ~~R-19~~ | ~~R-10~~ |
| ~~III.~~ | ~~High~~ | ~~21%~~ | ~~0.75~~ | ~~0.40~~ | ~~R-30~~ | ~~R-30~~ | ~~R-19~~ | ~~R-19~~ | ~~R-10~~ | ~~R-19~~ | ~~R-10~~ |
| ~~IV.*~~ | ~~Med.~~ | ~~21%~~ | ~~0.65~~ | ~~0.40~~ | ~~R-30~~ | ~~R-30~~ | ~~R-19~~ | ~~R-19~~ | ~~R-10~~ | ~~R-19~~ | ~~R-10~~ |
| ~~V.~~ | ~~Low~~ | ~~21%~~ | ~~0.60~~ | ~~0.40~~ | ~~R-30~~ | ~~R-30~~ | ~~R-19~~ | ~~R-19~~ | ~~R-10~~ | ~~R-19~~ | ~~R-10~~ |
| ~~VI.[7]~~ | ~~Med.~~ | ~~25%~~ | ~~0.45[7]~~ | ~~0.40~~ | ~~R-38~~ | ~~R-30~~ | ~~R-19~~ | ~~R-19~~ | ~~R-10~~ | ~~R-25~~ | ~~R-10~~ |
| ~~VII.[7]~~ | ~~Med.~~ | ~~30%~~ | ~~0.40[7]~~ | ~~0.40~~ | ~~R-30~~ | ~~R-30~~ | ~~R-19~~ | ~~R-19~~ | ~~R-10~~ | ~~R-25~~ | ~~R-10~~ |

~~* Reference Case~~

~~1 Minimum requirements for each option listed. For example, if a proposed design has a glazing ratio to the conditioned floor area of 19%, it shall comply with all of the requirements of the 21% glazing option (or higher). Proposed designs which cannot meet the specific requirements of a listed option above may calculate compliance by Chapters 4 or 5 of this Code.~~

~~2 Requirement applies to all ceilings except single rafter or joist vaulted ceilings. 'Adv' denotes Advanced Framed Ceiling.~~

~~3 Requirement applicable only to single rafter or joist vaulted ceilings.~~

~~4 Below grade walls shall be insulated either on the exterior to a minimum level of R-10, or on the interior to the same level as walls above grade. Exterior insulation installed on below grade walls shall be a water resistant material, manufactured for its intended use, and installed according to the manufacturer's specifications. See Section 602.2.~~

~~5 Floors over crawl spaces or exposed to ambient air conditions.~~

~~6 Required slab perimeter insulation shall be a water resistant material, manufactured for its intended use, and installed according to manufacturer's specifications. See Section 602.4.~~

~~7 The following options shall be applicable to buildings less than three stories: 0.50 maximum for glazing areas of 25% or less; 0.45 maximum for glazing areas of 30% or less.~~

~~8 This wall insulation requirement denotes R-19 wall cavity insulation plus R-5 foam sheathing.~~

~~9 Minimum HVAC Equipment efficiency requirement. 'Low' denotes an AFUE of 0.74. 'Med.' denotes an AFUE of 0.78. 'High' denotes an AFUE of 0.88. Minimum HVAC Equipment efficiency requirement for heat pumps. 'Low' denotes an HSPF of 6.35. 'Med' denotes an HSPF of 6.8. 'High' an HSPF of 7.7. Water and ground source heat pumps shall be considered as medium efficiency and have a minimum COP as required in Table 5-7.~~

~~10 Doors, including all fire doors, shall be assigned default U-values from Table 10-6C or 10-6D.~~

PROPOSED

# TABLE 6-2
# PRESCRIPTIVE REQUIREMENTS[1] FOR GROUP R OCCUPANCY
# CLIMATE ZONE 1 • HEATING BY OTHER FUELS

| Option | HVAC[9] Equip. Effic. | Glazing Area[11]: % of Floor ~~Area~~ | Vertical Glazing U-Factor ~~Value~~ | Overhead Glazing U-Factor[12] | Doors[10] U-Factor ~~Value~~ | Ceiling[2] | Vaulted Ceiling[3] | Wall Above Grade | Wall• int[4] Below Grade | Wall• ext[4] Below Grade | Floor[5] | Slab[6] on Grade |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| I. | Med. | 10% | 0.70 | 0.70 | 0.40 | R-30 | R-30 | R-15 | R-15 | R-10 | R-19 | R-10 |
| II. | Med. | 12% | 0.65 | 0.70 | 0.40 | R-30 | R-30 | R-15 | R-15 | R-10 | R-19 | R-10 |
| III. | High | 21% | 0.75 | 0.70 | 0.40 | R-30 | R-30 | R-19 | R-19 | R-10 | R-19 | R-10 |
| IV.* | Med. | 21% | 0.65 | 0.70 | 0.40 | R-30 | R-30 | R-19 | R-19 | R-10 | R-19 | R-10 |
| V. | Low | 21% | 0.60 | 0.70 | 0.40 | R-30 | R-30 | R-19 | R-19 | R-10 | R-19 | R-10 |
| VI.[7] | Med. | 25% | 0.45[7] | 0.70 | 0.40 | R-38 | R-30 | R-19 | R-19 | R-10 | R-25 | R-10 |
| VII.[7] | Med. | 30% | 0.40[7] | 0.70 | 0.40 | R-30 | R-30 | R-19 | R-19 | R-10 | R-25 | R-10 |
| VIII. | Med. | unlimited | 0.25 | 0.40 | 0.40 | R-30 | R-30 | R-19 | R-19 | R-10 | R-25 | R-10 |

* Reference Case

1 Minimum requirements for each option listed. For example, if a proposed design has a glazing ratio to the conditioned floor area of 19%, it shall comply with all of the requirements of the 21% glazing option (or higher). Proposed designs which cannot meet the specific requirements of a listed option above may calculate compliance by Chapters 4 or 5 of this Code.

2 Requirement applies to all ceilings except single rafter or joist vaulted ceilings. 'Adv' denotes Advanced Framed Ceiling.

3 Requirement applicable only to single rafter or joist vaulted ceilings.

4 Below grade walls shall be insulated either on the exterior to a minimum level of R-10, or on the interior to the same level as walls above grade. Exterior insulation installed on below grade walls shall be a water resistant material, manufactured for its intended use, and installed according to the manufacturer's specifications. See Section 602.2.

5 Floors over crawl spaces or exposed to ambient air conditions.

6 Required slab perimeter insulation shall be a water resistant material, manufactured for its intended use, and installed according to manufacturer's specifications. See Section 602.4.

7 The following options shall be applicable to buildings less than three stories: 0.50 maximum for glazing areas of 25% or less; 0.45 maximum for glazing areas of 30% or less.

8 This wall insulation requirement denotes R-19 wall cavity insulation plus R-5 foam sheathing.

9 Minimum HVAC Equipment efficiency requirement. 'Low' denotes an AFUE of 0.74. 'Med.' denotes an AFUE of 0.78. 'High' denotes an AFUE of 0.88. Minimum HVAC Equipment efficiency requirement for heat pumps. 'Low' denotes an HSPF of 6.35. 'Med' denotes an HSPF of 6.8. 'High' an HSPF of 7.7. Water and ground source heat pumps shall be considered as medium efficiency and have a minimum COP as required in Table 5-7.

10 Doors, including all fire doors, shall be assigned default U-factor~~U-values~~ from Table 10-6C or 10-6D.

11. Where a maximum glazing area is listed, the total glazing area (combined vertical plus overhead) as a percent of gross conditioned floor area shall be less than or equal to that value. For all options, the total overhead glazing area shall not exceed 5% of the gross conditioned floor area. Overhead glazing with U-factor of U=0.040 or less is not included in glazing area calculations.

12. Overhead glazing shall have U-factors determined in accordance with NFRC 100 or as specified in Section 502.1.5.

AMENDATORY SECTION (Amending WSR 95-01-126, filed 12/21/94, effective 6/30/95)

**WAC 51-11-0627 Table 6-3.**

PROPOSED

## ~~TABLE 6-3~~
## ~~PRESCRIPTIVE REQUIREMENTS[1] FOR GROUP R OCCUPANCY~~
## ~~CLIMATE ZONE 2 • HEATING BY ELECTRIC RESISTANCE~~

| ~~Option~~ | ~~Glazing % Floor Area~~ | ~~Glazing U-Value~~ | ~~Doors[10] U-value~~ | ~~Ceiling[2]~~ | ~~Vaulted Ceiling[3]~~ | ~~Wall Above Grade~~ | ~~Wall• int[4] Below Grade~~ | ~~Wall• ext[4] Below Grade~~ | ~~Floor[5]~~ | ~~Slab[6] on Grade~~ |
|---|---|---|---|---|---|---|---|---|---|---|
| ~~I.~~ | ~~10%~~ | ~~0.38~~ | ~~0.20~~ | ~~R-38~~ | ~~R-30~~ | ~~R-21~~ | ~~R-21~~ | ~~R-12~~ | ~~R-30~~ | ~~R-10~~ |
| ~~II.~~ | ~~12%~~ | ~~0.40~~ | ~~0.20~~ | ~~R-38~~ | ~~R-30~~ | ~~R-19+R-5[8]~~ | ~~R-21~~ | ~~R-12~~ | ~~R-25~~ | ~~R-10~~ |
| ~~III.*~~ | ~~15%~~ | ~~0.40~~ | ~~0.20~~ | ~~R-38~~ | ~~R-30~~ | ~~R-19+R-5[8]~~ | ~~R-21~~ | ~~R-12~~ | ~~R-30~~ | ~~R-10~~ |
| ~~IV.~~ | ~~18%~~ | ~~0.38~~ | ~~0.20~~ | ~~R-38~~ | ~~R-30~~ | ~~R-19+R-5[8]~~ | ~~R-21~~ | ~~R-12~~ | ~~R-30~~ | ~~R-10~~ |
| ~~V.[7]~~ | ~~21%~~ | ~~0.35~~ | ~~0.20~~ | ~~R-38Adv~~ | ~~R-38~~ | ~~R-19+R-5[8]~~ | ~~R-21~~ | ~~R-12~~ | ~~R-30~~ | ~~R-10~~ |
| ~~VI.[7]~~ | ~~25%~~ | ~~0.30[7]~~ | ~~0.20~~ | ~~R-49Adv~~ | ~~R-38~~ | ~~R-19+R-5[8]~~ | ~~R-21~~ | ~~R-12~~ | ~~R-30~~ | ~~R-10~~ |
| ~~VII.[7]~~ | ~~30%~~ | ~~0.28[7]~~ | ~~0.20~~ | ~~R-60Adv~~ | ~~R-38~~ | ~~R-21+R-7.5[9]~~ | ~~R-21~~ | ~~R-12~~ | ~~R-30~~ | ~~R-10~~ |

~~* Reference Case~~

~~1 Minimum requirements for each option listed. For example, if a proposed design has a glazing ratio to the conditioned floor area of 19%, it shall comply with all of the requirements of the 21% glazing option (or higher). Proposed designs which cannot meet the specific requirements of a listed option above may calculate compliance by Chapters 4 or 5 of this Code.~~

~~2 Requirement applies to all ceilings except single rafter or joist vaulted ceilings. 'Adv' denotes Advanced Framed Ceiling.~~

~~3 Requirement applicable only to single rafter or joist vaulted ceilings.~~

~~4 Below grade walls shall be insulated either on the exterior to a minimum level of R-10, or on the interior to the same level as walls above grade. Exterior insulation installed on below grade walls shall be a water resistant material, manufactured for its intended use, and installed according to the manufacturer's specifications. See Section 602.2.~~

~~5 Floors over crawl spaces or exposed to ambient air conditions.~~

~~6 Required slab perimeter insulation shall be a water resistant material, manufactured for its intended use, and installed according to manufacturer's specifications. See Section 602.4.~~

~~7 The following options shall be applicable to buildings less than three stories: 0.33 maximum for glazing areas of 25% or less; 0.31 maximum for glazing areas of 30% or less.~~

~~8 This wall insulation requirement denotes R-19 wall cavity insulation plus R-5 foam sheathing.~~

~~9 This wall insulation requirement denotes R-21 wall cavity insulation plus R-7.5 foam sheathing.~~

~~10 Doors, including all fire doors, shall be assigned default U-values from Table 10-6C or 10-6D.~~

PROPOSED

# TABLE 6-3
# PRESCRIPTIVE REQUIREMENTS[1] FOR GROUP R OCCUPANCY CLIMATE ZONE 2 • HEATING BY ELECTRIC RESISTANCE

| Option | Glazing Area[11]: % of Floor ~~Area~~ | Vertical Glazing U-Factor ~~Value~~ | Overhead Glazing U-Factor[12] | Doors[10] U-Factor ~~value~~ | Ceiling[2] | Vaulted Ceiling[3] | Wall Above Grade | Wall• int[4] Below Grade | Wall• ext[4] Below Grade | Floor[5] | Slab[6] on Grade |
|---|---|---|---|---|---|---|---|---|---|---|---|
| I. | 10% | 0.38 | 0.70 | 0.20 | R-38 | R-30 | R-21 | R-21 | R-12 | R-30 | R-10 |
| II. | 12% | 0.40 | 0.70 | 0.20 | R-38 | R-30 | R-19+R-5[8] | R-21 | R-12 | R-25 | R-10 |
| III.* | 15% | 0.40 | 0.70 | 0.20 | R-38 | R-30 | R-19+R-5[8] | R-21 | R-12 | R-30 | R-10 |
| IV. | 18% | 0.38 | 0.70 | 0.20 | R-38 | R-30 | R-19+R-5[8] | R-21 | R-12 | R-30 | R-10 |
| V. | 21% | 0.35 | 0.70 | 0.20 | R-38Adv | R-38 | R-19+R-5[8] | R-21 | R-12 | R-30 | R-10 |
| VI.[7] | 25% | 0.30[7] | 0.70 | 0.20 | R-49Adv | R-38 | R-19+R-5[8] | R-21 | R-12 | R-30 | R-10 |
| VII.[7] | 30% | 0.28[7] | 0.70 | 0.20 | R-60Adv | R-38 | R-21+R-7.5[9] | R-21 | R-12 | R-30 | R-10 |

* Reference Case

1 Minimum requirements for each option listed. For example, if a proposed design has a glazing ratio to the conditioned floor area of 19%, it shall comply with all of the requirements of the 21% glazing option (or higher). Proposed designs which cannot meet the specific requirements of a listed option above may calculate compliance by Chapters 4 or 5 of this Code.

2 Requirement applies to all ceilings except single rafter or joist vaulted ceilings. 'Adv' denotes Advanced Framed Ceiling.

3 Requirement applicable only to single rafter or joist vaulted ceilings.

4 Below grade walls shall be insulated either on the exterior to a minimum level of R-12, or on the interior to the same level as walls above grade. Exterior insulation installed on below grade walls shall be a water resistant material, manufactured for its intended use, and installed according to the manufacturer's specifications. See Section 602.2.

5 Floors over crawl spaces or exposed to ambient air conditions.

6 Required slab perimeter insulation shall be a water resistant material, manufactured for its intended use, and installed according to manufacturer's specifications. See Section 602.4.

7 The following options shall be applicable to buildings less than three stories: 0.33 maximum for glazing areas of 25% or less; 0.31 maximum for glazing areas of 30% or less.

8 This wall insulation requirement denotes R-19 wall cavity insulation plus R-5 foam sheathing.

9 This wall insulation requirement denotes R-21 wall cavity insulation plus R-7.5 foam sheathing.

10 Doors, including all fire doors, shall be assigned default U-factor~~U-values~~ from Table 10-6C or 10-6D.

11. Where a maximum glazing area is listed, the total glazing area (combined vertical plus overhead) as a percent of gross conditioned floor area shall be less than or equal to that value. For all options, the total overhead glazing area shall not exceed 5% of the gross conditioned floor area. Overhead glazing with U-factor of U=0.040 or less is not included in glazing area calculations.

12. Overhead glazing shall have U-factors determined in accordance with NFRC 100 or as specified in Section 502.1.5.

AMENDATORY SECTION (Amending WSR 95-01-126, filed 12/21/94, effective 6/30/95)

**WAC 51-11-0628 Table 6-4.**

PROPOSED

## ~~TABLE 6-4~~
## ~~PRESCRIPTIVE REQUIREMENTS[1] FOR GROUP R OCCUPANCY~~
## ~~CLIMATE ZONE 2 • HEATING BY OTHER FUELS~~

| ~~Option~~ | ~~HVAC[9] Equip. Effic.~~ | ~~Glazing % Floor Area~~ | ~~Glazing U-Value~~ | ~~Doors[10] U-Value~~ | ~~Ceiling[2]~~ | ~~Vaulted Ceiling[3]~~ | ~~Wall Above Grade~~ | ~~Wall• int[4] Below Grade~~ | ~~Wall• ext[4] Below Grade~~ | ~~Floor[5]~~ | ~~Slab[6] on Grade~~ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ~~I.~~ | ~~Med.~~ | ~~10%~~ | ~~0.70~~ | ~~0.40~~ | ~~R-38~~ | ~~R-30~~ | ~~R-19~~ | ~~R-19~~ | ~~R-12~~ | ~~R-25~~ | ~~R-10~~ |
| ~~II.~~ | ~~Med.~~ | ~~12%~~ | ~~0.65~~ | ~~0.40~~ | ~~R-38~~ | ~~R-30~~ | ~~R-19~~ | ~~R-19~~ | ~~R-12~~ | ~~R-25~~ | ~~R-10~~ |
| ~~III.~~ | ~~High~~ | ~~17%~~ | ~~0.65~~ | ~~0.40~~ | ~~R-38~~ | ~~R-30~~ | ~~R-19~~ | ~~R-19~~ | ~~R-12~~ | ~~R-25~~ | ~~R-10~~ |
| ~~IV.*~~ | ~~Med.~~ | ~~17%~~ | ~~0.60~~ | ~~0.40~~ | ~~R-38~~ | ~~R-30~~ | ~~R-19~~ | ~~R-19~~ | ~~R-12~~ | ~~R-30~~ | ~~R-10~~ |
| ~~V.~~ | ~~Low~~ | ~~17%~~ | ~~0.50~~ | ~~0.40~~ | ~~R-38~~ | ~~R-30~~ | ~~R-19~~ | ~~R-19~~ | ~~R-12~~ | ~~R-30~~ | ~~R-10~~ |
| ~~VI.~~ | ~~Med.~~ | ~~21%~~ | ~~0.50~~ | ~~0.40~~ | ~~R-38~~ | ~~R-30~~ | ~~R-19~~ | ~~R-19~~ | ~~R-12~~ | ~~R-30~~ | ~~R-10~~ |
| ~~VII.~~ | ~~Med.~~ | ~~25%~~ | ~~0.40[7]~~ | ~~0.40~~ | ~~R-38~~ | ~~R-30~~ | ~~R-19~~ | ~~R-19~~ | ~~R-12~~ | ~~R-30~~ | ~~R-10~~ |
| ~~VIII.~~ | ~~Med.~~ | ~~30%~~ | ~~0.40[7]~~ | ~~0.40~~ | ~~R-38~~ | ~~R-30~~ | ~~R-19~~ | ~~R-19~~ | ~~R-12~~ | ~~R-30~~ | ~~R-10~~ |

~~* Reference Case~~

~~1 Minimum requirements for each option listed. For example, if a proposed design has a glazing ratio to the conditioned floor area of 19%, it shall comply with all of the requirements of the 21% glazing option (or higher). Proposed designs which cannot meet the specific requirements of a listed option above may calculate compliance by Chapters 4 or 5 of this Code.~~

~~2 Requirement applies to all ceilings except single rafter or joist vaulted ceilings. 'Adv' denotes Advanced Framed Ceiling.~~

~~3 Requirement applicable only to single rafter or joist vaulted ceilings.~~

~~4 Below grade walls shall be insulated either on the exterior to a minimum level of R-10, or on the interior to the same level as walls above grade. Exterior insulation installed on below grade walls shall be a water resistant material, manufactured for its intended use, and installed according to the manufacturer's specifications. See Section 602.2.~~

~~5 Floors over crawl spaces or exposed to ambient air conditions.~~

~~6 Required slab perimeter insulation shall be a water resistant material, manufactured for its intended use, and installed according to manufacturer's specifications. See Section 602.4.~~

~~7 The following options shall be applicable to buildings less than three stories: 0.45 maximum for glazing areas of 25% or less; 0.40 maximum for glazing areas of 30% or less.~~

~~8 This wall insulation requirement denotes R-19 wall cavity insulation plus R-5 foam sheathing.~~

~~9 Minimum HVAC Equipment efficiency requirement. 'Low' denotes an AFUE of 0.74. 'Med.' denotes an AFUE of 0.78. 'High' denotes an AFUE of 0.88.~~

~~10 Doors, including all fire doors, shall be assigned default U-values from Table 10-6C or 10-6D.~~

PROPOSED

# TABLE 6-4
# PRESCRIPTIVE REQUIREMENTS[1] FOR GROUP R OCCUPANCY
# CLIMATE ZONE 2 • HEATING BY OTHER FUELS

| Option | HVAC[9] Equip. Effic. | Glazing Area[11]: % of Floor ~~Area~~ | Vertical Glazing U-Factor ~~Value~~ | Overhead Glazing U-Factor[12] | Doors[10] U-Factor ~~Value~~ | Ceiling[2] | Vaulted Ceiling[3] | Wall Above Grade | Wall• int[4] Below Grade | Wall• ext[4] Below Grade | Floor[5] | Slab[6] on Grade |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| I. | Med. | 10% | 0.70 | 0.70 | 0.40 | R-38 | R-30 | R-19 | R-19 | R-12 | R-25 | R-10 |
| II. | Med. | 12% | 0.65 | 0.70 | 0.40 | R-38 | R-30 | R-19 | R-19 | R-12 | R-25 | R-10 |
| III. | High | 17% | 0.65 | 0.70 | 0.40 | R-38 | R-30 | R-19 | R-19 | R-12 | R-25 | R-10 |
| IV.* | Med. | 17% | 0.60 | 0.70 | 0.40 | R-38 | R-30 | R-19 | R-19 | R-12 | R-30 | R-10 |
| V. | Low | 17% | 0.50 | 0.70 | 0.40 | R-38 | R-30 | R-19 | R-19 | R-12 | R-30 | R-10 |
| VI. | Med. | 21% | 0.50 | 0.70 | 0.40 | R-38 | R-30 | R-19 | R-19 | R-12 | R-30 | R-10 |
| VII.[7] | Med. | 25% | 0.40[7] | 0.70 | 0.40 | R-38 | R-30 | R-19 | R-19 | R-12 | R-30 | R-10 |
| VIII.[7] | Med. | 30% | 0.40[7] | 0.70 | 0.40 | R-38 | R-30 | R-19 | R-19 | R-12 | R-30 | R-10 |
| IX. | Med. | unlimited | 0.25 | 0.40 | 0.40 | R-38 | R-30 | R-19 | R-19 | R-12 | R-30 | R-10 |

* Reference Case

1 Minimum requirements for each option listed. For example, if a proposed design has a glazing ratio to the conditioned floor area of 19%, it shall comply with all of the requirements of the 21% glazing option (or higher). Proposed designs which cannot meet the specific requirements of a listed option above may calculate compliance by Chapters 4 or 5 of this Code.

2 Requirement applies to all ceilings except single rafter or joist vaulted ceilings. 'Adv' denotes Advanced Framed Ceiling.

3 Requirement applicable only to single rafter or joist vaulted ceilings.

4 Below grade walls shall be insulated either on the exterior to a minimum level of R-12, or on the interior to the same level as walls above grade. Exterior insulation installed on below grade walls shall be a water resistant material, manufactured for its intended use, and installed according to the manufacturer's specifications. See Section 602.2.

5 Floors over crawl spaces or exposed to ambient air conditions.

6 Required slab perimeter insulation shall be a water resistant material, manufactured for its intended use, and installed according to manufacturer's specifications. See Section 602.4.

7 The following options shall be applicable to buildings less than three stories: 0.45 maximum for glazing areas of 25% or less; 0.40 maximum for glazing areas of 30% or less.

8 This wall insulation requirement denotes R-19 wall cavity insulation plus R-5 foam sheathing.

9 Minimum HVAC Equipment efficiency requirement. 'Low' denotes an AFUE of 0.74. 'Med.' denotes an AFUE of 0.78. 'High' denotes an AFUE of 0.88.

10 Doors, including all fire doors, shall be assigned default U-factor~~U-values~~ from Table 10-6C or 10-6D.

11. Where a maximum glazing area is listed, the total glazing area (combined vertical plus overhead) as a percent of gross conditioned floor area shall be less than or equal to that value. For all options, the total overhead glazing area shall not exceed 5% of the gross conditioned floor area. Overhead glazing with U-factor of U=0.040 or less is not included in glazing area calculations.

12. Overhead glazing shall have U-factors determined in accordance with NFRC 100 or as specified in Section 502.1.5.

AMENDATORY SECTION (Amending WSR 95-01-126, filed 12/21/94, effective 6/30/95)

**WAC 51-11-0629 Table 6-5.**

PROPOSED

## ~~TABLE 6-5~~
## ~~LOG HOMES PRESCRIPTIVE REQUIREMENTS[1]~~
## ~~HEATING BY ELECTRIC RESISTANCE~~

| ~~Option~~ | ~~Average[2] Log Thickness~~ | ~~Glazing % Floor Area~~ | ~~Glazing U-Value~~ | ~~Doors[8] U-Value~~ | ~~Ceiling[3]~~ | ~~Vaulted[4] Ceiling~~ | ~~Floor[5]~~ | ~~Slab[6] on Grade~~ |
|---|---|---|---|---|---|---|---|---|
| ~~Climate Zone 1~~ | | | | | | | | |
| ~~I.[7]~~ | ~~5.5"~~ | ~~15%~~ | ~~0.31~~ | ~~0.14~~ | ~~R-60 Adv~~ | ~~R-38~~ | ~~R-38~~ | ~~R-10~~ |
| ~~II.[7]~~ | ~~7.5"~~ | ~~15%~~ | ~~0.40~~ | ~~0.20~~ | ~~R-60 Adv~~ | ~~R-38~~ | ~~R-30~~ | ~~R-10~~ |
| ~~III.*~~ | ~~9.6"~~ | ~~15%~~ | ~~0.40~~ | ~~0.20~~ | ~~R-38~~ | ~~R-30~~ | ~~R-30~~ | ~~R-10~~ |
| ~~Climate Zone 2~~ | | | | | | | | |
| ~~IV.[7]~~ | ~~6.7"~~ | ~~15%~~ | ~~0.31~~ | ~~0.14~~ | ~~R-60 Adv~~ | ~~R-38~~ | ~~R-38~~ | ~~R-10~~ |
| ~~V.[7]~~ | ~~8.7"~~ | ~~15%~~ | ~~0.40~~ | ~~0.14~~ | ~~R-60 Adv~~ | ~~R-38~~ | ~~R-38~~ | ~~R-10~~ |
| ~~VI.[7]~~ | ~~9.8"~~ | ~~15%~~ | ~~0.40~~ | ~~0.20~~ | ~~R-60 Adv~~ | ~~R-38~~ | ~~R-30~~ | ~~R-10~~ |
| ~~VII.[7]~~ | ~~10.5"~~ | ~~15%~~ | ~~0.40~~ | ~~0.20~~ | ~~R-49 Adv~~ | ~~R-38~~ | ~~R-30~~ | ~~R-10~~ |
| ~~VIII.*~~ | ~~13.5"~~ | ~~15%~~ | ~~0.40~~ | ~~0.20~~ | ~~R-38~~ | ~~R-30~~ | ~~R-30~~ | ~~R-10~~ |

~~* Reference Case~~

~~1 For Group R Occupancy use Table 6-5 for only the portion of floor area using log/solid timber walls. Use Tables 6-1 to 6-4 for all other portions of the floor area. Minimum requirements are for each option listed. Interpolations between options is not permitted. Proposed designs which cannot meet the specific requirements of a listed option above may calculate compliance by Chapters 4 or 5 of this Code.~~

~~2 Required minimum average log thickness.~~

~~3 'Adv' denotes Advanced Framing. Requirement applies to all ceilings except single rafter joist vaulted ceilings.~~

~~4 Requirement applicable only to single rafter joist vaulted ceilings.~~

~~5 Floors over crawl spaces or exposed to ambient air conditions.~~

~~6 Required slab perimeter insulation shall be water resistant material, manufactured for its intended use, and installed according to manufacturer's specifications.~~

~~7 These options shall be applicable to buildings less than three stories.~~

~~8 Doors, including all fire doors, shall be assigned default U-values from Table 10-6C or 10-6D.~~

PROPOSED

# TABLE 6-5
# LOG HOMES PRESCRIPTIVE REQUIREMENTS[1]
# HEATING BY ELECTRIC RESISTANCE

| Option | Average[2] Log Thickness | Glazing Area[9]: % of Floor ~~Area~~ | Vertical Glazing U-Factor ~~Value~~ | Overhead Glazing U-Factor[10] | Doors[8] U-Factor ~~Value~~ | Ceiling[3] | Vaulted[4] Ceiling | Floor[5] | Slab[6] on Grade |
|---|---|---|---|---|---|---|---|---|---|
| Climate Zone 1 | | | | | | | | | |
| I.[7] | 5.5" | 15% | 0.31 | 0.70 | 0.14 | R-60 Adv | R-38 | R-38 | R-10 |
| II.[7] | 7.5" | 15% | 0.40 | 0.70 | 0.20 | R-60 Adv | R-38 | R-30 | R-10 |
| III.* | 9.6" | 15% | 0.40 | 0.70 | 0.20 | R-38 | R-30 | R-30 | R-10 |
| Climate Zone 2 | | | | | | | | | |
| IV.[7] | 6.7" | 15% | 0.31 | 0.70 | 0.14 | R-60 Adv | R-38 | R-38 | R-10 |
| V.[7] | 8.7" | 15% | 0.40 | 0.70 | 0.14 | R-60 Adv | R-38 | R-38 | R-10 |
| VI.[7] | 9.8" | 15% | 0.40 | 0.70 | 0.20 | R-60 Adv | R-38 | R-30 | R-10 |
| VII.[7] | 10.5" | 15% | 0.40 | 0.70 | 0.20 | R-49 Adv | R-38 | R-30 | R-10 |
| VIII.* | 13.5" | 15% | 0.40 | 0.70 | 0.20 | R-38 | R-30 | R-30 | R-10 |

* Reference Case

1 For Group R Occupancy use Table 6-5 for only the portion of floor area using log/solid timber walls. Use Tables 6-1 to 6-4 for all other portions of the floor area. Minimum requirements are for each option listed. Interpolations between options is not permitted. Proposed designs which cannot meet the specific requirements of a listed option above may calculate compliance by Chapters 4 or 5 of this Code.

2 Required minimum average log thickness.

3 'Adv' denotes Advanced Framing. Requirement applies to all ceilings except single rafter joist vaulted ceilings.

4 Requirement applicable only to single rafter joist vaulted ceilings.

5 Floors over crawl spaces or exposed to ambient air conditions.

6 Required slab perimeter insulation shall be water resistant material, manufactured for its intended use, and installed according to manufacturer's specifications.

7 These options shall be applicable to buildings less than three stories.

8 Doors, including all fire doors, shall be assigned default U-factor~~U-values~~ from Table 10-6C or 10-6D.

9. Where a maximum glazing area is listed, the total glazing area (combined vertical plus overhead) as a percent of gross conditioned floor area shall be less than or equal to that value. For all options, the total overhead glazing area shall not exceed 5% of the gross conditioned floor area. Overhead glazing with U-factor of U=0.040 or less is not included in glazing area calculations.

10. Overhead glazing shall have U-factors determined in accordance with NFRC 100 or as specified in Section 502.1.5.

AMENDATORY SECTION (Amending WSR 95-01-126, filed 12/21/94, effective 6/30/95)

**WAC 51-11-0630 Table 6-6.**

PROPOSED

~~TABLE 6-6~~
~~LOG HOMES PRESCRIPTIVE REQUIREMENTS[1]~~
~~HEATING BY OTHER FUELS~~

~~Climate Zone 1~~

| ~~Option~~ | ~~HVAC[9] Equip. Effic.~~ | ~~Glazing % Floor Area~~ | ~~Glazing U-Value~~ | ~~Doors[10] U-Value~~ | ~~Ceiling[2]~~ | ~~Vaulted Ceiling[3]~~ | ~~Wall Above Grade 11~~ | ~~Wall int[4] Below Grade~~ | ~~Wall ext[4] Below Grade~~ | ~~Floor[5]~~ | ~~Slab[6] on Grade~~ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ~~I.~~ | ~~Med.~~ | ~~10%~~ | ~~0.70~~ | ~~0.40~~ | ~~R-30~~ | ~~R-30~~ | ~~R-15~~ | ~~R-15~~ | ~~R-10~~ | ~~R-19~~ | ~~R-10~~ |
| ~~II.~~ | ~~Med.~~ | ~~12%~~ | ~~0.65~~ | ~~0.40~~ | ~~R-30~~ | ~~R-30~~ | ~~R-15~~ | ~~R-15~~ | ~~R-10~~ | ~~R-19~~ | ~~R-10~~ |
| ~~III.~~ | ~~High~~ | ~~21%~~ | ~~0.75~~ | ~~0.40~~ | ~~R-30~~ | ~~R-30~~ | ~~R-19~~ | ~~R-19~~ | ~~R-10~~ | ~~R-19~~ | ~~R-10~~ |
| ~~IV.*~~ | ~~Med.~~ | ~~21%~~ | ~~0.65~~ | ~~0.40~~ | ~~R-30~~ | ~~R-30~~ | ~~R-19~~ | ~~R-19~~ | ~~R-10~~ | ~~R-19~~ | ~~R-10~~ |
| ~~V.~~ | ~~Low~~ | ~~21%~~ | ~~0.60~~ | ~~0.40~~ | ~~R-30~~ | ~~R-30~~ | ~~R-19~~ | ~~R-19~~ | ~~R-10~~ | ~~R-19~~ | ~~R-10~~ |
| ~~VI.[7]~~ | ~~Med.~~ | ~~25%~~ | ~~0.45[7]~~ | ~~0.40~~ | ~~R-38~~ | ~~R-30~~ | ~~R-19~~ | ~~R-19~~ | ~~R-10~~ | ~~R-25~~ | ~~R-10~~ |
| ~~VII.[7]~~ | ~~Med.~~ | ~~30%~~ | ~~0.40[7]~~ | ~~0.40~~ | ~~R-30~~ | ~~R-30~~ | ~~R-19~~ | ~~R-19~~ | ~~R-10~~ | ~~R-25~~ | ~~R-10~~ |

~~Climate Zone 2~~

| ~~Option~~ | ~~HVAC[9] Equip. Effic.~~ | ~~Glazing % Floor Area~~ | ~~Glazing U-Value~~ | ~~Doors[10] U-Value~~ | ~~Ceiling[2]~~ | ~~Vaulted Ceiling[3]~~ | ~~Wall Above Grade 11~~ | ~~Wall int[4] Below Grade~~ | ~~Wall ext[4] Below Grade~~ | ~~Floor[5]~~ | ~~Slab[6] on Grade~~ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ~~I.~~ | ~~Med.~~ | ~~10%~~ | ~~0.70~~ | ~~0.40~~ | ~~R-38~~ | ~~R-30~~ | ~~R-19~~ | ~~R-19~~ | ~~R-12~~ | ~~R-25~~ | ~~R-10~~ |
| ~~II.~~ | ~~Med.~~ | ~~12%~~ | ~~0.65~~ | ~~0.40~~ | ~~R-38~~ | ~~R-30~~ | ~~R-19~~ | ~~R-19~~ | ~~R-12~~ | ~~R-25~~ | ~~R-10~~ |
| ~~III.~~ | ~~High~~ | ~~17%~~ | ~~0.65~~ | ~~0.40~~ | ~~R-38~~ | ~~R-30~~ | ~~R-19~~ | ~~R-19~~ | ~~R-12~~ | ~~R-25~~ | ~~R-10~~ |
| ~~IV.*~~ | ~~Med.~~ | ~~17%~~ | ~~0.60~~ | ~~0.40~~ | ~~R-38~~ | ~~R-30~~ | ~~R-19~~ | ~~R-19~~ | ~~R-12~~ | ~~R-30~~ | ~~R-10~~ |
| ~~V.~~ | ~~Low~~ | ~~17%~~ | ~~0.50~~ | ~~0.40~~ | ~~R-38~~ | ~~R-30~~ | ~~R-19~~ | ~~R-19~~ | ~~R-12~~ | ~~R-30~~ | ~~R-10~~ |
| ~~VI.~~ | ~~Med.~~ | ~~21%~~ | ~~0.50~~ | ~~0.40~~ | ~~R-38~~ | ~~R-30~~ | ~~R-19~~ | ~~R-19~~ | ~~R-12~~ | ~~R-30~~ | ~~R-10~~ |
| ~~VII.~~ | ~~Med.~~ | ~~25%~~ | ~~0.40[8]~~ | ~~0.40~~ | ~~R-38~~ | ~~R-30~~ | ~~R-19~~ | ~~R-19~~ | ~~R-12~~ | ~~R-30~~ | ~~R-10~~ |
| ~~VIII.~~ | ~~Med.~~ | ~~30%~~ | ~~0.40[8]~~ | ~~0.40~~ | ~~R-38~~ | ~~R-30~~ | ~~R-19~~ | ~~R-19~~ | ~~R-12~~ | ~~R-30~~ | ~~R-10~~ |

~~* Reference Case~~

~~1 Minimum requirements for each option listed. For example, if a proposed design has a glazing ratio to the conditioned floor area of 19%, it shall comply with all of the requirements of the 21% glazing option (or higher). Proposed designs which cannot meet the specific requirements of a listed option above may calculate compliance by Chapters 4 or 5 of this Code.~~

~~2 Requirement applies to all ceilings except single rafter or joist vaulted ceilings. 'Adv' denotes Advanced Framed Ceiling.~~

~~3 Requirement applicable only to single rafter or joist vaulted ceilings.~~

~~4 Below grade walls shall be insulated either on the exterior to a minimum level of R-10, or on the interior to the same level as walls above grade. Exterior insulation installed on below grade walls shall be a water resistant material, manufactured for its intended use, and installed according to the manufacturer's specifications. See Section 602.2.~~

~~5 Floors over crawl spaces or exposed to ambient air conditions.~~

~~6 Required slab perimeter insulation shall be a water resistant material, manufactured for its intended use, and installed according to manufacturer's specifications. See Section 602.4.~~

~~7 The following options shall be applicable to buildings less than three stories: 0.50 maximum for glazing areas of 25% or less; 0.45 maximum for glazing areas of 30% or less.~~

~~8 The following options shall be applicable to buildings less than three stories: 0.45 maximum for glazing areas of 25% or less; 0.40 maximum for glazing areas of 30% or less.~~

~~9 Minimum HVAC Equipment efficiency requirement. 'Low' denotes an AFUE of 0.74. 'Med.' denotes an AFUE of 0.78. 'High' denotes an AFUE of 0.88. Minimum HVAC Equipment efficiency requirement for heat pumps. 'Low' denotes an HSPF of 6.35. 'Med' denotes an HSPF of 6.8. 'High' an HSPF of 7.7. Water and ground source heat pumps shall be considered as medium efficiency and have a minimum COP as required in Table 5-7.~~

~~10 Doors, including all fire doors, shall be assigned default U-values from Table 10-6C or 10-6D.~~

~~11 Log and solid timber walls with a minimum average thickness of 3.5" are exempt from this insulation requirement.~~

PROPOSED

## TABLE 6-6
## LOG HOMES PRESCRIPTIVE REQUIREMENTS[1]
## HEATING BY OTHER FUELS

| Option | HVAC[9] Equip. Effic. | Glazing Area[12]: % of Floor ~~Area~~ | Vertical Glazing U-Factor ~~Value~~ | Overhead Glazing U-Factor[13] | Doors[10] U-Factor ~~Value~~ | Ceiling[2] | Vaulted Ceiling[3] | Wall[11] Above Grade | Wall• int[4] Below Grade | Wall• ext[4] Below Grade | Floor[5] | Slab[6] on Grade |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Climate Zone 1 | | | | | | | | | | | | |
| I. | Med. | 10% | 0.70 | 0.70 | 0.40 | R-30 | R-30 | R-15 | R-15 | R-10 | R-19 | R-10 |
| II. | Med. | 12% | 0.65 | 0.70 | 0.40 | R-30 | R-30 | R-15 | R-15 | R-10 | R-19 | R-10 |
| III. | High | 21% | 0.75 | 0.70 | 0.40 | R-30 | R-30 | R-19 | R-19 | R-10 | R-19 | R-10 |
| IV.* | Med. | 21% | 0.65 | 0.70 | 0.40 | R-30 | R-30 | R-19 | R-19 | R-10 | R-19 | R-10 |
| V. | Low | 21% | 0.60 | 0.70 | 0.40 | R-30 | R-30 | R-19 | R-19 | R-10 | R-19 | R-10 |
| VI.[7] | Med. | 25% | 0.45[7] | 0.70 | 0.40 | R-38 | R-30 | R-19 | R-19 | R-10 | R-25 | R-10 |
| VII.[7] | Med. | 30% | 0.40[7] | 0.70 | 0.40 | R-30 | R-30 | R-19 | R-19 | R-10 | R-25 | R-10 |
| VIII. | Med. | unlimited | 0.25 | 0.40 | 0.40 | R-30 | R-30 | R-19 | R-19 | R-10 | R-25 | R-10 |
| Climate Zone 2 | | | | | | | | | | | | |
| I. | Med. | 10% | 0.70 | 0.70 | 0.40 | R-38 | R-30 | R-19 | R-19 | R-12 | R-25 | R-10 |
| II. | Med. | 12% | 0.65 | 0.70 | 0.40 | R-38 | R-30 | R-19 | R-19 | R-12 | R-25 | R-10 |
| III. | High | 17% | 0.65 | 0.70 | 0.40 | R-38 | R-30 | R-19 | R-19 | R-12 | R-25 | R-10 |
| IV.* | Med. | 17% | 0.60 | 0.70 | 0.40 | R-38 | R-30 | R-19 | R-19 | R-12 | R-30 | R-10 |
| V. | Low | 17% | 0.50 | 0.70 | 0.40 | R-38 | R-30 | R-19 | R-19 | R-12 | R-30 | R-10 |
| VI. | Med. | 21% | 0.50 | 0.70 | 0.40 | R-38 | R-30 | R-19 | R-19 | R-12 | R-30 | R-10 |
| VII. | Med. | 25% | 0.40[8] | 0.70 | 0.40 | R-38 | R-30 | R-19 | R-19 | R-12 | R-30 | R-10 |
| VIII. | Med. | 30% | 0.40[8] | 0.70 | 0.40 | R-38 | R-30 | R-19 | R-19 | R-12 | R-30 | R-10 |
| IX. | Med. | unlimited | 0.25 | 0.40 | 0.40 | R-38 | R-30 | R-19 | R-19 | R-12 | R-30 | R-10 |

* Reference Case

1 Minimum requirements for each option listed. For example, if a proposed design has a glazing ratio to the conditioned floor area of 19%, it shall comply with all of the requirements of the 21% glazing option (or higher). Proposed designs which cannot meet the specific requirements of a listed option above may calculate compliance by Chapters 4 or 5 of this Code.

2 Requirement applies to all ceilings except single rafter or joist vaulted ceilings. 'Adv' denotes Advanced Framed Ceiling.

3 Requirement applicable only to single rafter or joist vaulted ceilings.

4 Below grade walls shall be insulated either on the exterior to a minimum level of R-10, or on the interior to the same level as walls above grade. Exterior insulation installed on below grade walls shall be a water resistant material, manufactured for its intended use, and installed according to the manufacturer's specifications. See Section 602.2.

5 Floors over crawl spaces or exposed to ambient air conditions.

6 Required slab perimeter insulation shall be a water resistant material, manufactured for its intended use, and installed according to manufacturer's specifications. See Section 602.4.

7 The following options shall be applicable to buildings less than three stories: 0.50 maximum for glazing areas of 25% or less; 0.45 maximum for glazing areas of 30% or less.

8 The following options shall be applicable to buildings less than three stories: 0.45 maximum for glazing areas of 25% or less; 0.40 maximum for glazing areas of 30% or less.

9 Minimum HVAC Equipment efficiency requirement. 'Low' denotes an AFUE of 0.74. 'Med.' denotes an AFUE of 0.78. 'High' denotes an AFUE of 0.88. Minimum HVAC Equipment efficiency requirement for heat pumps. 'Low' denotes an HSPF of 6.35. 'Med' denotes an HSPF of 6.8. 'High' an HSPF of 7.7. Water and ground source heat pumps shall be considered as medium efficiency and have a minimum COP as required in Table 5-7.

10 Doors, including all fire doors, shall be assigned default U-factor~~U-values~~ from Table 10-6C or 10-6D.

11 Log and solid timber walls with a minimum average thickness of 3.5" are exempt from this insulation requirement.

12. Where a maximum glazing area is listed, the total glazing area (combined vertical plus overhead) as a percent of gross conditioned floor area shall be less than or equal to that value. For all options, the total overhead glazing area shall not exceed 5% of the gross conditioned floor area. Overhead glazing with U-factor of U=0.040 or less is not included in glazing area calculations.

13. Overhead glazing shall have U-factors determined in accordance with NFRC 100 or as specified in Section 502.1.5.

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AMENDATORY SECTION (Amending WSR 91-01-112, filed 12/19/90, effective 7/1/91)

**WAC 51-11-0701 Standards.** The standards and portions thereof, which are referred to in various parts of this Code shall be part of the Washington State Energy Code and are hereby declared to be a part of this Code.

| CODE STANDARD NO. | TITLE AND SOURCE |
|---|---|
| RS-1 | ((~~1989~~)) 1997 ASHRAE ((~~Handbook of~~)) Fundamentals Handbook |

((~~RS-2~~ ~~Standard Method of Test for Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors, Specification E283-84 of ASTM.~~

~~Specifications for Aluminum Windows, ANSI A134.1, 1972.~~

~~Specifications for Aluminum Sliding Glass Doors, ANSI A134.2, 1972.~~

~~Industry Standard for Wood Window Units, NWWDA IS-2-87, Industry Standard for Wood Sliding Patio Doors, NWWDA IS-3-88.~~

~~RS-2B~~ ~~AAMA 1503.1-88, 1988 Voluntary Test Method for Thermal transmittance of windows, doors and glazed wall sections.~~

~~RS-2C~~ ~~ASTM C236-87 test for thermal conductance and transmittance of built-up sections by means of a guarded hot box; and ASTM C976-82 thermal performance of building assemblies by means of the calibrated hot box.~~

~~RS-3~~ ~~ASHRAE Standard 62-89 Ventilation for Acceptable Indoor Air Quality.~~))

RS-2 through RS-3 (Reserved.)

RS-4 ASHRAE Standard ((~~55-81~~)) 55-92 Thermal Environmental Conditions for Human Occupancy.

((~~RS-5~~ ~~DOE Test Procedures for Water Heaters, 10 CFR Part 430 Appendix E to Subpart B.~~

~~RS-6~~ ~~Household Automatic Electric Storage-Type Water Heaters, ANSI C72.1-1972.~~

~~RS-7~~ ~~Gas Water Heaters, Volume III, Circulating Tank, Instantaneous and Large Automatic Storage Type Water Heaters, ANSI Z21.10.3, 1974.~~

~~RS-8~~ ~~IES Lighting Handbook, Illuminating Engineering Society, 1984 Reference Volume, 1987 Application Volume.~~))

RS-5 through RS-8 (Reserved.)

RS-9 ASHRAE Standard 90.1-1989, Efficient Design of New Buildings Except New Low-Rise Residential Buildings.

RS-10 Standard for Packaged Terminal Air Conditioners and Heat Pumps, ARI Standard ((~~310-90~~)) 310/380-93.

RS-11 ((~~1987~~)) 1995 ASHRAE HVAC Systems and Applications Handbook.

((~~RS-12~~ ~~Energy Calculations I: Procedures for Determining Heating and Cooling Loads for Computerizing Energy Calculations - Algorithms for Building Heat Transfer Subsystems, ASHRAE 1975.~~

~~RS-13~~ ~~Energy Calculations II: Procedures for Simulating the Performance of Components and Systems for Energy Calculations, 3rd Edition, ASHRAE 1975.~~

~~RS-14~~ ~~Standard for Positive Displacement Refrigerant Compressor and Condensing Units, ARI Standard 520-74.~~))

RS-12 through RS-14 (Reserved.)

RS-15 ((~~1988~~)) 1996 ASHRAE System and Equipment Handbook.

RS-16 SMACNA, Installation Standards for Residential Heating and Air Conditioning Systems((~~—Installation Standards, SMACNA, February, 1977~~)), 6th Edition, 1988.

RS-17 SMACNA, HVAC Duct Construction Standards Metal and Flexible ((~~Construction Standards, 1st Edition, Washington, D.C., 1985~~)), 2nd Edition, 1995.

RS-18 Same as Standard RS-17.

RS-19 SMACNA, Fibrous Glass Duct Construction Standards, 6th Edition, ((~~Washington, D.C., 1990~~)) 1992.

RS-20 ((~~1990~~)) 1994 ASHRAE Refrigeration ((~~Volume~~)) Handbook.

RS-21 ((~~Standard for Package Terminal Heat Pumps, ARI Standard 380-90.~~)) Same as Standard RS-10.

((~~RS-22~~ ~~ASTM E779-87 Standard practice for measuring air leakage by the fan pressurization method.~~

~~RS-23~~ ~~ASTM E741 Standard practice for measuring air leakage by the tracer dilution method.~~

~~RS-24~~ ~~Standard 24 CFR Part 3280 HUD.~~))

RS-22 through RS-24 (Reserved.)

RS-25 Thermal Bridge in Sheet Metal Construction from Appendix E of Standard RS-9.

RS-26 Super Good Cents Technical Reference.

ACCREDITED AUTHORITATIVE AGENCIES

AAMA refers to the American Architectural Manufacturers Association, ((~~35 East Wacker Drive, Chicago, IL 60601~~)) 1827 Walden Office Square, Suite 104, Schaumburg, ILL 60173-4268
Phone (847) 303-5664 Fax (847) 303-5774, Internet www.aamanet.org

ANSI refers to the American National Standards Institute, Inc., ((~~1430 Broadway,~~)) 11 West 42nd Street, New York, NY ((~~10018~~)) 10036
Phone (212) 642-4900 Fax (212) 398-0023, Internet www.ansi.org

ARI refers to the Air Conditioning and Refrigeration Institute, ((~~1815 North Fort Myer Drive~~)) 4301 N. Fairfax Dr., Suite 425, Arlington, VA ((~~22209~~)) 22203
Phone (703) 524-8800 Fax (703) 528-3816, Internet www.ari.org

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ASHRAE refers to the American Society of Heating, Refrigerating, and Air Conditioning Engineers, Inc., 1791 Tullie Circle, N.E., Atlanta, GA 30329
Phone (404) 636-8400 Fax (404) 321-5478, Internet www.-ashrae.org

ASTM refers to the American Society for Testing and Materials, ((~~1916 Race Street, Philadelphia, PA 19103~~)) 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959
Phone (610) 832-9585 Fax (610) 832-9555, Internet www.-astm.org

IES refers to the Illuminating Engineering Society, ((~~345 East 47th Street~~)) 120 Wall Street, Floor 17, New York, NY ((~~10017~~)) 10005-4001
Phone (212) 248-5000 Fax (212) 248-5017, Internet www.-ies.org

((~~NESCA refers to the National Environmental System Contractors Association, 1501 Wilson Blvd., Arlington, VA 22209~~))

NFRC refers to the National Fenestration Rating Council, Incorporated, 1300 Spring Street, Suite 120, Silver Spring, Maryland 20910
Phone (301) 589-NFRC Fax (301) 588-0854, Internet www.nfrc.org

NWWDA refers to the National Wood Window and Door Association, 1400 East Toughy Avenue, Suite ((~~G-54~~)) 470, Des Plaines, IL 60018
Phone (800) 223-2301 Fax (847) 299-1286, Internet www.-nwwda.org

SMACNA refers to the Sheet Metal and Air Conditioning Contractors National Association, Inc., ((~~8224 Old Courthouse Rd., Tysons Corner, Vienna, VA 22180~~)) 4201 Lafayette Center Drive, P.O. Box 221230, Chantilly, VA 20153-1230
Phone (703) 803-2980 Fax (703) 803-3732, Internet www.smacna.org

AMENDATORY SECTION (Amending WSR 91-01-112, filed 12/19/90, effective 7/1/91)

**WAC 51-11-0800 Section 0800—Suggested software for chapter 4 systems analysis approach for Group R occupancy.**

| Program Name: | Source |
|---|---|
| CALPAS 3 | ((~~BERKELEY SOLAR GROUP 455 Santa Clara Ave. Oakland, CA 94610 (415) 843-7600~~ |
| ~~DATACAL~~ | ~~SUNRISE ENERGY, INC. 5708 43rd Ave E. Tacoma, WA 98443 (206) 922-5218~~ |
| ~~DOE 2~~ | ~~ACROSOFT INTERNATIONAL, INC. 9745 E. Hampten Ave. Suite 230 Denver, CO 80231 (303) 368-9225~~)) BSG Software 40 Lincoln Street Lexington, Mass 02173 (617) 861-0109 |
| F-LOAD | F-CHART SOFTWARE 4406 Fox Bluff Rd. Middleton, WI 53562 ((~~(608) 836-8536~~)) (608) 836-8531 |
| MICROPAS | ENERCOMP ((~~123 C Street Davis, CA 95616 (916) 753-3400~~)) 1721 Arroyo Drive Auburn, CA 95603 (800) 755-5903 |
| SUNDAY | ECOTOPE 2812 East Madison St. Seattle, WA 98112 (206) 322-3753 |
| WATTSUN 5 | ((~~WSEO 809 Legion Way S.E. Olympia, WA 98504 Attn: Hank Date (360) 956-2031~~)) WSU Extension 925 Plum Street Building 4 Olympia, WA 98504-3165 (360) 956-2000 |

AMENDATORY SECTION (Amending WSR 91-01-112, filed 12/19/90, effective 7/1/91)

**WAC 51-11-1002 Section 1002: Below grade walls and slabs.**

1002.1 General: Table 10-1 lists heat-loss coefficients for below-grade walls and floors.

Coefficients for below-grade walls are given as ((~~U-values~~)) U-factors (((~~Btu/°F•hr~~)) Btu/hr•°F per square foot of wall area). Coefficients for below-grade slabs are listed as ((~~F-values~~)) F-factors (((~~Btu/°F•hr~~)) Btu/hr•°F per lineal foot of slab perimeter).

Below-grade wall ((~~U-values~~)) U-factors are only valid when used with the accompanying below-grade slab ((~~F-value~~)) F-factor, and vice versa.

1002.2 Component Description: All below-grade walls are assumed to be eight-inch concrete. The wall is assumed to extend from the slab upward to the top of the mud sill for the distance specified in Table 10-1, with six inches of concrete wall extending above grade.

Interior insulation is assumed to be fiberglass batts placed in the cavity formed by 2x4 framing on twenty-four inch centers with one-half inch of gypsum board as the interior finish material. Exterior insulation is assumed to be applied directly to the exterior of the below-grade wall from the top of the wall to the footing. The exterior case does not assume any interior framing or sheetrock.

In all cases, the entire wall surface is assumed to be insulated to the indicated nominal level with the appropriate framing and insulation application. Coefficients are listed

for wall depths of two, three and one-half, and seven feet below grade. Basements shallower than two feet should use on-grade slab coefficients.

Heat-loss calculations for wall areas above grade should use above-grade wall ((~~U-values~~)) U-factors, beginning at the mudsill.

1002.3 Insulation Description: Coefficients are listed for the following four configurations:

1. Uninsulated: No insulation or interior finish.

2. Interior insulation: Interior 2x4 insulated wall without a thermal break between concrete wall and slab.

3. Interior insulation w/thermal break: Interior 2x4 insulated wall with R-5 rigid board providing a thermal break between the concrete wall and the slab.

4. Exterior insulation: Insulation applied directly to the exterior surface of the concrete wall.

PROPOSED

~~TABLE 10-1~~
~~DEFAULT WALL U-VALUES AND SLAB F-VALUES FOR BASEMENTS~~

| | ~~Below Grade Wall U-value~~ | ~~Below Grade Slab F-value~~ |
|---|---|---|
| ~~2-Foot Depth Below Grade~~ | | |
| ~~Uninsulated~~ | ~~0.350~~ | ~~0.59~~ |
| ~~R-11 Interior~~ | ~~0.066~~ | ~~0.68~~ |
| ~~R-11 Interior w/tb~~ | ~~0.070~~ | ~~0.60~~ |
| ~~R-19 Interior~~ | ~~0.043~~ | ~~0.69~~ |
| ~~R-19 Interior w/tb~~ | ~~0.045~~ | ~~0.61~~ |
| ~~R-10 Exterior~~ | ~~0.070~~ | ~~0.60~~ |
| ~~R-12 Exterior~~ | ~~0.061~~ | ~~0.60~~ |
| | | |
| ~~3.5-Foot Depth Below Grade~~ | | |
| ~~Uninsulated~~ | ~~0.278~~ | ~~0.53~~ |
| ~~R-11 Interior~~ | ~~0.062~~ | ~~0.63~~ |
| ~~R-11 Interior w/tb~~ | ~~0.064~~ | ~~0.57~~ |
| ~~R-19 Interior~~ | ~~0.041~~ | ~~0.64~~ |
| ~~R-19 Interior w/tb~~ | ~~0.042~~ | ~~0.57~~ |
| ~~R-10 Exterior~~ | ~~0.064~~ | ~~0.57~~ |
| ~~R-12 Exterior~~ | ~~0.057~~ | ~~0.57~~ |
| | | |
| ~~7-Foot Depth Below Grade~~ | | |
| ~~Uninsulated~~ | ~~0.193~~ | ~~0.46~~ |
| ~~R-11 Interior~~ | ~~0.054~~ | ~~0.56~~ |
| ~~R-11 Interior w/tb~~ | ~~0.056~~ | ~~0.42~~ |
| ~~R-19 Interior~~ | ~~0.037~~ | ~~0.57~~ |
| ~~R-19 Interior w/tb~~ | ~~0.038~~ | ~~0.43~~ |
| ~~R-10 Exterior~~ | ~~0.056~~ | ~~0.42~~ |
| ~~R-12 Exterior~~ | ~~0.050~~ | ~~0.42~~ |

PROPOSED

## TABLE 10-1
## DEFAULT WALL U-FACTOR~~U-VALUES~~ AND SLAB F-FACTOR~~F-VALUES~~ FOR BASEMENTS

| | Below Grade Wall U-factor~~U-value~~ | Below Grade Slab F-factor~~F-value~~ |
|---|---|---|
| **2-Foot Depth Below Grade** | | |
| Uninsulated | 0.350 | 0.59 |
| R-11 Interior | 0.066 | 0.68 |
| R-11 Interior w/tb | 0.070 | 0.60 |
| R-19 Interior | 0.043 | 0.69 |
| R-19 Interior w/tb | 0.045 | 0.61 |
| R-10 Exterior | 0.070 | 0.60 |
| R-12 Exterior | 0.061 | 0.60 |
| | | |
| **3.5-Foot Depth Below Grade** | | |
| Uninsulated | 0.278 | 0.53 |
| R-11 Interior | 0.062 | 0.63 |
| R-11 Interior w/tb | 0.064 | 0.57 |
| R-19 Interior | 0.041 | 0.64 |
| R-19 Interior w/tb | 0.042 | 0.57 |
| R-10 Exterior | 0.064 | 0.57 |
| R-12 Exterior | 0.057 | 0.57 |
| | | |
| **7-Foot Depth Below Grade** | | |
| Uninsulated | 0.193 | 0.46 |
| R-11 Interior | 0.054 | 0.56 |
| R-11 Interior w/tb | 0.056 | 0.42 |
| R-19 Interior | 0.037 | 0.57 |
| R-19 Interior w/tb | 0.038 | 0.43 |
| R-10 Exterior | 0.056 | 0.42 |
| R-12 Exterior | 0.050 | 0.42 |

AMENDATORY SECTION (Amending WSR 91-01-112, filed 12/19/90, effective 7/1/91)

**WAC 51-11-1003 Section 1003: On-grade slab floors.**

1003.1 General: Table 10-2 lists heat-loss coefficients for heated on-grade slab floors, in units of Btu/°F●hr per lineal foot of perimeter.

1003.2 Component Description: All on-grade slab floors are assumed to be six-inch concrete poured directly onto the earth. The bottom of the slab is assumed to be at grade line. Monolithic and floating slabs are not differentiated.

Soil is assumed to have a conductivity of 0.75 Btu/hr●°F●ft$^2$. Slabs two-feet or more below grade should use basement coefficients.

1003.3 Insulation Description: Coefficients are provided for the following three configurations:

Two-Foot (or four-foot) vertical: Insulation is applied directly to the slab exterior, extending downward from the top of the slab to a depth of two-feet (or four-feet) below grade.

Two-Foot (or four-foot) horizontal: Insulation is applied directly to the underside of the slab, and run horizontally from the perimeter inward for two-feet (or four-feet). The slab edge is exposed in this configuration.

Note: A horizontal installation with a thermal break of at least R-5 at the slab edge should use the vertical-case ((~~F-values~~)) F-factors.

Fully insulated slab: Insulation extends from the top of the slab, along the entire perimeter, and completely covers the area under the slab.

PROPOSED

~~TABLE 10-2~~
~~DEFAULT F-VALUES FOR ON-GRADE SLABS~~

| ~~Insulation type~~ | ~~R-0~~ | ~~R-5~~ | ~~R-10~~ | ~~R-15~~ |
|---|---|---|---|---|
| | | ~~Unheated Slab~~ | | |
| ~~Uninsulated slab~~ | ~~0.73~~ | — | — | — |
| ~~2-ft Horizontal (No thermal break)~~ | — | ~~0.70~~ | ~~0.70~~ | ~~0.69~~ |
| ~~4-ft Horizontal (No thermal break)~~ | — | ~~0.67~~ | ~~0.64~~ | ~~0.63~~ |
| ~~2-ft Vertical~~ | — | ~~0.58~~ | ~~0.54~~ | ~~0.52~~ |
| ~~4-ft Vertical~~ | — | ~~0.54~~ | ~~0.48~~ | ~~0.45~~ |
| ~~Fully insulated slab~~ | — | — | ~~0.36~~ | — |
| | | ~~Heated Slab~~ | | |
| ~~Uninsulated slab~~ | ~~0.84~~ | — | — | — |
| ~~Fully insulated slab~~ | — | ~~0.74~~ | ~~0.55~~ | ~~0.44~~ |
| ~~R-5 Center (With perimeter insulation)~~ | — | — | ~~0.66~~ | ~~0.62~~ |
| ~~R-10 Center (With perimeter insulation)~~ | — | — | — | ~~0.51~~ |
| ~~3-ft Vertical~~ | — | — | ~~0.78~~ | — |

PROPOSED

## TABLE 10-2
## DEFAULT F-FACTORS ~~F-VALUES~~ FOR ON-GRADE SLABS

| Insulation type | R-0 | R-5 | R-10 | R-15 |
|---|---|---|---|---|
| **Unheated Slab** | | | | |
| Uninsulated slab | 0.73 | -- | -- | -- |
| 2-ft Horizontal (No thermal break) | -- | 0.70 | 0.70 | 0.69 |
| 4-ft Horizontal (No thermal break) | -- | 0.67 | 0.64 | 0.63 |
| 2-ft Vertical | -- | 0.58 | 0.54 | 0.52 |
| 4-ft Vertical | -- | 0.54 | 0.48 | 0.45 |
| Fully insulated slab | -- | -- | 0.36 | -- |
| **Heated Slab** | | | | |
| Uninsulated slab | 0.84 | -- | -- | -- |
| Fully insulated slab | -- | 0.74 | 0.55 | 0.44 |
| R-5 Center (With perimeter insulation) | -- | -- | 0.66 | 0.62 |
| R-10 Center (With perimeter insulation) | -- | -- | -- | 0.51 |
| 3-ft Vertical | -- | -- | 0.78 | -- |

**Reviser's note:** RCW 34.05.395 requires the use of underlining and deletion marks to indicate amendments to existing rules. The rule published above varies from its predecessor in certain respects not indicated by the use of these markings.

AMENDATORY SECTION (Amending WSR 91-01-112, filed 12/19/90, effective 7/1/91)

**WAC 51-11-1004 Section 1004: Crawlspace floors.**

1004.1 General: Tables 10-3 and 10-4 list heat-loss coefficients for floors over crawlspaces in units of Btu/°F•hr per square foot of floor.

They are derived from procedures listed in RS-1, listed in Chapter 7, assuming an average outdoor temperature of 45° F, an average indoor temperature of 65° F, and a crawlspace area of one thousand three hundred fifty $ft^2$ and one hundred fifty ft of perimeter. The crawlspace is assumed to be 2.5-feet high, with twenty-four inches below grade and six inches above grade.

1004.2 Crawlspace Description: Four crawlspace configurations are considered: Vented, unvented, enclosed and heated plenum.

Vented crawlspaces: Assumed to have three air-changes per hour, with at least one $ft^2$ of net-free ventilation in the foundation for every three hundred $ft^2$ of crawlspace floor area. The crawlspace is not actively heated.

Floors over unheated areas, such as garages, may only use those values which have R-0 perimeter insulation.

Unvented crawlspaces: Assumed to have 1.5 air changes per hour, with less than one $ft^2$ of net-free ventilation in the foundation for every three hundred $ft^2$ of crawlspace floor area. The crawlspace is not actively heated. Floors over unheated basements may only use those values which have R-0 perimeter insulation.

Heated-plenum crawlspaces: Assumed to have 0.25 air-changes per hour, with no foundation vents. Heated supply air from central furnace is blown into a crawlspace and allowed to enter the living space unducted via holes cut into the floor.

Enclosed floors: Assumes no buffer space, and a covering of one-half inch of T1-11 on the exterior of the cavity exposed to the outside air.

1004.3 Construction Description: Floors are assumed to be either joisted floors framed on sixteen inch centers, or post and beam on four by eight foot squares. Insulation is assumed to be installed under the subflooring between the joists or beams with no space between the insulation and the subfloor. Insulation is assumed to be uncompressed.

Perimeter insulation is assumed to extend from the top of the rim joist to the crawlspace floor and then inward along the ground (on top of the ground cover) for at least twenty-four inches.

Floor coverings are assumed to be light carpet with rubber pad.

PROPOSED

~~TABLE 10-3~~

~~DEFAULT U-VALUES FOR FLOORS OVER VENTED CRAWLSPACE OR UNHEATED BASEMENT~~

| Nominal R-value | | U-value | |
|---|---|---|---|
| Floor | Perimeter | Post & Beam | Joists |
| 0 | 0 | 0.112 | 0.134 |
| | 11 | 0.100 | 0.116 |
| | 19 | 0.098 | 0.114 |
| | 30 | 0.093 | 0.107 |
| 11 | 0 | 0.052 | 0.056 |
| | 11 | 0.048 | 0.052 |
| 19 | 0 | 0.038 | 0.041 |
| | 11 | 0.036 | 0.038 |
| 22 | 0 | 0.034 | 0.037 |
| | 11 | 0.033 | 0.035 |
| 25 | 0 | 0.032 | 0.034 |
| | 11 | 0.031 | 0.033 |
| 30 | 0 | 0.028 | 0.029 |
| | 11 | 0.027 | 0.028 |
| 38 | 0 | 0.024 | 0.025 |
| | 11 | 0.024 | 0.024 |

~~TABLE 10-4~~

~~DEFAULT U-VALUES FOR FLOORS OVER HEATED PLENUM CRAWLSPACES~~

| Nominal R-valuePerimeter | U-value |
|---|---|
| 11 | 0.085 |
| 19 | 0.075 |
| 30 | 0.069 |

PROPOSED

## TABLE 10-3
## DEFAULT U-FACTOR~~U-VALUES~~ FOR FLOORS OVER VENTED CRAWLSPACE OR UNHEATED BASEMENT

| Nominal R-value | | U-factor~~U-value~~ | |
|---|---|---|---|
| Floor | Perimeter | Post & Beam | Joists |
| 0 | 0 | 0.112 | 0.134 |
| | 11 | 0.100 | 0.116 |
| | 19 | 0.098 | 0.114 |
| | 30 | 0.093 | 0.107 |
| 11 | 0 | 0.052 | 0.056 |
| | 11 | 0.048 | 0.052 |
| 19 | 0 | 0.038 | 0.041 |
| | 11 | 0.036 | 0.038 |
| 22 | 0 | 0.034 | 0.037 |
| | 11 | 0.033 | 0.035 |
| 25 | 0 | 0.032 | 0.034 |
| | 11 | 0.031 | 0.033 |
| 30 | 0 | 0.028 | 0.029 |
| | 11 | 0.027 | 0.028 |
| 38 | 0 | 0.024 | 0.025 |
| | 11 | 0.024 | 0.024 |

## TABLE 10-4
## DEFAULT U-FACTOR~~U-VALUES~~ FOR FLOORS OVER HEATED PLENUM CRAWLSPACES

| Nominal R-value | U-factor | | |
|---|---|---|---|
| | Concrete | Wood Joist | Metal Joist |
| R-11 | 0.077 | 0.088 | 0.14 |
| R-15 | 0.059 | 0.076 | 0.12 |
| R-19 | 0.048 | 0.062 | 0.11 |
| R-21 | 0.043 | 0.057 | 0.11 |
| R-25 | 0.037 | 0.051 | 0.10 |
| R-30 | 0.031 | 0.040 | 0.09 |
| R-38 | 0.025 | 0.034 | 0.08 |

**Note:** Crawlspaces used as heated plenums have approximately 30% higher heat loss rate than unvented crawlspaces with the same assumed ACH. Default U-factor~~U-values~~ in Table 10-4 reflect this higher rate of heat loss.

AMENDATORY SECTION (Amending WSR 91-01-112, filed 12/19/90, effective 7/1/91)

**WAC 51-11-1005 Section 1005: Above-grade walls.**

Section 1005.1 General: Table 10-5 lists heat-loss coefficients for the opaque portion of above-grade walls (Btu/°F●hr per square foot). They are derived from procedures listed in RS-1, listed in Chapter 7, assuming exterior air films at 7.5-mph wind speed.

Insulation is assumed to uniformly fill the entire cavity and to be installed as per manufacturer's directions. All walls are assumed to be finished on the inside with one-half inch gypsum wallboard, and on the outside with either beveled wood siding over one-half inch plywood sheathing or with five-eighths inch T1-11 siding. Insulated sheathing (either interior or exterior) is assumed to cover the entire opaque wall surface.

1005.2 Framing Description: Three framing types are considered, and defined as follows:

Standard: Studs framed on sixteen inch centers with double top plate and single bottom plate. Corners use three studs and each opening is framed using two studs. Headers consist of double 2X or single 4X material with an air space left between the header and the exterior sheathing. Interior partition wall/exterior wall intersections use two studs in the exterior wall.

| | | |
|---|---|---|
| Framing weighting factors: | Studs and plates | .19 |
| | Insulated cavity | .77 |
| | Headers | .04 |

Intermediate: Studs framed on sixteen inch centers with double top plate and single bottom plate. Corners use two studs or other means of fully insulating corners, and each opening is framed by two studs. Headers consist of double 2X material with R-10 insulation between the header and exterior sheathing. Interior partition wall/exterior wall intersections are fully insulated in the exterior wall.

| | | |
|---|---|---|
| Framing weighting factors: | Studs and plates | .18 |
| | Insulated cavity | .78 |
| | Headers | .04 |

Advanced: Studs framed on twenty-four inch centers with double top plate and single bottom plate. Corners use two studs or other means of fully insulating corners, and one stud is used to support each header. Headers consist of double 2X material with R-10 insulation between the header and exterior sheathing. Interior partition wall/exterior wall intersections are fully insulated in the exterior wall.

| | | |
|---|---|---|
| Framing weighting factors: | Studs and plates | .13 |
| | Insulated cavity | .83 |
| | Headers | .04 |

1005.3 Component Description: Default coefficients for ((~~three~~)) four types of walls are listed: single-stud walls, metal stud walls, strap walls, and double-stud walls.

Single-Stud Wall: Assumes either 2x4 or 2x6 studs framed on sixteen or twenty-four inch centers. Headers are solid for 2x4 walls and double 2x for 2x6 walls, with either dead-air or rigid-board insulation in the remaining space.

Metal Stud Wall: Assumes metal studs spaced on 16 or 24 inch centers with insulation installed to fill wall cavities. Continuous rigid board insulation is applied without creating uninsulated voids in the wall assembly.

Strap Wall: Assumes 2x6 studs framed on sixteen or twenty-four inch centers. 2x3 or 2x4 strapping is run horizontally along the interior surface of the wall to provide additional space for insulation.

Double-Stud Wall: Assumes an exterior structural wall and a separate interior, non-structural wall. Insulation is placed in both wall cavities and in the space between the two walls. Stud spacing is assumed to be on twenty-four inch centers for both walls.

PROPOSED

PROPOSED

~~TABLE 10-5~~
~~DEFAULT U-VALUES FOR ABOVE-GRADE WALLS~~

~~2 x 4 Single Wood Stud: R-11 Batt~~

~~NOTE:~~
~~Nominal Batt R-value:~~
~~R-11 at 3.5 inch thickness~~

~~Installed Batt R-value:~~
~~R-11 in 3.5 inch cavity~~

| ~~Siding Material/Framing Type~~ | | | | |
|---|---|---|---|---|
| | ~~Lapped Wood~~ | | ~~T1-11~~ | |
| ~~R-value of Foam Board~~ | ~~STD~~ | ~~ADV~~ | ~~STD~~ | ~~ADV~~ |
| ~~0~~ | ~~0.088~~ | ~~0.084~~ | ~~0.094~~ | ~~0.090~~ |
| ~~1~~ | ~~0.080~~ | ~~0.077~~ | ~~0.085~~ | ~~0.082~~ |
| ~~2~~ | ~~0.074~~ | ~~0.071~~ | ~~0.078~~ | ~~0.075~~ |
| ~~3~~ | ~~0.069~~ | ~~0.066~~ | ~~0.072~~ | ~~0.070~~ |
| ~~4~~ | ~~0.064~~ | ~~0.062~~ | ~~0.067~~ | ~~0.065~~ |
| ~~5~~ | ~~0.060~~ | ~~0.058~~ | ~~0.063~~ | ~~0.061~~ |
| ~~6~~ | ~~0.056~~ | ~~0.055~~ | ~~0.059~~ | ~~0.057~~ |
| ~~7~~ | ~~0.053~~ | ~~0.052~~ | ~~0.055~~ | ~~0.054~~ |
| ~~8~~ | ~~0.051~~ | ~~0.049~~ | ~~0.052~~ | ~~0.051~~ |
| ~~9~~ | ~~0.048~~ | ~~0.047~~ | ~~0.050~~ | ~~0.049~~ |
| ~~10~~ | ~~0.046~~ | ~~0.045~~ | ~~0.047~~ | ~~0.046~~ |
| ~~11~~ | ~~0.044~~ | ~~0.043~~ | ~~0.045~~ | ~~0.044~~ |
| ~~12~~ | ~~0.042~~ | ~~0.041~~ | ~~0.043~~ | ~~0.042~~ |

~~2 x 4 Single Wood Stud: R-13 Batt~~

~~NOTE:~~
~~Nominal Batt R-value:~~
~~R-13 at 3.63 inch thickness~~

~~Installed Batt R-value:~~
~~R-12.7 in 3.5 inch cavity~~

| ~~Siding Material/Framing Type~~ | | | | |
|---|---|---|---|---|
| | ~~Lapped Wood~~ | | ~~T1-11~~ | |
| ~~R-value of Foam Board~~ | ~~STD~~ | ~~ADV~~ | ~~STD~~ | ~~ADV~~ |
| ~~0~~ | ~~0.082~~ | ~~0.078~~ | ~~0.088~~ | ~~0.083~~ |
| ~~1~~ | ~~0.075~~ | ~~0.072~~ | ~~0.080~~ | ~~0.076~~ |
| ~~2~~ | ~~0.069~~ | ~~0.066~~ | ~~0.073~~ | ~~0.070~~ |
| ~~3~~ | ~~0.065~~ | ~~0.062~~ | ~~0.068~~ | ~~0.065~~ |
| ~~4~~ | ~~0.060~~ | ~~0.058~~ | ~~0.063~~ | ~~0.061~~ |
| ~~5~~ | ~~0.057~~ | ~~0.055~~ | ~~0.059~~ | ~~0.057~~ |
| ~~6~~ | ~~0.053~~ | ~~0.052~~ | ~~0.056~~ | ~~0.054~~ |
| ~~7~~ | ~~0.051~~ | ~~0.049~~ | ~~0.052~~ | ~~0.051~~ |
| ~~8~~ | ~~0.048~~ | ~~0.047~~ | ~~0.050~~ | ~~0.048~~ |
| ~~9~~ | ~~0.046~~ | ~~0.045~~ | ~~0.047~~ | ~~0.046~~ |
| ~~10~~ | ~~0.044~~ | ~~0.043~~ | ~~0.045~~ | ~~0.044~~ |
| ~~11~~ | ~~0.042~~ | ~~0.041~~ | ~~0.043~~ | ~~0.042~~ |
| ~~12~~ | ~~0.040~~ | ~~0.039~~ | ~~0.041~~ | ~~0.040~~ |

PROPOSED

~~2 x 4 Single Wood Stud: R-15 Batt~~

~~NOTE:~~
~~Nominal Batt R-value:~~
~~R-15 at 3.5 inch thickness~~

~~Installed Batt R-value:~~
~~R-15 in 3.5 inch cavity~~

| ~~Siding Material/Framing Type~~ | | | | |
|---|---|---|---|---|
| | ~~Lapped Wood~~ | | ~~T1-11~~ | |
| ~~R-value of Foam Board~~ | ~~STD~~ | ~~ADV~~ | ~~STD~~ | ~~ADV~~ |
| ~~0~~ | ~~0.076~~ | ~~0.071~~ | ~~0.081~~ | ~~0.075~~ |
| ~~1~~ | ~~0.069~~ | ~~0.065~~ | ~~0.073~~ | ~~0.069~~ |
| ~~2~~ | ~~0.064~~ | ~~0.061~~ | ~~0.068~~ | ~~0.069~~ |
| ~~3~~ | ~~0.060~~ | ~~0.057~~ | ~~0.063~~ | ~~0.059~~ |
| ~~4~~ | ~~0.056~~ | ~~0.053~~ | ~~0.059~~ | ~~0.056~~ |
| ~~5~~ | ~~0.053~~ | ~~0.051~~ | ~~0.055~~ | ~~0.052~~ |
| ~~6~~ | ~~0.050~~ | ~~0.048~~ | ~~0.052~~ | ~~0.050~~ |
| ~~7~~ | ~~0.047~~ | ~~0.046~~ | ~~0.049~~ | ~~0.047~~ |
| ~~8~~ | ~~0.045~~ | ~~0.044~~ | ~~0.047~~ | ~~0.045~~ |
| ~~9~~ | ~~0.043~~ | ~~0.042~~ | ~~0.044~~ | ~~0.043~~ |
| ~~10~~ | ~~0.041~~ | ~~0.040~~ | ~~0.042~~ | ~~0.041~~ |
| ~~11~~ | ~~0.039~~ | ~~0.038~~ | ~~0.041~~ | ~~0.039~~ |
| ~~12~~ | ~~0.038~~ | ~~0.037~~ | ~~0.039~~ | ~~0.038~~ |

~~2 x 6 Single Wood Stud: R-19 Batt~~

~~NOTE:~~
~~Nominal Batt R-value:~~
~~R-19 at 6 inch thickness~~

~~Installed Batt R-value:~~
~~R-18 in 5.5 inch cavity~~

| ~~Siding Material/Framing Type~~ | | | | | | |
|---|---|---|---|---|---|---|
| | ~~Lapped Wood~~ | | | ~~T1-11~~ | | |
| ~~R-value of Foam Board~~ | ~~STD~~ | ~~INT~~ | ~~ADV~~ | ~~STD~~ | ~~INT~~ | ~~ADV~~ |
| ~~0~~ | ~~0.062~~ | ~~0.058~~ | ~~0.055~~ | ~~0.065~~ | ~~0.061~~ | ~~0.058~~ |
| ~~1~~ | ~~0.058~~ | ~~0.055~~ | ~~0.052~~ | ~~0.060~~ | ~~0.057~~ | ~~0.055~~ |
| ~~2~~ | ~~0.054~~ | ~~0.052~~ | ~~0.050~~ | ~~0.056~~ | ~~0.054~~ | ~~0.051~~ |
| ~~3~~ | ~~0.051~~ | ~~0.049~~ | ~~0.047~~ | ~~0.053~~ | ~~0.051~~ | ~~0.049~~ |
| ~~4~~ | ~~0.048~~ | ~~0.046~~ | ~~0.045~~ | ~~0.050~~ | ~~0.048~~ | ~~0.046~~ |
| ~~5~~ | ~~0.046~~ | ~~0.044~~ | ~~0.043~~ | ~~0.048~~ | ~~0.046~~ | ~~0.044~~ |
| ~~6~~ | ~~0.044~~ | ~~0.042~~ | ~~0.041~~ | ~~0.045~~ | ~~0.044~~ | ~~0.042~~ |
| ~~7~~ | ~~0.042~~ | ~~0.040~~ | ~~0.039~~ | ~~0.043~~ | ~~0.042~~ | ~~0.040~~ |
| ~~8~~ | ~~0.040~~ | ~~0.039~~ | ~~0.038~~ | ~~0.041~~ | ~~0.040~~ | ~~0.039~~ |
| ~~9~~ | ~~0.038~~ | ~~0.037~~ | ~~0.035~~ | ~~0.039~~ | ~~0.038~~ | ~~0.037~~ |
| ~~10~~ | ~~0.037~~ | ~~0.036~~ | ~~0.035~~ | ~~0.038~~ | ~~0.037~~ | ~~0.036~~ |
| ~~11~~ | ~~0.036~~ | ~~0.035~~ | ~~0.034~~ | ~~0.036~~ | ~~0.035~~ | ~~0.035~~ |
| ~~12~~ | ~~0.034~~ | ~~0.033~~ | ~~0.033~~ | ~~0.035~~ | ~~0.034~~ | ~~0.033~~ |

PROPOSED

~~2 x 6 Single Wood Stud: R-21 Batt~~

~~NOTE:~~
~~Nominal Batt R-value:~~
~~R-21 at 5.5 inch thickness~~

~~Installed Batt R-value:~~
~~R-21 in 5.5 inch cavity~~

| ~~Siding Material/Framing Type~~ | | | | | | |
|---|---|---|---|---|---|---|
| | ~~Lapped Wood~~ | | | ~~T1-11~~ | | |
| ~~R-value of Foam Board~~ | ~~STD~~ | ~~INT~~ | ~~ADV~~ | ~~STD~~ | ~~INT~~ | ~~ADV~~ |
| ~~0~~ | ~~0.057~~ | ~~0.054~~ | ~~0.051~~ | ~~0.060~~ | ~~0.056~~ | ~~0.053~~ |
| ~~1~~ | ~~0.054~~ | ~~0.051~~ | ~~0.048~~ | ~~0.056~~ | ~~0.053~~ | ~~0.050~~ |
| ~~2~~ | ~~0.050~~ | ~~0.048~~ | ~~0.045~~ | ~~0.052~~ | ~~0.050~~ | ~~0.047~~ |
| ~~3~~ | ~~0.048~~ | ~~0.045~~ | ~~0.043~~ | ~~0.049~~ | ~~0.047~~ | ~~0.045~~ |
| ~~4~~ | ~~0.045~~ | ~~0.043~~ | ~~0.041~~ | ~~0.047~~ | ~~0.045~~ | ~~0.043~~ |
| ~~5~~ | ~~0.043~~ | ~~0.041~~ | ~~0.040~~ | ~~0.044~~ | ~~0.042~~ | ~~0.041~~ |
| ~~6~~ | ~~0.041~~ | ~~0.039~~ | ~~0.038~~ | ~~0.042~~ | ~~0.041~~ | ~~0.039~~ |
| ~~7~~ | ~~0.039~~ | ~~0.038~~ | ~~0.036~~ | ~~0.040~~ | ~~0.039~~ | ~~0.037~~ |
| ~~8~~ | ~~0.038~~ | ~~0.036~~ | ~~0.035~~ | ~~0.039~~ | ~~0.037~~ | ~~0.036~~ |
| ~~9~~ | ~~0.036~~ | ~~0.035~~ | ~~0.034~~ | ~~0.037~~ | ~~0.036~~ | ~~0.035~~ |
| ~~10~~ | ~~0.035~~ | ~~0.034~~ | ~~0.033~~ | ~~0.036~~ | ~~0.035~~ | ~~0.033~~ |
| ~~11~~ | ~~0.033~~ | ~~0.033~~ | ~~0.032~~ | ~~0.034~~ | ~~0.033~~ | ~~0.032~~ |
| ~~12~~ | ~~0.032~~ | ~~0.031~~ | ~~0.031~~ | ~~0.033~~ | ~~0.032~~ | ~~0.031~~ |

~~2 x 6 Single Wood Stud: R-22 Batt~~

~~NOTE:~~
~~Nominal Batt R-value:~~
~~R-22 at 6.75 inch thickness~~

~~Installed Batt R-value:~~
~~R-20 in 5.5 inch cavity~~

| ~~Siding Material/Framing Type~~ | | | | | | |
|---|---|---|---|---|---|---|
| | ~~Lapped Wood~~ | | | ~~T1-11~~ | | |
| ~~R-value of Foam Board~~ | ~~STD~~ | ~~INT~~ | ~~ADV~~ | ~~STD~~ | ~~INT~~ | ~~ADV~~ |
| ~~0~~ | ~~0.059~~ | ~~0.055~~ | ~~0.052~~ | ~~0.062~~ | ~~0.058~~ | ~~0.054~~ |
| ~~1~~ | ~~0.055~~ | ~~0.052~~ | ~~0.049~~ | ~~0.057~~ | ~~0.054~~ | ~~0.051~~ |
| ~~2~~ | ~~0.052~~ | ~~0.049~~ | ~~0.047~~ | ~~0.054~~ | ~~0.051~~ | ~~0.048~~ |
| ~~3~~ | ~~0.049~~ | ~~0.046~~ | ~~0.044~~ | ~~0.050~~ | ~~0.048~~ | ~~0.046~~ |
| ~~4~~ | ~~0.046~~ | ~~0.044~~ | ~~0.042~~ | ~~0.048~~ | ~~0.046~~ | ~~0.044~~ |
| ~~5~~ | ~~0.044~~ | ~~0.042~~ | ~~0.041~~ | ~~0.045~~ | ~~0.043~~ | ~~0.042~~ |
| ~~6~~ | ~~0.042~~ | ~~0.040~~ | ~~0.039~~ | ~~0.043~~ | ~~0.042~~ | ~~0.040~~ |
| ~~7~~ | ~~0.040~~ | ~~0.039~~ | ~~0.037~~ | ~~0.041~~ | ~~0.040~~ | ~~0.038~~ |
| ~~8~~ | ~~0.038~~ | ~~0.037~~ | ~~0.036~~ | ~~0.039~~ | ~~0.038~~ | ~~0.037~~ |
| ~~9~~ | ~~0.037~~ | ~~0.036~~ | ~~0.035~~ | ~~0.038~~ | ~~0.037~~ | ~~0.035~~ |
| ~~10~~ | ~~0.035~~ | ~~0.034~~ | ~~0,033~~ | ~~0.036~~ | ~~0.035~~ | ~~0.034~~ |
| ~~11~~ | ~~0.034~~ | ~~0.033~~ | ~~0.032~~ | ~~0.035~~ | ~~0.034~~ | ~~0.033~~ |
| ~~12~~ | ~~0.033~~ | ~~0.032~~ | ~~0.031~~ | ~~0.034~~ | ~~0.033~~ | ~~0.032~~ |

PROPOSED

~~x 6 Single Wood Stud: Two R-11 Batts~~

~~OTE:~~
~~ominal Batt R-value:~~
~~22 at 7 inch thickness~~

~~nstalled Batt R-value:~~
~~18.9 in 5.5 inch cavity~~

| Siding Material/Framing Type | | | | | | |
|---|---|---|---|---|---|---|
| | Lapped Wood | | | T1-11 | | |
| R-value of Foam Board | STD | INT | ADV | STD | INT | ADV |
| 0 | 0.060 | 0.057 | 0.054 | 0.063 | 0.059 | 0.056 |
| 1 | 0.056 | 0.053 | 0.051 | 0.059 | 0.056 | 0.053 |
| 2 | 0.053 | 0.050 | 0.048 | 0.055 | 0.052 | 0.050 |
| 3 | 0.050 | 0.048 | 0.046 | 0.052 | 0.049 | 0.047 |
| 4 | 0.047 | 0.045 | 0.044 | 0.049 | 0.047 | 0.045 |
| 5 | 0.045 | 0.043 | 0.042 | 0.046 | 0.045 | 0.043 |
| 6 | 0.043 | 0.041 | 0.040 | 0.044 | 0.043 | 0.041 |
| 7 | 0.041 | 0.040 | 0.038 | 0.042 | 0.041 | 0.039 |
| 8 | 0.039 | 0.038 | 0.037 | 0.040 | 0.039 | 0.038 |
| 9 | 0.038 | 0.037 | 0.036 | 0.039 | 0.038 | 0.036 |
| 10 | 0.036 | 0.035 | 0.034 | 0.037 | 0.036 | 0.035 |
| 11 | 0.035 | 0.034 | 0.033 | 0.036 | 0.035 | 0.034 |
| 12 | 0.034 | 0.033 | 0.032 | 0.034 | 0.034 | 0.033 |

~~x 8 Single Stud: R-25 Batt~~

~~OTE:~~
~~ominal Batt R-value:~~
~~25 at 8 inch thickness~~

~~stalled Batt R-value:~~
~~23.6 in 7.25 inch cavity~~

| Siding Material/Framing Type | | | | | | |
|---|---|---|---|---|---|---|
| | Lapped Wood | | | T1-11 | | |
| R-value of Foam Board | STD | INT | ADV | STD | INT | ADV |
| 0 | 0.051 | 0.047 | 0.045 | 0.053 | 0.049 | 0.046 |
| 1 | 0.048 | 0.045 | 0.043 | 0.049 | 0.046 | 0.044 |
| 2 | 0.045 | 0.043 | 0.041 | 0.047 | 0.044 | 0.042 |
| 3 | 0.043 | 0.041 | 0.039 | 0.044 | 0.042 | 0.040 |
| 4 | 0.041 | 0.039 | 0.037 | 0.042 | 0.040 | 0.038 |
| 5 | 0.039 | 0.037 | 0.036 | 0.040 | 0.038 | 0.037 |
| 6 | 0.037 | 0.036 | 0.035 | 0.038 | 0.037 | 0.036 |
| 7 | 0.036 | 0.035 | 0.033 | 0.037 | 0.035 | 0.034 |
| 8 | 0.035 | 0.033 | 0.032 | 0.035 | 0.034 | 0.033 |
| 9 | 0.033 | 0.032 | 0.031 | 0.034 | 0.033 | 0.032 |
| 10 | 0.032 | 0.031 | 0.030 | 0.033 | 0.032 | 0.031 |
| 11 | 0.031 | 0.030 | 0.029 | 0.032 | 0.031 | 0.030 |
| 12 | 0.030 | 0.029 | 0.028 | 0.031 | 0.030 | 0.029 |

PROPOSED

**2 x 6: Strap Wall**

| | Siding Material/Frame Type | | | |
|---|---|---|---|---|
| | Lapped Wood | | T1-11 | |
| | STD | ADV | STD | ADV |
| R-19 + R-11 Batts | 0.036 | 0.035 | 0.038 | 0.036 |
| R-19 + R-8 Batts | 0.041 | 0.039 | 0.042 | 0.040 |

**2 x 6 + 2 x 4: Double Wood Stud**

| Batt Configuration | | | Siding Material/Frame Type | | | |
|---|---|---|---|---|---|---|
| | | | Lapped Wood | | T1-11 | |
| Exterior | Middle | Interior | STD | ADV | STD | ADV |
| R-19 | — | R-11 | 0.040 | 0.037 | 0.041 | 0.038 |
| R-19 | — | R-19 | 0.034 | 0.031 | 0.035 | 0.032 |
| R-19 | R-8 | R-11 | 0.029 | 0.028 | 0.031 | 0.029 |
| R-19 | R-11 | R-11 | 0.027 | 0.026 | 0.028 | 0.027 |
| R-19 | R-11 | R-19 | 0.024 | 0.023 | 0.025 | 0.023 |
| R-19 | R-19 | R-19 | 0.021 | 0.020 | 0.021 | 0.020 |

**2 x 4 + 2 x 4: Double Wood Stud**

| Batt Configuration | | | Siding Material/Frame Type | | | |
|---|---|---|---|---|---|---|
| | | | Lapped Wood | | T1-11 | |
| Exterior | Middle | Interior | STD | ADV | STD | ADV |
| R-11 | — | R-11 | 0.050 | 0.046 | 0.052 | 0.048 |
| R-19 | — | R-11 | 0.039 | 0.037 | 0.043 | 0.039 |
| R-11 | R-8 | R-11 | 0.037 | 0.035 | 0.036 | 0.036 |
| R-11 | R-11 | R-11 | 0.032 | 0.031 | 0.033 | 0.032 |
| R-13 | R-13 | R-13 | 0.029 | 0.028 | 0.029 | 0.028 |
| R-11 | R-19 | R-11 | 0.026 | 0.026 | 0.027 | 0.026 |

PROPOSED

~~Log Walls~~

| ~~Average Log Diameter, Inches~~ | ~~U-value~~ |
|---|---|
| ~~6~~ | ~~0.148~~ |
| ~~8~~ | ~~0.111~~ |
| ~~10~~ | ~~0.089~~ |
| ~~12~~ | ~~0.074~~ |
| ~~14~~ | ~~0.063~~ |
| ~~16~~ | ~~0.056~~ |

~~NOTE:~~
~~R-value of wood:~~
~~R-1.25 per inch thickness~~

~~Average wall thickness~~
~~90% average log diameter~~

~~Stress-Skin Panel~~

| ~~Panel Thickness, Inches~~ | ~~U-value~~ |
|---|---|
| ~~3-1/2~~ | ~~0.071~~ |
| ~~5-1/2~~ | ~~0.048~~ |
| ~~7-1/4~~ | ~~0.037~~ |
| ~~9-1/4~~ | ~~0.030~~ |
| ~~11-1/4~~ | ~~0.025~~ |

~~NOTE:~~
~~R-value of expanded polystyrene: R-3.85 per inch~~

~~Framing: 6%~~
~~Spline: 8%~~
~~No thermal bridging between interior and exterior splines~~

~~Single Metal Stud~~

| ~~Nominal Wall Thickness, Inches~~ | ~~Nominal Insulation R-Value~~ | ~~Effective Insulation R-Value~~ | ~~Overall Assembly U-Value~~ | |
|---|---|---|---|---|
| | | | ~~16" O.C.~~ | ~~24" O.C.~~ |
| ~~4~~ | ~~R-11~~ | ~~R-11~~ | ~~0.14~~ | ~~0.13~~ |
| ~~4~~ | ~~R-13~~ | ~~R-12.7~~ | ~~0.13~~ | ~~0.12~~ |
| ~~6~~ | ~~R-19~~ | ~~R-18~~ | ~~0.11~~ | ~~0.10~~ |

PROPOSED

## TABLE 10-5
## DEFAULT U-FACTORU-VALUES FOR ABOVE-GRADE WALLS

### 2 x 4 Single Wood Stud: R-11 Batt

**NOTE:**
Nominal Batt R-value:
R-11 at 3.5 inch thickness

Installed Batt R-value:
R-11 in 3.5 inch cavity

| Siding Material/Framing Type | | | | |
|---|---|---|---|---|
| | Lapped Wood | | T1-11 | |
| R-value of Foam Board | STD | ADV | STD | ADV |
| 0 | 0.088 | 0.084 | 0.094 | 0.090 |
| 1 | 0.080 | 0.077 | 0.085 | 0.082 |
| 2 | 0.074 | 0.071 | 0.078 | 0.075 |
| 3 | 0.069 | 0.066 | 0.072 | 0.070 |
| 4 | 0.064 | 0.062 | 0.067 | 0.065 |
| 5 | 0.060 | 0.058 | 0.063 | 0.061 |
| 6 | 0.056 | 0.055 | 0.059 | 0.057 |
| 7 | 0.053 | 0.052 | 0.055 | 0.054 |
| 8 | 0.051 | 0.049 | 0.052 | 0.051 |
| 9 | 0.048 | 0.047 | 0.050 | 0.049 |
| 10 | 0.046 | 0.045 | 0.047 | 0.046 |
| 11 | 0.044 | 0.043 | 0.045 | 0.044 |
| 12 | 0.042 | 0.041 | 0.043 | 0.042 |

### 2 x 4 Single Wood Stud: R-13 Batt

**NOTE:**
Nominal Batt R-value:
R-13 at 3.63 inch thickness

Installed Batt R-value:
R-12.7 in 3.5 inch cavity

| Siding Material/Framing Type | | | | |
|---|---|---|---|---|
| | Lapped Wood | | T1-11 | |
| R-value of Foam Board | STD | ADV | STD | ADV |
| 0 | 0.082 | 0.078 | 0.088 | 0.083 |
| 1 | 0.075 | 0.072 | 0.080 | 0.076 |
| 2 | 0.069 | 0.066 | 0.073 | 0.070 |
| 3 | 0.065 | 0.062 | 0.068 | 0.065 |
| 4 | 0.060 | 0.058 | 0.063 | 0.061 |
| 5 | 0.057 | 0.055 | 0.059 | 0.057 |
| 6 | 0.053 | 0.052 | 0.056 | 0.054 |
| 7 | 0.051 | 0.049 | 0.052 | 0.051 |
| 8 | 0.048 | 0.047 | 0.050 | 0.048 |
| 9 | 0.046 | 0.045 | 0.047 | 0.046 |
| 10 | 0.044 | 0.043 | 0.045 | 0.044 |
| 11 | 0.042 | 0.041 | 0.043 | 0.042 |
| 12 | 0.040 | 0.039 | 0.041 | 0.040 |

PROPOSED

**2 x 4 Single Wood Stud: R-15 Batt**

**NOTE:**
Nominal Batt R-value:
R-15 at 3.5 inch thickness

Installed Batt R-value:
R-15 in 3.5 inch cavity

| Siding Material/Framing Type | | | | |
|---|---|---|---|---|
| | Lapped Wood | | T1-11 | |
| R-value of Foam Board | STD | ADV | STD | ADV |
| 0 | 0.076 | 0.071 | 0.081 | 0.075 |
| 1 | 0.069 | 0.065 | 0.073 | 0.069 |
| 2 | 0.064 | 0.061 | 0.068 | 0.069 |
| 3 | 0.060 | 0.057 | 0.063 | 0.059 |
| 4 | 0.056 | 0.053 | 0.059 | 0.056 |
| 5 | 0.053 | 0.051 | 0.055 | 0.052 |
| 6 | 0.050 | 0.048 | 0.052 | 0.050 |
| 7 | 0.047 | 0.046 | 0.049 | 0.047 |
| 8 | 0.045 | 0.044 | 0.047 | 0.045 |
| 9 | 0.043 | 0.042 | 0.044 | 0.043 |
| 10 | 0.041 | 0.040 | 0.042 | 0.041 |
| 11 | 0.039 | 0.038 | 0.041 | 0.039 |
| 12 | 0.038 | 0.037 | 0.039 | 0.038 |

**2 x 6 Single Wood Stud: R-19 Batt**

**NOTE:**
Nominal Batt R-value:
R-19 at 6 inch thickness

Installed Batt R-value:
R-18 in 5.5 inch cavity

| Siding Material/Framing Type | | | | | | |
|---|---|---|---|---|---|---|
| | Lapped Wood | | | T1-11 | | |
| R-value of Foam Board | STD | INT | ADV | STD | INT | ADV |
| 0 | 0.062 | 0.058 | 0.055 | 0.065 | 0.061 | 0.058 |
| 1 | 0.058 | 0.055 | 0.052 | 0.060 | 0.057 | 0.055 |
| 2 | 0.054 | 0.052 | 0.050 | 0.056 | 0.054 | 0.051 |
| 3 | 0.051 | 0.049 | 0.047 | 0.053 | 0.051 | 0.049 |
| 4 | 0.048 | 0.046 | 0.045 | 0.050 | 0.048 | 0.046 |
| 5 | 0.046 | 0.044 | 0.043 | 0.048 | 0.046 | 0.044 |
| 6 | 0.044 | 0.042 | 0.041 | 0.045 | 0.044 | 0.042 |
| 7 | 0.042 | 0.040 | 0.039 | 0.043 | 0.042 | 0.040 |
| 8 | 0.040 | 0.039 | 0.038 | 0.041 | 0.040 | 0.039 |
| 9 | 0.038 | 0.037 | 0.035 | 0.039 | 0.038 | 0.037 |
| 10 | 0.037 | 0.036 | 0.035 | 0.038 | 0.037 | 0.036 |
| 11 | 0.036 | 0.035 | 0.034 | 0.036 | 0.035 | 0.035 |
| 12 | 0.034 | 0.033 | 0.033 | 0.035 | 0.034 | 0.033 |

PROPOSED

## 2 x 6 Single Wood Stud: R-21 Batt

**NOTE:**
Nominal Batt R-value:
R-21 at 5.5 inch thickness

Installed Batt R-value:
R-21 in 5.5 inch cavity

| Siding Material/Framing Type | | | | | | |
|---|---|---|---|---|---|---|
| | Lapped Wood | | | T1-11 | | |
| R-value of Foam Board | STD | INT | ADV | STD | INT | ADV |
| 0 | 0.057 | 0.054 | 0.051 | 0.060 | 0.056 | 0.053 |
| 1 | 0.054 | 0.051 | 0.048 | 0.056 | 0.053 | 0.050 |
| 2 | 0.050 | 0.048 | 0.045 | 0.052 | 0.050 | 0.047 |
| 3 | 0.048 | 0.045 | 0.043 | 0.049 | 0.047 | 0.045 |
| 4 | 0.045 | 0.043 | 0.041 | 0.047 | 0.045 | 0.043 |
| 5 | 0.043 | 0.041 | 0.040 | 0.044 | 0.042 | 0.041 |
| 6 | 0.041 | 0.039 | 0.038 | 0.042 | 0.041 | 0.039 |
| 7 | 0.039 | 0.038 | 0.036 | 0.040 | 0.039 | 0.037 |
| 8 | 0.038 | 0.036 | 0.035 | 0.039 | 0.037 | 0.036 |
| 9 | 0.036 | 0.035 | 0.034 | 0.037 | 0.036 | 0.035 |
| 10 | 0.035 | 0.034 | 0.033 | 0.036 | 0.035 | 0.033 |
| 11 | 0.033 | 0.033 | 0.032 | 0.034 | 0.033 | 0.032 |
| 12 | 0.032 | 0.031 | 0.031 | 0.033 | 0.032 | 0.031 |

## 2 x 6 Single Wood Stud: R-22 Batt

**NOTE:**
Nominal Batt R-value:
R-22 at 6.75 inch thickness

Installed Batt R-value:
R-20 in 5.5 inch cavity

| Siding Material/Framing Type | | | | | | |
|---|---|---|---|---|---|---|
| | Lapped Wood | | | T1-11 | | |
| R-value of Foam Board | STD | INT | ADV | STD | INT | ADV |
| 0 | 0.059 | 0.055 | 0.052 | 0.062 | 0.058 | 0.054 |
| 1 | 0.055 | 0.052 | 0.049 | 0.057 | 0.054 | 0.051 |
| 2 | 0.052 | 0.049 | 0.047 | 0.054 | 0.051 | 0.048 |
| 3 | 0.049 | 0.046 | 0.044 | 0.050 | 0.048 | 0.046 |
| 4 | 0.046 | 0.044 | 0.042 | 0.048 | 0.046 | 0.044 |
| 5 | 0.044 | 0.042 | 0.041 | 0.045 | 0.043 | 0.042 |
| 6 | 0.042 | 0.040 | 0.039 | 0.043 | 0.042 | 0.040 |
| 7 | 0.040 | 0.039 | 0.037 | 0.041 | 0.040 | 0.038 |
| 8 | 0.038 | 0.037 | 0.036 | 0.039 | 0.038 | 0.037 |
| 9 | 0.037 | 0.036 | 0.035 | 0.038 | 0.037 | 0.035 |
| 10 | 0.035 | 0.034 | 0.033 | 0.036 | 0.035 | 0.034 |
| 11 | 0.034 | 0.033 | 0.032 | 0.035 | 0.034 | 0.033 |
| 12 | 0.033 | 0.032 | 0.031 | 0.034 | 0.033 | 0.032 |

## 2 x 6 Single Wood Stud: Two R-11 Batts

**NOTE:**
Nominal Batt R-value:
R-22 at 7 inch thickness

Installed Batt R-value:
R-18.9 in 5.5 inch cavity

| Siding Material/Framing Type | | | | | | |
|---|---|---|---|---|---|---|
| | Lapped Wood | | | T1-11 | | |
| R-value of Foam Board | STD | INT | ADV | STD | INT | ADV |
| 0 | 0.060 | 0.057 | 0.054 | 0.063 | 0.059 | 0.056 |
| 1 | 0.056 | 0.053 | 0.051 | 0.059 | 0.056 | 0.053 |
| 2 | 0.053 | 0.050 | 0.048 | 0.055 | 0.052 | 0.050 |
| 3 | 0.050 | 0.048 | 0.046 | 0.052 | 0.049 | 0.047 |
| 4 | 0.047 | 0.045 | 0.044 | 0.049 | 0.047 | 0.045 |
| 5 | 0.045 | 0.043 | 0.042 | 0.046 | 0.045 | 0.043 |
| 6 | 0.043 | 0.041 | 0.040 | 0.044 | 0.043 | 0.041 |
| 7 | 0.041 | 0.040 | 0.038 | 0.042 | 0.041 | 0.039 |
| 8 | 0.039 | 0.038 | 0.037 | 0.040 | 0.039 | 0.038 |
| 9 | 0.038 | 0.037 | 0.036 | 0.039 | 0.038 | 0.036 |
| 10 | 0.036 | 0.035 | 0.034 | 0.037 | 0.036 | 0.035 |
| 11 | 0.035 | 0.034 | 0.033 | 0.036 | 0.035 | 0.034 |
| 12 | 0.034 | 0.033 | 0.032 | 0.034 | 0.034 | 0.033 |

## 2 x 8 Single Stud: R-25 Batt

**NOTE:**
Nominal Batt R-value:
R-25 at 8 inch thickness

Installed Batt R-value:
R-23.6 in 7.25 inch cavity

| Siding Material/Framing Type | | | | | | |
|---|---|---|---|---|---|---|
| | Lapped Wood | | | T1-11 | | |
| R-value of Foam Board | STD | INT | ADV | STD | INT | ADV |
| 0 | 0.051 | 0.047 | 0.045 | 0.053 | 0.049 | 0.046 |
| 1 | 0.048 | 0.045 | 0.043 | 0.049 | 0.046 | 0.044 |
| 2 | 0.045 | 0.043 | 0.041 | 0.047 | 0.044 | 0.042 |
| 3 | 0.043 | 0.041 | 0.039 | 0.044 | 0.042 | 0.040 |
| 4 | 0.041 | 0.039 | 0.037 | 0.042 | 0.040 | 0.038 |
| 5 | 0.039 | 0.037 | 0.036 | 0.040 | 0.038 | 0.037 |
| 6 | 0.037 | 0.036 | 0.035 | 0.038 | 0.037 | 0.036 |
| 7 | 0.036 | 0.035 | 0.033 | 0.037 | 0.035 | 0.034 |
| 8 | 0.035 | 0.033 | 0.032 | 0.035 | 0.034 | 0.033 |
| 9 | 0.033 | 0.032 | 0.031 | 0.034 | 0.033 | 0.032 |
| 10 | 0.032 | 0.031 | 0.030 | 0.033 | 0.032 | 0.031 |
| 11 | 0.031 | 0.030 | 0.029 | 0.032 | 0.031 | 0.030 |
| 12 | 0.030 | 0.029 | 0.028 | 0.031 | 0.030 | 0.029 |

PROPOSED

### 2 x 6: Strap Wall

| | Siding Material/Frame Type | | | |
|---|---|---|---|---|
| | Lapped Wood | | T1-11 | |
| | STD | ADV | STD | ADV |
| R-19 + R-11 Batts | 0.036 | 0.035 | 0.038 | 0.036 |
| R-19 + R-8 Batts | 0.041 | 0.039 | 0.042 | 0.040 |

### 2 x 6 + 2 x 4: Double Wood Stud

| Batt Configuration | | | Siding Material/Frame Type | | | |
|---|---|---|---|---|---|---|
| | | | Lapped Wood | | T1-11 | |
| Exterior | Middle | Interior | STD | ADV | STD | ADV |
| R-19 | -- | R-11 | 0.040 | 0.037 | 0.041 | 0.038 |
| R-19 | -- | R-19 | 0.034 | 0.031 | 0.035 | 0.032 |
| R-19 | R-8 | R-11 | 0.029 | 0.028 | 0.031 | 0.029 |
| R-19 | R-11 | R-11 | 0.027 | 0.026 | 0.028 | 0.027 |
| R-19 | R-11 | R-19 | 0.024 | 0.023 | 0.025 | 0.023 |
| R-19 | R-19 | R-19 | 0.021 | 0.020 | 0.021 | 0.020 |

### 2 x 4 + 2 x 4: Double Wood Stud

| Batt Configuration | | | Sliding Material/Frame Type | | | |
|---|---|---|---|---|---|---|
| | | | Lapped Wood | | T1-11 | |
| Exterior | Middle | Interior | STD | ADV | STD | ADV |
| R-11 | -- | R-11 | 0.050 | 0.046 | 0.052 | 0.048 |
| R-19 | -- | R-11 | 0.039 | 0.037 | 0.043 | 0.039 |
| R-11 | R-8 | R-11 | 0.037 | 0.035 | 0.036 | 0.036 |
| R-11 | R-11 | R-11 | 0.032 | 0.031 | 0.033 | 0.032 |
| R-13 | R-13 | R-13 | 0.029 | 0.028 | 0.029 | 0.028 |
| R-11 | R-19 | R-11 | 0.026 | 0.026 | 0.027 | 0.026 |

PROPOSED

**Log Walls**

| Average Log Diameter, Inches | U-factor~~U-value~~ |
|---|---|
| 6 | 0.148 |
| 8 | 0.111 |
| 10 | 0.089 |
| 12 | 0.074 |
| 14 | 0.063 |
| 16 | 0.056 |

NOTE:
R-value of wood:
R-1.25 per inch thickness

Average wall thickness
90% average log diameter

**Stress Skin Panel**

| Panel Thickness, Inches | U-factor~~U-value~~ |
|---|---|
| 3 1/2 | 0.071 |
| 5 1/2 | 0.048 |
| 7 1/4 | 0.037 |
| 9 1/4 | 0.030 |
| 11 1/4 | 0.025 |

NOTE:
R-value of expanded
polystyrene: R-3.85 per inch

Framing: 6%
Spline: 8%
No thermal bridging between interior and exterior splines

PROPOSED

## TABLE 10-5A
## Overall Assembly U-Factors for Metal Stud Walls

| Metal Framing | R-Value of Continuous Foam Board Insulation | Cavity Insulation | | | | | |
|---|---|---|---|---|---|---|---|
| | | R-11 | R-13 | R-15 | R-19 | R-21 | R-25 |
| 16" o.c. | R-0 (none) | U-0.14 | U-0.13 | U-0.12 | U-0.10 | U-0.097 | U-0.091 |
| | R-1 | U-0.12 | U-0.12 | U-0.11 | U-0.094 | U-0.089 | U-0.083 |
| | R-2 | U-0.11 | U-0.010 | U-0.099 | U-0.086 | U-0.081 | U-0.077 |
| | R-3 | U-0.10 | U-0.095 | U-0.090 | U-0.079 | U-0.075 | U-0.071 |
| | R-4 | U-0.091 | U-0.087 | U-0.082 | U-0.073 | U-0.070 | U-0.067 |
| | R-5 | U-0.083 | U-0.080 | U-0.076 | U-0.068 | U-0.065 | U-0.062 |
| | R-6 | U-0.077 | U-0.074 | U-0.071 | U-0.064 | U-0.061 | U-0.059 |
| | R-7 | U-0.071 | U-0.069 | U-0.066 | U-0.060 | U-0.058 | U-0.055 |
| | R-8 | U-0.067 | U-0.064 | U-0.062 | U-0.057 | U-0.055 | U-0.053 |
| | R-9 | U-0.062 | U-0.060 | U-0.058 | U-0.054 | U-0.052 | U-0.050 |
| | R-10 | U-0.059 | U-0.057 | U-0.055 | U-0.051 | U-0.049 | U-0.048 |
| 24" o.c | R-0 (none) | U-0.13 | U-0.12 | U-0.11 | U-0.091 | U-0.085 | U-0.079 |
| | R-1 | U-0.11 | U-0.10 | U-0.098 | U-0.084 | U-0.078 | U-0.073 |
| | R-2 | U-0.10 | U-0.091 | U-0.089 | U-0.077 | U-0.073 | U-0.068 |
| | R-3 | U-0.092 | U-0.083 | U-0.082 | U-0.072 | U-0.068 | U-0.064 |
| | R-4 | U-0.084 | U-0.077 | U-0.076 | U-0.067 | U-0.063 | U-0.060 |
| | R-5 | U-0.078 | U-0.071 | U-0.070 | U-0.063 | U-0.060 | U-0.057 |
| | R-6 | U-0.072 | U-0.067 | U-0.066 | U-0.059 | U-0.056 | U-0.054 |
| | R-7 | U-0.067 | U-0.063 | U-0.062 | U-0.056 | U-0.053 | U-0.051 |
| | R-8 | U-0.063 | U-0.059 | U-0.058 | U-0.053 | U-0.051 | U-0.048 |
| | R-9 | U-0.059 | U-0.056 | U-0.055 | U-0.050 | U-0.048 | U-0.046 |
| | R-10 | U-0.056 | U-0.053 | U-0.052 | U-0.048 | U-0.046 | U-0.044 |

AMENDATORY SECTION (Amending WSR 94-05-059, filed 2/10/94, effective 4/1/94)

**WAC 51-11-1006 Section 1006 Default ((~~U-values~~)) U-factors for glazing and doors.**

1006.1 Untested Glazing and Doors: Untested glazing and doors shall be assigned the ((~~U-values~~)) U-factors from Tables 10-6A, 10-6B, 10-6C ((~~or~~)), 10-6D, or 10-6E as appropriate.

PROPOSED

~~TABLE 10-6A~~
~~Window Default Table~~

| ~~Description~~[1,2,3,4] | | ~~Frame Type~~[5,6] | | |
|---|---|---|---|---|
| | | ~~Aluminum~~ | ~~Aluminum Thermal Break~~[7] | ~~Wood/Vinyl~~ |
| ~~Single~~ | | ~~1.20~~ | ~~1.20~~ | ~~1.20~~ |
| ~~Double, < 1/2"~~ | ~~Clear~~ | ~~0.92~~ | ~~0.75~~ | ~~0.63~~ |
| | ~~Clear + Argon~~ | ~~0.87~~ | ~~0.71~~ | ~~0.60~~ |
| | ~~Low-e~~ | ~~0.85~~ | ~~0.69~~ | ~~0.58~~ |
| | ~~Low-e + Argon~~ | ~~0.79~~ | ~~0.62~~ | ~~0.53~~ |
| ~~Double, ≥ 1/2"~~ | ~~Clear~~ | ~~0.86~~ | ~~0.69~~ | ~~0.58~~ |
| | ~~Clear + Argon~~ | ~~0.83~~ | ~~0.67~~ | ~~0.55~~ |
| | ~~Low-e~~ | ~~0.78~~ | ~~0.61~~ | ~~0.51~~ |
| | ~~Low-e + Argon~~ | ~~0.75~~ | ~~0.58~~ | ~~0.48~~ |
| ~~Triple,~~ | ~~Clear~~ | ~~0.70~~ | ~~0.53~~ | ~~0.43~~ |
| | ~~Clear + Argon~~ | ~~0.69~~ | ~~0.52~~ | ~~0.41~~ |
| | ~~Low-e~~ | ~~0.67~~ | ~~0.49~~ | ~~0.40~~ |
| | ~~Low-e + Argon~~ | ~~0.63~~ | ~~0.47~~ | ~~0.37~~ |

~~1 <1/2" = a minimum dead air space of less than 0.5 inches between the panes of glass.~~
~~≥1/2" = a minimum dead air space of 0.5 inches or greater between the panes of glass.~~
~~2 Any low-e (emissivity) coating (0.1, 0.2 or 0.4).~~
~~3 U-values listed for argon shall consist of sealed, gas filled insulated units for argon, CO2, SF6, argon/SF6 mixtures and Krypton.~~
~~4 "Glass block" assemblies may use a U-value of 0.51.~~
~~5 Insulated fiberglass framed products shall use wood/vinyl U-values.~~
~~6 Aluminum clad wood windows shall use the U-values listed for wood/vinyl windows.~~
~~7 Aluminum Thermal Break = An aluminum thermal break framed window shall incorporate the following minimum design characteristics:~~
~~a) The thermal conductivity of the thermal break material shall be not more than 3.6 Btu-in/h/ft$^2$/°F;~~
~~b) The thermal break material must produce a gap in the frame material of not less than 0.210 inches; and,~~
~~c) All metal framing members of the products exposed to interior and exterior air shall incorporate a thermal break meeting the criteria in a) and b) above.~~

PROPOSED

## TABLE 10-6A
## Vertical Glazing U-Factor ~~Window~~ Default Table

| Description[1,2,3,4] | | | Frame Type[5,6] | | |
|---|---|---|---|---|---|
| | | | Aluminum | Aluminum Thermal Break[7] | Wood/Vinyl |
| Windows | Single | | 1.20 | 1.20 | 1.20 |
| | Double, < 1/2" | Clear | 0.92 | 0.75 | 0.63 |
| | | Clear + Argon | 0.87 | 0.71 | 0.60 |
| | | Low-e | 0.85 | 0.69 | 0.58 |
| | | Low-e + Argon | 0.79 | 0.62 | 0.53 |
| | Double, ≥ 1/2" | Clear | 0.86 | 0.69 | 0.58 |
| | | Clear + Argon | 0.83 | 0.67 | 0.55 |
| | | Low-e | 0.78 | 0.61 | 0.51 |
| | | Low-e + Argon | 0.75 | 0.58 | 0.48 |
| | Triple, | Clear | 0.70 | 0.53 | 0.43 |
| | | Clear + Argon | 0.69 | 0.52 | 0.41 |
| | | Low-e | 0.67 | 0.49 | 0.40 |
| | | Low-e + Argon | 0.63 | 0.47 | 0.37 |
| Garden Windows | Single | | 2.60 | n.a. | 2.31 |
| | | Clear | 1.81 | n.a. | 1.61 |
| | | Clear + Argon | 1.76 | n.a. | 1.56 |
| | | Low-e | 1.73 | n.a. | 1.54 |
| | | Low-e + Argon | 1.64 | n.a. | 1.47 |

1 <1/2" = a minimum dead air space of less than 0.5 inches between the panes of glass.
≥1/2" = a minimum dead air space of 0.5 inches or greater between the panes of glass.
Where no gap width is listed, the minimum gap width is 1/4".

2 Any low-e (emissivity) coating (0.1, 0.2 or 0.4).

3 U-factor~~U-values~~ listed for argon shall consist of sealed, gas-filled insulated units for argon, CO2, SF6, argon/SF6 mixtures and Krypton.

4 "Glass block" assemblies may use a U-factor~~U-value~~ of 0.51.

5 Insulated fiberglass framed products shall use wood/vinyl U-factor~~U-values~~.

6 Aluminum clad wood windows shall use the U-factor~~U-values~~ listed for wood/vinyl windows.

7 Aluminum Thermal Break = An aluminum thermal break framed window shall incorporate the following minimum design characteristics:

a) The thermal conductivity of the thermal break material shall be not more than 3.6 Btu-in/h/ft$^2$/°F;

b) The thermal break material must produce a gap in the frame material of not less than 0.210 inches; and,

c) All metal framing members of the products exposed to interior and exterior air shall incorporate a thermal break meeting the criteria in a) and b) above.

PROPOSED

## TABLE 10-6B
## APPROVED WINDOW AND SKYLIGHT DEFAULT TABLE[1]

| DESCRIPTION[2,3,4,5,6] | FRAME TYPE[7,8] | | | |
|---|---|---|---|---|
| | ALUMINUM | ALUM. THERMAL BREAK[9] | WOOD/VINYL | ALUM. CLAD WOOD/REINFORCED VINYL[10] |
| Double, Clear ¼" | 0.82 | 0.66 | 0.56 | 0.59 |
| Double, Clear ¼" + argon | 0.77 | 0.63 | 0.53 | 0.56 |
| Double, Low-e4 ¼" | 0.76 | 0.61 | 0.52 | 0.54 |
| Double, Low-e2 ¼" | 0.73 | 0.58 | 0.49 | 0.51 |
| Double, Low-e1 ¼" | 0.70 | 0.55 | 0.47 | 0.49 |
| Double, Low-e4 ¼" + argon | 0.70 | 0.55 | 0.47 | 0.49 |
| Double, Low-e2 ¼" + argon | 0.66 | 0.52 | 0.43 | 0.46 |
| Double, Low-e1 ¼" + argon | 0.64 | 0.50 | 0.41 | 0.43 |
| Double, Clear 3/8" | 0.78 | 0.63 | 0.54 | 0.57 |
| Double, Clear 3/8" + argon | 0.75 | 0.60 | 0.51 | 0.54 |
| Double, Low-e4 3/8" | 0.72 | 0.57 | 0.48 | 0.51 |
| Double, Low-e2 3/8" | 0.69 | 0.54 | 0.45 | 0.48 |
| Double, Low-e1 3/8" | 0.66 | 0.51 | 0.43 | 0.46 |
| Double, Low-e4 3/8" + argon | 0.68 | 0.53 | 0.44 | 0.47 |
| Double, Low-e2 3/8" + argon | 0.63 | 0.49 | 0.41 | 0.44 |
| Double, Low-e1 3/8" + argon | 0.61 | 0.47 | 0.39 | 0.41 |
| Double, Clear ½" | 0.75 | 0.60 | 0.50 | 0.54 |
| Double, Clear ½" + argon | 0.72 | 0.58 | 0.48 | 0.51 |
| Double, Low-e4 ½" | 0.68 | 0.53 | 0.44 | 0.47 |
| Double, Low-e2 ½" | 0.64 | 0.50 | 0.41 | 0.44 |
| Double, Low-e1 ½" | 0.61 | 0.47 | 0.39 | 0.42 |
| Double, Low-e4 ½" + argon | 0.65 | 0.50 | 0.42 | 0.44 |
| Double, Low-e2 ½" + argon | 0.60 | 0.46 | 0.37 | 0.40 |
| Double, Low-e1 ½" + argon | 0.58 | 0.43 | 0.35 | 0.38 |
| Triple, Clear ¼" | 0.66 | 0.52 | 0.42 | 0.44 |
| Triple, Clear ¼" + argon | 0.63 | 0.49 | 0.39 | 0.42 |
| Triple, Low-e4 ¼" | 0.64 | 0.50 | 0.40 | 0.40 |
| Triple, Low-e2 ¼" | 0.62 | 0.48 | 0.39 | 0.41 |
| Triple, Low-e1 ¼" | 0.61 | 0.47 | 0.38 | 0.40 |
| Triple, Low-e4 ¼" + argon | 0.60 | 0.46 | 0.37 | 0.39 |
| Triple, Low-e2 ¼" + argon | 0.58 | 0.43 | 0.34 | 0.37 |
| Triple, Low-e1 ¼" + argon | 0.57 | 0.42 | 0.34 | 0.36 |
| Triple, Clear ½" | 0.61 | 0.46 | 0.37 | 0.40 |
| Triple, Clear ½" + argon | 0.59 | 0.45 | 0.36 | 0.38 |
| Triple, Low-e4 ½" | 0.58 | 0.43 | 0.35 | 0.37 |
| Triple, Low-e2 ½" | 0.55 | 0.41 | 0.32 | 0.35 |
| Triple, Low-e1 ½" | 0.54 | 0.39 | 0.31 | 0.33 |
| Triple, Low-e4 ½" + argon | 0.55 | 0.41 | 0.32 | 0.35 |
| Triple, Low-e2 ½" + argon | 0.52 | 0.38 | 0.30 | 0.32 |
| Triple, Low-e1 ½" + argon | 0.51 | 0.37 | 0.29 | 0.31 |

PROPOSED

~~Footnotes to Table 10-6B~~

~~1 Subtract 0.02 from the listed default U-value for non-aluminum spacer. Acceptable spacer materials may include but is not limited to fiberglass, wood and butyl or other material with an equivalent thermal performance.~~

~~2 1/4" = a minimum dead air space of 0.25 inches between the panes of glass.~~
~~3/8" = a minimum dead air space of 0.375 inches between the panes of glass.~~
~~1/2" = a minimum dead air space of 0.5 inches between the panes of glass.~~
~~Product with air spaces different than those listed above shall use the value for the next smaller air space; i.e. 3/4 inch = 1/2 inch U-values, 7/16 inch = 3/8 inch U-values, 5/16 inch = 1/4 inch U-values.~~

~~3 Low e4 (emissivity) shall be 0.4 or less.~~
~~Low e2 (emissivity) shall be 0.2 or less.~~
~~Low e1 (emissivity) shall be 0.1 or less.~~

~~4 U-values listed for argon shall consist of sealed, gas filled insulated units for argon, $CO_2$, $SF_6$, and argon/$SF_6$ mixtures. The following conversion factor shall apply to Krypton gas filled units: 1/4" or greater with krypton is equivalent to 1/2" argon.~~

~~5 Dividers placed between glazing: The U-value listed shall be used where the divider has a minimum gap of 1/8 inch between the divider and lite of each inside glass surface. Add 0.03 to the listed U-value for True Divided Lite windows.~~

~~6 "Glass block" assemblies may use a U-value of 0.51.~~

~~7 Insulated fiberglass framed products shall use wood/vinyl U-values.~~

~~8 Subtract 0.02 from the listed default values for solariums.~~

~~9 Aluminum Thermal Break = An aluminum thermal break framed window shall incorporate the following minimum design characteristics:~~

~~a) The thermal conductivity of the thermal break material shall be not more than 3.6 Btu-in/h/ft²/F°;~~
~~b) The thermal break material must produce a gap in the frame material of not less than 0.210 inches; and,~~
~~c) All metal framing members of the products exposed to interior and exterior air shall incorporate a thermal break meeting the criteria in a) and b) above.~~

~~10 Aluminum clad wood windows shall use the U-values listed for Aluminum Clad Wood/Reinforced Vinyl windows. Vinyl clad wood window shall use the U-values listed for Wood/Vinyl windows. Any vinyl frame window with metal reinforcement in more than one rail shall use the U-values listed for Aluminum Clad Wood/Reinforced Vinyl window.~~

PROPOSED

## TABLE 10-6B[1]

## ~~APPROVED WINDOW AND SKYLIGHT~~ VERTICAL GLAZING U-FACTOR DEFAULT TABLE FOR SMALL BUSINESSES

| DESCRIPTION[2,3,4,5,6] | FRAME TYPE[7,8] | | | |
|---|---|---|---|---|
| | ALUMINUM | ALUM. THERMAL BREAK[9] | WOOD/VINYL | ALUM. CLAD WOOD/REINFORCED VINYL[10] |
| Double, Clear ¼" | 0.82 | 0.66 | 0.56 | 0.59 |
| Double, Clear ¼" + argon | 0.77 | 0.63 | 0.53 | 0.56 |
| Double, Low-e4 ¼" | 0.76 | 0.61 | 0.52 | 0.54 |
| Double, Low-e2 ¼" | 0.73 | 0.58 | 0.49 | 0.51 |
| Double, Low-e1 ¼" | 0.70 | 0.55 | 0.47 | 0.49 |
| Double, Low-e4 ¼" + argon | 0.70 | 0.55 | 0.47 | 0.49 |
| Double, Low-e2 ¼" + argon | 0.66 | 0.52 | 0.43 | 0.46 |
| Double, Low-e1 ¼" + argon | 0.64 | 0.50 | 0.41 | 0.43 |
| Double, Clear 3/8" | 0.78 | 0.63 | 0.54 | 0.57 |
| Double, Clear 3/8" + argon | 0.75 | 0.60 | 0.51 | 0.54 |
| Double, Low-e4 3/8" | 0.72 | 0.57 | 0.48 | 0.51 |
| Double, Low-e2 3/8" | 0.69 | 0.54 | 0.45 | 0.48 |
| Double, Low-e1 3/8" | 0.66 | 0.51 | 0.43 | 0.46 |
| Double, Low-e4 3/8" + argon | 0.68 | 0.53 | 0.44 | 0.47 |
| Double, Low-e2 3/8" + argon | 0.63 | 0.49 | 0.41 | 0.44 |
| Double, Low-e1 3/8" + argon | 0.61 | 0.47 | 0.39 | 0.41 |
| Double, Clear ½" | 0.75 | 0.60 | 0.50 | 0.54 |
| Double, Clear ½" + argon | 0.72 | 0.58 | 0.48 | 0.51 |
| Double, Low-e4 ½" | 0.68 | 0.53 | 0.44 | 0.47 |
| Double, Low-e2 ½" | 0.64 | 0.50 | 0.41 | 0.44 |
| Double, Low-e1 ½" | 0.61 | 0.47 | 0.39 | 0.42 |
| Double, Low-e4 ½" + argon | 0.65 | 0.50 | 0.42 | 0.44 |
| Double, Low-e2 ½" + argon | 0.60 | 0.46 | 0.37 | 0.40 |
| Double, Low-e1 ½" + argon | 0.58 | 0.43 | 0.35 | 0.38 |
| Triple, Clear ¼" | 0.66 | 0.52 | 0.42 | 0.44 |
| Triple, Clear ¼" + argon | 0.63 | 0.49 | 0.39 | 0.42 |
| Triple, Low-e4 ¼" | 0.64 | 0.50 | 0.40 | 0.40 |
| Triple, Low-e2 ¼" | 0.62 | 0.48 | 0.39 | 0.41 |
| Triple, Low-e1 ¼" | 0.61 | 0.47 | 0.38 | 0.40 |
| Triple, Low-e4 ¼" + argon | 0.60 | 0.46 | 0.37 | 0.39 |
| Triple, Low-e2 ¼" + argon | 0.58 | 0.43 | 0.34 | 0.37 |
| Triple, Low-e1 ¼" + argon | 0.57 | 0.42 | 0.34 | 0.36 |
| Triple, Clear ½" | 0.61 | 0.46 | 0.37 | 0.40 |
| Triple, Clear ½" + argon | 0.59 | 0.45 | 0.36 | 0.38 |
| Triple, Low-e4 ½" | 0.58 | 0.43 | 0.35 | 0.37 |
| Triple, Low-e2 ½" | 0.55 | 0.41 | 0.32 | 0.35 |
| Triple, Low-e1 ½" | 0.54 | 0.39 | 0.31 | 0.33 |
| Triple, Low-e4 ½" + argon | 0.55 | 0.41 | 0.32 | 0.35 |
| Triple, Low-e2 ½" + argon | 0.52 | 0.38 | 0.30 | 0.32 |
| Triple, Low-e1 ½" + argon | 0.51 | 0.37 | 0.29 | 0.31 |

PROPOSED

## Footnotes to Table 10-6B

1 Subtract 0.02 from the listed default U-factor~~U-value~~ for non-aluminum spacer. Acceptable spacer materials may include but is not limited to fiberglass, wood and butyl or other material with an equivalent thermal performance.

2 1/4" = a minimum dead air space of 0.25 inches between the panes of glass.
3/8" = a minimum dead air space of 0.375 inches between the panes of glass.
1/2"= a minimum dead air space of 0.5 inches between the panes of glass.
Product with air spaces different than those listed above shall use the value for the next smaller air space; i.e. 3/4 inch = 1/2 inch U-factor~~U-values~~, 7/16 inch = 3/8 inch U-factor~~U-values~~, 5/16 inch = 1/4 inch U-factor~~U-values~~.

3 Low-~~e4~~ (emissivity) shall be 0.4 or less.
Low-e2 (emissivity) shall be 0.2 or less.
Low-e1 (emissivity) shall be 0.1 or less.

4 U-factor~~U-values~~ listed for argon shall consist of sealed, gas-filled insulated units for argon, CO2, SF6, and argon/SF6 mixtures. The following conversion factor shall apply to Krypton gas-filled units: 1/4" or greater with krypton is equivalent to 1/2" argon.

5 Dividers placed between glazing: The U-factor~~U-value~~ listed shall be used where the divider has a minimum gap of 1/8 inch between the divider and lite of each inside glass surface. Add 0.03 to the listed U-factor~~U-value~~ for True Divided Lite windows.

6 "Glass block" assemblies may use a U-factor~~U-value~~ of 0.51.

7 Insulated fiberglass framed products shall use wood/vinyl U-factor~~U-values~~.

8 Subtract 0.02 from the listed default values for solariums.

9 Aluminum Thermal Break = An aluminum thermal break framed window shall incorporate the following minimum design characteristics:

a) The thermal conductivity of the thermal break material shall be not more than 3.6 Btu-in/h/ft$^2$/F° ;
b) The thermal break material must produce a gap in the frame material of not less than 0.210 inches; and,
c) All metal framing members of the products exposed to interior and exterior air shall incorporate a thermal break meeting the criteria in a) and b) above.

10 Aluminum clad wood windows shall use the U-factor~~U-values~~ listed for Aluminum Clad Wood/Reinforced Vinyl windows. Vinyl clad wood window shall use the U-factor~~U-values~~ listed for Wood/Vinyl windows. Any vinyl frame window with metal reinforcement in more than one rail shall use the U-factor~~U-values~~ listed for Aluminum Clad Wood/Reinforced Vinyl window.

## TABLE 10-6C
## TRANSMISSION COEFFICIENTS (U) FOR WOOD AND STEEL DOORS
## Btu/h•ft$^2$•F

| Nominal Door Thickness, Inches | Description | No Storm Door | Wood Storm Door[e] | Metal Storm Door[d] |
|---|---|---|---|---|
| Wood Doors[b] | | | | |
| 1 3/8 | Panel door with 7/16 inch panels[e] | 0.57 | 0.33 | 0.37 |
| 1 3/8 | Hollow core flush door | 0.47 | 0.30 | 0.32 |
| 1 3/8 | Solid core flush door | 0.39 | 0.26 | 0.28 |
| 1 3/4 | Panel door with 7/16 inch panels[e] | 0.57 | 0.33 | 0.36 |
| 1 3/4 | Hollow core flush door | 0.46 | 0.29 | 0.32 |
| 1 3/4 | Panel door with 3/4 inch panels[e] | 0.40 | 0.27 | 0.29 |
| 1 3/4 | Panel door with 1 1/8 inch panels[e] | 0.39 | 0.26 | 0.28 |
| 1 3/4 | Solid core flush door | 0.33 | 0.28 | 0.25 |
| 2 1/4 | Solid core flush door | 0.27 | 0.20 | 0.21 |
| Steel Doors[b] | | | | |
| 1 3/4 | Fiberglass or mineral wool core w/ steel stiffeners; no thermal break[f] | 0.60 | — | — |
| 1 3/4 | Paper honeycomb core without thermal break[f] | 0.56 | — | — |
| 1 3/4 | Solid urethane foam core without thermal break[a] | 0.40 | — | — |
| 1 3/4 | Solid fire rated mineral fiberboard core without thermal break[f] | 0.38 | — | — |
| 1 3/4 | Polystyrene core without thermal break (18 gage commercial steel)[f] | 0.35 | — | — |
| 1 3/4 | Polyurethane core without thermal break (18 gage commercial steel)[f] | 0.29 | — | — |
| 1 3/4 | Polyurethane core without thermal break (24 gage commercial steel)[f] | 0.29 | — | — |
| 1 3/4 | Polyurethane core w/ thermal break & wood perimeter (24 gage commercial steel)[f] | 0.20 | — | — |
| 1 3/4 | Solid urethane foam core with thermal break | 0.19 | 0.16 | 0.17 |

Note: All U-values for exterior doors in this table are for doors with no glazing, except for the storm doors which are in addition to the main exterior door. Any glazing area in exterior doors should be included with the appropriate glass type and analyzed. Interpolation and moderate extrapolation are permitted for door thicknesses other than those specified.

a Values are based on a nominal 32 by 80 in. door size with no glazing.
b Outside air conditions: 15 mph wind speed, 0°F air temperature; inside air conditions: natural convection, 70°F air temperature.
c Values for wood storm door are for approximately 50% glass area.
d Values for metal storm door are for any percent glass area.
e 55% panel area.
f ASTM C 236 hotbox data on a nominal 3 by 7 ft door size with no glazing.

The U values in Table 6C are for exterior wood and steel doors. The values given for wood doors were calculated, and those for steel doors were taken from hotbox tests (Sabine et al. 1975; Yellot 1965) or from manufacturer's test reports. An outdoor surface conductance of 6.0 Btu/h•ft$^2$•°F was used, and the indoor surface conductance was taken as 1.4 Btu/h•ft$^2$•°F for vertical surfaces with horizontal heat flow. All values given are for exterior doors without glazing. If an exterior door contains glazing, refer to Table 10-6D.

PROPOSED

## TABLE 10-6C
## TRANSMISSION COEFFICIENTS (U) FOR WOOD AND STEEL DOORS
## Btu/h•ft$^2$•F

| Nominal Door Thickness, Inches | Description | No Storm Door | Wood Storm Door[c] | Metal Storm Door[d] |
|---|---|---|---|---|
| Wood Doors[b] | | | | |
| 1-3/8 | Panel door with 7/16 inch panels[e] | 0.57 | 0.33 | 0.37 |
| 1-3/8 | Hollow core flush door | 0.47 | 0.30 | 0.32 |
| 1-3/8 | Solid core flush door | 0.39 | 0.26 | 0.28 |
| 1-3/4 | Panel door with 7/16 inch panels[e] | 0.57 | 0.33 | 0.36 |
| 1-3/4 | Hollow core flush door | 0.46 | 0.29 | 0.32 |
| 1-3/4 | Panel door with 3/4 inch panels[e] | 0.40 | 0.27 | 0.29 |
| 1-3/4 | Panel door with 1-1/8 inch panels[e] | 0.39 | 0.26 | 0.28 |
| 1-3/4 | Solid core flush door | 0.33 | 0.28 | 0.25 |
| 2-1/4 | Solid core flush door | 0.27 | 0.20 | 0.21 |
| Steel Doors[b] | | | | |
| 1-3/4 | Fiberglass or mineral wool core w/ steel stiffeners, no thermal break[f] | 0.60 | — | — |
| 1-3/4 | Paper honeycomb core without thermal break[f] | 0.56 | — | — |
| 1-3/4 | Solid urethane foam core without thermal break[a] | 0.40 | — | — |
| 1-3/4 | Solid fire rated mineral fiberboard core without thermal break[f] | 0.38 | — | — |
| 1-3/4 | Polystyrene core without thermal break (18 gage commercial steel)[f] | 0.35 | — | — |
| 1-3/4 | Polyurethane core without thermal break (18 gage commercial steel)[f] | 0.29 | — | — |
| 1-3/4 | Polyurethane core without thermal break (24 gage commercial steel)[f] | 0.29 | — | — |
| 1-3/4 | Polyurethane core w/ thermal break & wood perimeter (24 gage commercial steel)[f] | 0.20 | — | — |
| 1-3/4 | Solid urethane foam core with thermal break | 0.19 | 0.16 | 0.17 |

Note: All U-factor~~U-values~~ for exterior doors in this table are for doors with no glazing, except for the storm doors which are in addition to the main exterior door. Any glazing area in exterior doors should be included with the appropriate glass type and analyzed. Interpolation and moderate extrapolation are permitted for door thicknesses other than those specified.

a Values are based on a nominal 32 by 80 in. door size with no glazing.
b Outside air conditions: 15 mph wind speed, 0°F air temperature; inside air conditions: natural convection, 70°F air temperature.
c Values for wood storm door are for approximately 50% glass area.
d Values for metal storm door are for any percent glass area.
e 55% panel area.
f ASTM C 236 hotbox data on a nominal 3 by 7 ft door size with no glazing.

The U-factor~~U-values~~ in Table 6C are for exterior wood and steel doors. The values given for wood doors were calculated, and those for steel doors were taken from hotbox tests (Sabine et al. 1975: Yellot 1965) or from manufacturer's test reports. An outdoor surface conductance of 6.0 Btu/h•ft$^2$••F was used, and the indoor surface conductance was taken as 1.4 Btu/h•ft$^2$••F for vertical surfaces with horizontal heat flow. All values given are for exterior doors without glazing. If an exterior door contains glazing, refer to Table 10-6D.

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## ~~TABLE 10-6D~~
## ~~APPROVED GLAZED DOOR DEFAULT U-VALUES[2]~~

| ~~Description[2,3,4,5]~~ | ~~Door Material~~ | | | |
|---|---|---|---|---|
| | ~~Insulated[6]~~ | | ~~Wood[7]~~ | |
| | ~~Full Lite[4,9]~~ | ~~Half Lite[10,11]~~ | ~~Full Lite[3]~~ | ~~Half Lite[10]~~ |
| ~~Double, Clear 1/4"~~ | ~~0.39~~ | ~~0.31~~ | ~~0.47~~ | ~~0.42~~ |
| ~~Double, Clear 1/4" + argon~~ | ~~0.37~~ | ~~0.30~~ | ~~0.45~~ | ~~0.41~~ |
| ~~Double, Low-e4 1/4"~~ | ~~0.36~~ | ~~0.30~~ | ~~0.44~~ | ~~0.41~~ |
| ~~Double, Low-e2 1/4"~~ | ~~0.35~~ | ~~0.29~~ | ~~0.43~~ | ~~0.40~~ |
| ~~Double, Low-e1 1/4"~~ | ~~0.24~~ | ~~0.28~~ | ~~0.41~~ | ~~0.39~~ |
| ~~Double, Low-e4 1/4" + argon~~ | ~~0.33~~ | ~~0.28~~ | ~~0.41~~ | ~~0.39~~ |
| ~~Double, Low-e2 1/4" + argon~~ | ~~0.31~~ | ~~0.26~~ | ~~0.39~~ | ~~0.38~~ |
| ~~Double, Low-e1 1/4" + argon~~ | ~~0.31~~ | ~~0.26~~ | ~~0.38~~ | ~~0.37~~ |
| ~~Double, Clear 3/8"~~ | ~~0.37~~ | ~~0.30~~ | ~~0.45~~ | ~~0.41~~ |
| ~~Double, Clear 3/8" + argon~~ | ~~0.36~~ | ~~0.29~~ | ~~0.44~~ | ~~0.41~~ |
| ~~Double, Low-e4 3/8"~~ | ~~0.34~~ | ~~0.28~~ | ~~0.42~~ | ~~0.40~~ |
| ~~Double, Low-e2 3/8"~~ | ~~0.33~~ | ~~0.28~~ | ~~0.41~~ | ~~0.39~~ |
| ~~Double, Low-e1 3/8"~~ | ~~0.21~~ | ~~0.26~~ | ~~0.38~~ | ~~0.37~~ |
| ~~Double, Low-e4 3/8" + argon~~ | ~~0.32~~ | ~~0.27~~ | ~~0.40~~ | ~~0.38~~ |
| ~~Double, Low-e2 3/8" + argon~~ | ~~0.29~~ | ~~0.25~~ | ~~0.37~~ | ~~0.37~~ |
| ~~Double, Low-e1 3/8" + argon~~ | ~~0.29~~ | ~~0.25~~ | ~~0.36~~ | ~~0.36~~ |
| ~~Double, Clear 1/2"~~ | ~~0.36~~ | ~~0.29~~ | ~~0.44~~ | ~~0.41~~ |
| ~~Double, Clear 1/2" + argon~~ | ~~0.34~~ | ~~0.28~~ | ~~0.42~~ | ~~0.40~~ |
| ~~Double, Low-e4 1/2"~~ | ~~0.32~~ | ~~0.27~~ | ~~0.40~~ | ~~0.38~~ |
| ~~Double, Low-e2 1/2"~~ | ~~0.30~~ | ~~0.26~~ | ~~0.38~~ | ~~0.37~~ |
| ~~Double, Low-e1 1/2"~~ | ~~0.29~~ | ~~0.25~~ | ~~0.36~~ | ~~0.36~~ |
| ~~Double, Low-e4 1/2" + argon~~ | ~~0.30~~ | ~~0.26~~ | ~~0.38~~ | ~~0.37~~ |
| ~~Double, Low-e2 1/2" + argon~~ | ~~0.28~~ | ~~0.25~~ | ~~0.36~~ | ~~0.36~~ |
| ~~Double, Low-e1 1/2" + argon~~ | ~~0.28~~ | ~~0.24~~ | ~~0.34~~ | ~~0.35~~ |
| ~~Triple, Clear 1/4"~~ | ~~0.31~~ | ~~0.26~~ | ~~0.39~~ | ~~0.38~~ |
| ~~Triple, Clear 1/4" + argon~~ | ~~0.29~~ | ~~0.25~~ | ~~0.37~~ | ~~0.37~~ |
| ~~Triple, Low-e4 1/4"~~ | ~~0.30~~ | ~~0.26~~ | ~~0.38~~ | ~~0.37~~ |
| ~~Triple, Low-e2 1/4"~~ | ~~0.29~~ | ~~0.25~~ | ~~0.37~~ | ~~0.36~~ |
| ~~Triple, Low-e4 1/4" + argon~~ | ~~0.27~~ | ~~0.24~~ | ~~0.35~~ | ~~0.35~~ |
| ~~Triple, Low-e2 1/4" + argon~~ | ~~0.26~~ | ~~0.24~~ | ~~0.34~~ | ~~0.35~~ |

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## Footnotes to Table 10-6D

1 Subtract 0.02 from the listed default U-value for insulated spacers. Insulated spacer material includes fiberglass, wood and butyl or other material with an equivalent Thermal performance.

2 1/4" = a minimum dead air space of 0.25 inches between the panes of glass.
3/8" = a minimum dead air space of 0.375 inches between the panes of glass.
1/2" = a minimum dead air space of 0.5 inches between the panes of glass.
Products with air spaces different than those listed above shall use the value for next smaller air space; i.e. 3/4 inch = 1/2 inch U-values, 7/16 inch = 3/8 inch U-values, 5/16 inch = 1/4 inch U-values.

3 Low-e4 (emissivity) shall be 0.4 or less.
Low-e2 (emissivity) shall be 0.2 or less.
Low-e1 (emissivity) shall be 0.1 or less.

4 U-values listed for argon shall consist of sealed, gas-filled, insulated units for argon, CO2, SF6 and argon/SF6 mixtures.
The following conversion factor shall apply to Krypton gas-filled units:
1/4 inch or greater airspace of Krypton gas fill = 1/2 inch air space Argon gas fill.

5 Dividers placed between glazing: The U-values listed shall be used where the divider has a minimum gap of 1/8 inch between the divider and lite of each inside glass surface. Add 0.03 to the listed U-value for True Divided Lite windows.

6 Insulated = Any urethane insulated foam core door with a thermal break. Thermal Break = A thermal break door shall incorporate the following design characteristics:
a) The thermal conductivity of the thermal break material shall be not more than 3.6 Btu-in/h•ft$^2$•°F; and
b) The thermal break material shall not be less than 0.210 inches.

7 Wood = any wood door.

8 Full Lite = A door that consists of more than 50% glazing.

9 Add 0.05 to the listed U-value for Full Lite values if the insulated door does not have a thermal break.

10 Half Lite = A door that consists of 50% or less glazing.

11 Add 0.06 to the listed U-value for Half Lite values if the insulated door does not have a thermal break.

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# TABLE 10-6D
# APPROVED GLAZED DOOR DEFAULT U-FACTORU-VALUES[2]

| Description[2,3,4,5] | Door Material | | | |
|---|---|---|---|---|
| | Insulated[6] | | Wood[7] | |
| | Full-Lite[4,9] | Half-Lite[10,11] | Full-Lite[3] | Half-Lite[10] |
| Double, Clear 1/4" | 0.39 | 0.31 | 0.47 | 0.42 |
| Double, Clear 1/4" + argon | 0.37 | 0.30 | 0.45 | 0.41 |
| Double, Low-e4 1/4" | 0.36 | 0.30 | 0.44 | 0.41 |
| Double, Low-e2 1/4" | 0.35 | 0.29 | 0.43 | 0.40 |
| Double, Low-e1 1/4" | 0.24 | 0.28 | 0.41 | 0.39 |
| Double, Low-e4 1/4" + argon | 0.33 | 0.28 | 0.41 | 0.39 |
| Double, Low-e2 1/4" + argon | 0.31 | 0.26 | 0.39 | 0.38 |
| Double, Low-e1 1/4" + argon | 0.31 | 0.26 | 0.38 | 0.37 |
| Double, Clear 3/8" | 0.37 | 0.30 | 0.45 | 0.41 |
| Double, Clear 3/8" + argon | 0.36 | 0.29 | 0.44 | 0.41 |
| Double, Low-e4 3/8" | 0.34 | 0.28 | 0.42 | 0.40 |
| Double, Low-e2 3/8" | 0.33 | 0.28 | 0.41 | 0.39 |
| Double, Low-e1 3/8" | 0.21 | 0.26 | 0.38 | 0.37 |
| Double, Low-e4 3/8" + argon | 0.32 | 0.27 | 0.40 | 0.38 |
| Double, Low-e2 3/8" + argon | 0.29 | 0.25 | 0.37 | 0.37 |
| Double, Low-e1 3/8" + argon | 0.29 | 0.25 | 0.36 | 0.36 |
| Double, Clear 1/2" | 0.36 | 0.29 | 0.44 | 0.41 |
| Double, Clear 1/2" + argon | 0.34 | 0.28 | 0.42 | 0.40 |
| Double, Low-e4 1/2" | 0.32 | 0.27 | 0.40 | 0.38 |
| Double, Low-e2 1/2" | 0.30 | 0.26 | 0.38 | 0.37 |
| Double, Low-e1 1/2" | 0.29 | 0.25 | 0.36 | 0.36 |
| Double, Low-e4 1/2" + argon | 0.30 | 0.26 | 0.38 | 0.37 |
| Double, Low-e2 1/2" + argon | 0.28 | 0.25 | 0.36 | 0.36 |
| Double, Low-e1 1/2" + argon | 0.28 | 0.24 | 0.34 | 0.35 |
| Triple, Clear 1/4" | 0.31 | 0.26 | 0.39 | 0.38 |
| Triple, Clear 1/4" + argon | 0.29 | 0.25 | 0.37 | 0.37 |
| Triple, Low-e4 1/4" | 0.30 | 0.26 | 0.38 | 0.37 |
| Triple, Low-e2 1/4" | 0.29 | 0.25 | 0.37 | 0.36 |
| Triple, Low-e4 1/4" + argon | 0.27 | 0.24 | 0.35 | 0.35 |
| Triple, Low-e2 1/4" + argon | 0.26 | 0.24 | 0.34 | 0.35 |

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## Footnotes to Table 10-6D

1 Subtract 0.02 from the listed default U-factor~~U-value~~ for insulated spacers. Insulated spacer material includes fiberglass, wood and butyl or other material with an equivalent Thermal performance.

2 1/4" = a minimum dead air space of 0.25 inches between the panes of glass.
3/8" = a minimum dead air space of 0.375 inches between the panes of glass.
1/2" = a minimum dead air space of 0.5 inches between the panes of glass.
Products with air spaces different than those listed above shall use the value for next smaller air space; i.e. 3/4 inch = 1/2 inch U-factor~~U-values~~, 7/16 inch = 3/8 inch U-factor~~U-values~~, 5/16 inch = 1/4 inch U-factor~~U-values~~.

3 Low-~~e4~~ (emissivity) shall be 0.4 or less.
Low-e2 (emissivity) shall be 0.2 or less.
Low-e1 (emissivity) shall be 0.1 or less.

4 U-factor~~U-values~~ listed for argon shall consist of sealed, gas-filled, insulated units for argon, CO2, SF6 and argon/SF6 mixtures.
The following conversion factor shall apply to Krypton gas-filled units:
1/4 inch or greater airspace of Krypton gas-fill = 1/2 inch air space Argon gas-fill.

5 Dividers placed between glazing: The U-factor~~U-values~~ listed shall be used where the divider has a minimum gap of 1/8 inch between the divider and lite of each inside glass surface. Add 0.03 to the listed U-factor~~U-value~~ for True Divided Lite windows.

6 Insulated = Any urethane insulated foam core door with a thermal break. Thermal Break = A thermal break door shall incorporate the following design characteristics:
a) The thermal conductivity of the thermal break material shall be not more than 3.6 Btu-in/h•ft$^2$•°F; and
b) The thermal break material shall not be less than 0.210 inches.

7 Wood = any wood door.

8 Full-Lite = A door that consists of more than 50% glazing.

9 Add 0.05 to the listed U-factor~~U-value~~ for Full-Lite values if the insulated door does not have a thermal break.

10 Half-Lite = A door that consists of 50% or less glazing.

11 Add 0.06 to the listed U-factor~~U-value~~ for Half-Lite values if the insulated door does not have a thermal break.

PROPOSED

## TABLE 10-6E
## DEFAULT U-FACTORS FOR OVERHEAD GLAZING ~~SKYLIGHTS~~

| Glazing Type | Frame Type | | | |
|---|---|---|---|---|
| | Aluminum without Thermal Break | Aluminum with Thermal Break | Reinforced Vinyl/ Aluminum-Clad Wood or Vinyl | Wood or Vinyl-Clad Wood/ Vinyl without Reinforcing |
| Single Glazing | | | | |
| glass | U-1.58 | U-1.51 | U-1.40 | U-1.18 |
| acrylic/polycarb | U-1.52 | U-1.45 | U-1.34 | U-1.11 |
| Double Glazing | | | | |
| air | U-1.05 | U-0.89 | U-0.84 | U-0.67 |
| argon | U-1.02 | U-0.86 | U-0.80 | U-0.64 |
| Double Glazing, $e$=0.20 | | | | |
| air | U-0.96 | U-0.80 | U-0.75 | U-0.59 |
| argon | U-0.91 | U-0.75 | U-0.70 | U-0.54 |
| Double Glazing, $e$=0.10 | | | | |
| air | U-0.94 | U-0.79 | U-0.74 | U-0.58 |
| argon | U-0.89 | U-0.73 | U-0.68 | U-0.52 |
| Double Glazing, $e$=0.05 | | | | |
| air | U-0.93 | U-0.78 | U-0.73 | U-0.56 |
| argon | U-0.87 | U-0.71 | U-0.66 | U-0.50 |
| Triple Glazing | | | | |
| air | U-0.90 | U-0.70 | U-0.67 | U-0.51 |
| argon | U-0.87 | U-0.69 | U-0.64 | U-0.48 |
| Triple Glazing, $e$=0.20 | | | | |
| air | U-0.86 | U-0.68 | U-0.63 | U-0.47 |
| argon | U-0.82 | U-0.63 | U-0.59 | U-0.43 |
| Triple Glazing, $e$=0.20 on 2 surfaces | | | | |
| air | U-0.82 | U-0.64 | U-0.60 | U-0.44 |
| argon | U-0.79 | U-0.60 | U-0.56 | U-0.40 |
| Triple Glazing, $e$=0.10 on 2 surfaces | | | | |
| air | U-0.81 | U-0.62 | U-0.58 | U-0.42 |
| argon | U-0.77 | U-0.58 | U-0.54 | U-0.38 |
| Quadruple Glazing, $e$=0.10 on 2 surfaces | | | | |
| air | U-0.78 | U-0.59 | U-0.55 | U-0.39 |
| argon | U-0.74 | U-0.56 | U-0.52 | U-0.36 |
| krypton | U-0.70 | U-0.52 | U-0.48 | U-0.32 |

1. U-factors are applicable to both glass and plastic, flat and domed units, all spacers and gaps.
2. Emissivities shall be less than or equal to the value specified.
3. Gap fill shall be assumed to be air unless there is a minimum of 90% argon or krypton.
4. Aluminum frame with thermal break is as defined in footnote 9 to Table 10-6B.

PROPOSED

AMENDATORY SECTION (Amending WSR 91-01-112, filed 12/19/90, effective 7/1/91)

**WAC 51-11-1007 ((~~Reserved.~~)) Section 1007 Ceilings.**

1007.1 General: Table 10-7 lists heat-loss coefficients for the opaque portion of exterior ceilings below vented attics, vaulted ceilings, and roof decks in units of Btu/hr●°F per square foot of ceiling.

They are derived from procedures listed in Standard RS-1, listed in Chapter 7. Ceiling U-factors are modified for the buffering effect of the attic, assuming an indoor temperature of 65° F and an outdoor temperature of 45° F.

1007.2 Component Description: The three types of ceilings are characterized as follows:

Ceilings Below a Vented Attic: Attic insulation is assumed to be blown-in, loose-fill fiberglass with a K-value of 2.6 hr●ft$^2$●°F/Btu per inch. Full bag count for specified R-value is assumed in all cases. Ceiling dimensions for flat ceiling calculations are forty-five by thirty feet, with a gabled roof having a 4/12 pitch. The attic is assumed to vent naturally at the rate of three air changes per hour through soffit and ridge vents. A void fraction of 0.002 is assumed for all attics with insulation baffles. Standard-framed, unbaffled attics assume a void fraction of 0.008.

Attic framing is either standard or advanced. Standard framing assumes tapering of insulation depth around the perimeter with resultant decrease in thermal resistance. An increased R-value is assumed in the center of the ceiling due to the effect of piling leftover insulation. Advanced framing assumes full and even depth of insulation extending to the outside edge of exterior walls. Advanced framing does not change from the default value.

U-Factors for flat ceilings below vented attics with standard framing may be modified with the following table:

| | U-Factor for Standard Framing | |
|---|---|---|
| Roof Pitch | R-30 | R-38 |
| 4/12 | 0.036 | 0.031 |
| 5/12 | 0.035 | 0.030 |
| 6/12 | 0.034 | 0.029 |
| 7/12 | 0.034 | 0.029 |
| 8/12 | 0.034 | 0.028 |
| 9/12 | 0.034 | 0.028 |
| 10/12 | 0.033 | 0.028 |
| 11/12 | 0.033 | 0.027 |
| 12/12 | 0.033 | 0.027 |

Vented scissors truss attics assume a ceiling pitch of 2/12 with a roof pitch of either 4/12 or 5/12. Unbaffled standard framed scissors truss attics are assumed to have a void fraction of 0.016.

Vaulted Ceilings: Insulation is assumed to be fiberglass batts installed in roof joist cavities. In the vented case, at least 1.5-inches between the top of the batts and the underside of the roof sheathing is left open for ventilation in each cavity. A ventilation rate of three air changes per hour is assumed. In the unvented or dense pack case, the ceiling cavity is assumed to be fully packed with insulation, leaving no space for ventilation.

Roof Decks: Rigid insulation is applied to the top of roof decking with no space left for ventilation. Roofing materials are attached directly on top of the insulation. Framing members are often left exposed on the interior side.

Metal Truss Framing: Overall system tested values for the roof/ceiling $U_o$ for metal framed truss assemblies from approved laboratories shall be used, when such data is acceptable to the building official.

Alternatively, the $U_o$ for roof/ceiling assemblies using metal truss framing may be obtained from Tables 10-7A, 10-7B, 10-7C, 10-7D and 10-7E.

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# TABLE 10-7
# DEFAULT U-FACTORU-VALUES FOR CEILINGS

## Ceilings Below Vented Attics

| | Standard Frame | Advanced Frame |
|---|---|---|
| **Flat Ceiling** | **Baffled** | |
| R-19 | 0.049 | 0.047 |
| R-30 | 0.036 | 0.032 |
| R-38 | 0.031 | 0.026 |
| R-49 | 0.027 | 0.020 |
| R-60 | 0.025 | 0.017 |
| **Scissors Truss** | | |
| R-30 (4/12 roof pitch) | 0.043 | 0.031 |
| R-38 (4/12 roof pitch) | 0.040 | 0.025 |
| R-49 (4/12 roof pitch) | 0.038 | 0.020 |
| R-30 (5/12 roof pitch) | 0.039 | 0.032 |
| R-38 (5/12 roof pitch) | 0.035 | 0.026 |
| R-49 (5/12 roof pitch) | 0.032 | 0.020 |
| **Vaulted Ceilings** | | |
| | **16" O.C.** | **24" O.C.** |
| **Vented** | | |
| R-19 2x10 joist | 0.049 | 0.048 |
| R-30 2x12 joist | 0.034 | 0.033 |
| R-38 2x14 joist | 0.027 | 0.027 |
| **Unvented** | | |
| R-30 2x10 joist | 0.034 | 0.033 |
| R-38 2x12 joist | 0.029 | 0.027 |
| R-21 + R-21 2x12 joist | 0.026 | 0.025 |
| **Roof Deck** | | |
| | **4x Beams, 48" O.C.** | |
| R-12.5 2" Rigid insulation | 0.064 | |
| R-21.9 3.5" Rigid insulation | 0.040 | |
| R-37.5 6" Rigid insulation | 0.025 | |
| R-50 8" Rigid insulation | 0.019 | |

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**Table 10-7A**
**Steel Truss[1] Framed Ceiling $U_o$**

| Cavity R-value | Truss Span (ft) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 |
| 19 | 0.1075 | 0.0991 | 0.0928 | 0.0878 | 0.0839 | 0.0807 | 0.0780 | 0.0757 | 0.0737 | 0.0720 | 0.0706 | 0.0693 | 0.0681 |
| 30 | 0.0907 | 0.0823 | 0.0760 | 0.0710 | 0.0671 | 0.0638 | 0.0612 | 0.0589 | 0.0569 | 0.0552 | 0.0538 | 0.0525 | 0.0513 |
| 38 | 0.0844 | 0.0759 | 0.0696 | 0.0647 | 0.0607 | 0.0575 | 0.0548 | 0.0525 | 0.0506 | 0.0489 | 0.0474 | 0.0461 | 0.0449 |
| 49 | 0.0789 | 0.0704 | 0.0641 | 0.0592 | 0.0552 | 0.0520 | 0.0493 | 0.0470 | 0.0451 | 0.0434 | 0.0419 | 0.0406 | 0.0395 |

**Table 10-7B**
**Steel Truss[1] Framed Ceiling $U_o$ with R-3 Sheathing[2]**

| Cavity R-value | Truss Span (ft) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 |
| 19 | 0.0809 | 0.0763 | 0.0728 | 0.0701 | 0.0679 | 0.0661 | 0.0647 | 0.0634 | 0.0623 | 0.0614 | 0.0606 | 0.0599 | 0.0592 |
| 30 | 0.0641 | 0.0595 | 0.0560 | 0.0533 | 0.0511 | 0.0493 | 0.0478 | 0.0466 | 0.0455 | 0.0446 | 0.0438 | 0.0431 | 0.0424 |
| 38 | 0.0577 | 0.0531 | 0.0496 | 0.0469 | 0.0447 | 0.0430 | 0.0415 | 0.0402 | 0.0392 | 0.0382 | 0.0374 | 0.0367 | 0.0361 |
| 49 | 0.0523 | 0.0476 | 0.0441 | 0.0414 | 0.0393 | 0.0375 | 0.0360 | 0.0348 | 0.0337 | 0.0328 | 0.0319 | 0.0312 | 0.0306 |

**Table 10-7C**
**Steel Truss[1] Framed Ceiling $U_o$ with R-5 Sheathing[2]**

| Cavity R-value | Truss Span (ft) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 |
| 19 | 0.0732 | 0.0697 | 0.0670 | 0.0649 | 0.0633 | 0.0619 | 0.0608 | 0.0598 | 0.0590 | 0.0583 | 0.0577 | 0.0571 | 0.0567 |
| 30 | 0.0564 | 0.0529 | 0.0502 | 0.0481 | 0.0465 | 0.0451 | 0.0440 | 0.0430 | 0.0422 | 0.0415 | 0.0409 | 0.0403 | 0.0399 |
| 38 | 0.0501 | 0.0465 | 0.0438 | 0.0418 | 0.0401 | 0.0388 | 0.0376 | 0.0367 | 0.0359 | 0.0351 | 0.0345 | 0.0340 | 0.0335 |
| 49 | 0.0446 | 0.0410 | 0.0384 | 0.0363 | 0.0346 | 0.0333 | 0.0322 | 0.0312 | 0.0304 | 0.0297 | 0.0291 | 0.0285 | 0.0280 |

**Table 10-7D**
**Steel Truss[1] Framed Ceiling $U_o$ with R-10 Sheathing[2]**

| Cavity R-value | Truss Span (ft) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 |
| 19 | 0.0626 | 0.0606 | 0.0590 | 0.0578 | 0.0569 | 0.0561 | 0.0555 | 0.0549 | 0.0545 | 0.0541 | 0.0537 | 0.0534 | 0.0531 |
| 30 | 0.0458 | 0.0437 | 0.0422 | 0.0410 | 0.0401 | 0.0393 | 0.0387 | 0.0381 | 0.0377 | 0.0373 | 0.0369 | 0.0366 | 0.0363 |
| 38 | 0.0394 | 0.0374 | 0.0359 | 0.0347 | 0.0337 | 0.0330 | 0.0323 | 0.0318 | 0.0313 | 0.0309 | 0.0305 | 0.0302 | 0.0299 |
| 49 | 0.0339 | 0.0319 | 0.0304 | 0.0292 | 0.0283 | 0.0275 | 0.0268 | 0.0263 | 0.0258 | 0.0254 | 0.0251 | 0.0247 | 0.0245 |

**Table 10-7E**
**Steel Truss[1] Framed Ceiling $U_o$ with R-15 Sheathing[2]**

| Cavity R-value | Truss Span (ft) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 |
| 19 | 0.0561 | 0.0550 | 0.0541 | 0.0535 | 0.0530 | 0.0526 | 0.0522 | 0.0519 | 0.0517 | 0.0515 | 0.0513 | 0.0511 | 0.0509 |
| 30 | 0.0393 | 0.0382 | 0.0373 | 0.0367 | 0.0362 | 0.0358 | 0.0354 | 0.0351 | 0.0349 | 0.0347 | 0.0345 | 0.0343 | 0.0341 |
| 38 | 0.0329 | 0.0318 | 0.0310 | 0.0303 | 0.0298 | 0.0294 | 0.0291 | 0.0288 | 0.0285 | 0.0283 | 0.0281 | 0.0279 | 0.0278 |
| 49 | 0.0274 | 0.0263 | 0.0255 | 0.0249 | 0.0244 | 0.0239 | 0.0236 | 0.0233 | 0.0230 | 0.0228 | 0.0226 | 0.0225 | 0.0223 |

1 - Assembly values based on 24 inch on center truss spacing; 11 Truss member connections penetrating insulation (4 at the eaves, 7 in the interior space); ½ inch drywall ceiling; all truss members are 2x4 "C" channels with a solid web.

2 - Ceiling sheathing installed between bottom chord and drywall.

AMENDATORY SECTION (Amending WSR 91-01-112, filed 12/19/90, effective 7/1/91)

**WAC 51-11-1008 ((~~Section 1007 Ceilings.~~)) Section 1008 Air infiltration.**

((~~1007.1 General: Table 10-7 lists heat loss coefficients for the opaque portion of exterior ceilings below vented attics, vaulted ceilings, and roof decks in units of Btu/°F●hr per square foot of ceiling.~~

~~They are derived from procedures listed in RS-1, listed in Chapter 7. Ceiling U-values are modified for the buffering effect of the attic, assuming an indoor temperature of 65° F and an outdoor temperature of 45° F.~~

~~1007.2 Component Description: The three types of ceilings are characterized as follows:~~

~~Ceilings Below a Vented Attic: Attic insulation is assumed to be blown in, loose fill fiberglass with a K value of 2.6 hr●°F●ft²/Btu per inch. Full bag count for specified R-value is assumed in all cases. Ceiling dimensions for flat ceiling calculations are forty-five by thirty feet, with a gabled roof having a 4/12 pitch. The attic is assumed to vent naturally at the rate of three air changes per hour through soffit and ridge vents. A void fraction of 0.002 is assumed for all attics with insulation baffles. Standard framed, unbaffled attics assume a void fraction of 0.008.~~

~~Attic framing is either standard or advanced. Standard framing assumes tapering of insulation depth around the perimeter with resultant decrease in thermal resistance. An increased R-value is assumed in the center of the ceiling due to the effect of piling leftover insulation. Advanced framing assumes full and even depth of insulation extending to the outside edge of exterior walls. Advanced framing does not change from the default value.~~

~~U-Values for flat ceilings below vented attics with standard framing may be modified with the following table:~~

| | ~~U-Value for Standard Framing~~ | |
|---|---|---|
| ~~Roof Pitch~~ | ~~R-30~~ | ~~R-38~~ |
| ~~4/12~~ | ~~.036~~ | ~~.031~~ |
| ~~5/12~~ | ~~.035~~ | ~~.030~~ |
| ~~6/12~~ | ~~.034~~ | ~~.029~~ |
| ~~7/12~~ | ~~.034~~ | ~~.029~~ |
| ~~8/12~~ | ~~.034~~ | ~~.028~~ |
| ~~9/12~~ | ~~.034~~ | ~~.028~~ |
| ~~10/12~~ | ~~.033~~ | ~~.028~~ |
| ~~11/12~~ | ~~.033~~ | ~~.027~~ |
| ~~12/12~~ | ~~.033~~ | ~~.027~~ |

~~Vented scissors truss attics assume a ceiling pitch of 2/12 with a roof pitch of either 4/12 or 5/12. Unbaffled standard framed scissors truss attics are assumed to have a void fraction of .016.~~

~~Vaulted Ceilings: Insulation is assumed to be fiberglass batts installed in roof joist cavities. In the vented case, at least 1.5 inches between the top of the batts and the underside of the roof sheathing is left open for ventilation in each cavity. A ventilation rate of three air changes per hour is assumed. In the unvented or dense pack case, the ceiling cavity is assumed to be fully packed with insulation, leaving no space for ventilation.~~

~~Roof Decks: Rigid insulation is applied to the top of roof decking with no space left for ventilation. Roofing materials are attached directly on top of the insulation. Framing members are often left exposed on the interior side.~~

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~~TABLE 10-7~~
~~DEFAULT U-VALUES FOR CEILINGS~~

~~Ceilings Below Vented Attics~~

| | ~~Standard Frame~~ | ~~Advanced Frame~~ |
|---|---|---|
| ~~Flat Ceiling~~ | ~~Baffled~~ | |
| ~~R-19~~ | ~~0.049~~ | ~~0.047~~ |
| ~~R-30~~ | ~~0.036~~ | ~~0.032~~ |
| ~~R-38~~ | ~~0.031~~ | ~~0.026~~ |
| ~~R-49~~ | ~~0.027~~ | ~~0.020~~ |
| ~~R-60~~ | ~~0.025~~ | ~~0.017~~ |
| ~~Scissors Truss~~ | | |
| ~~R-30 (4/12 roof pitch)~~ | ~~0.043~~ | ~~0.031~~ |
| ~~R-38 (4/12 roof pitch)~~ | ~~0.040~~ | ~~0.025~~ |
| ~~R-49 (4/12 roof pitch)~~ | ~~0.038~~ | ~~0.020~~ |
| ~~R-30 (5/12 roof pitch)~~ | ~~0.039~~ | ~~0.032~~ |
| ~~R-38 (5/12 roof pitch)~~ | ~~0.035~~ | ~~0.026~~ |
| ~~R-49 (5/12 roof pitch)~~ | ~~0.032~~ | ~~0.020~~ |
| ~~Vaulted Ceilings~~ | | |
| | ~~16" O.C.~~ | ~~24" O.C.~~ |
| ~~Vented~~ | | |
| ~~R-19 2x10 joist~~ | ~~0.049~~ | ~~0.048~~ |
| ~~R-30 2x12 joist~~ | ~~0.034~~ | ~~0.033~~ |
| ~~R-38 2x14 joist~~ | ~~0.027~~ | ~~0.027~~ |
| ~~Unvented~~ | | |
| ~~R-30 2x10 joist~~ | ~~0.034~~ | ~~0.033~~ |
| ~~R-38 2x12 joist~~ | ~~0.029~~ | ~~0.027~~ |
| ~~R-21 + R-21 2x12 joist~~ | ~~0.026~~ | ~~0.025~~ |
| ~~Roof Deck~~ | | |
| | ~~4x Beams, 48" O.C.~~ | |
| ~~R-12.5 2" Rigid insulation~~ | ~~0.064~~ | |
| ~~R-21.9 3.5" Rigid insulation~~ | ~~0.040~~ | |
| ~~R-37.5 6" Rigid insulation~~ | ~~0.025~~ | |
| ~~R-50 8" Rigid insulation~~ | ~~0.019~~ | |

1008.1 General: Tables 10-8 and 10-9 list effective air change rates and heat capacities for heat loss due to infiltration.

Estimated seasonal average infiltration rate in air changes per hour (ACH) is given for standard air-leakage control (see section 502.4 of this code for air leakage requirements). The effective air-change rate shall be used in calculations for compliance under either the Component Performance or Systems Analysis approaches.

Heat loss due to infiltration shall be computed using the following equation:

$$Q_{infil} = ACH_{eff} * HCP$$

where: $Q_{infil}$ = Heat loss due to air infiltration

$ACH_{eff}$ = the effective air infiltration rate in Table 10-8

HCP = the Heat Capacity Density Product for the appropriate elevation or climate zone as given below.

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## TABLE 10-8
## ASSUMED EFFECTIVE AIR CHANGES PER HOUR

| Air-Leakage Control Package | Air Changes per Hour Natural | Effective |
|---|---|---|
| Standard | 0.35 | 0.35 |

## TABLE 10-9
## DEFAULT HEAT CAPACITY/DENSITY PRODUCT FOR AIR

| Zone | Average Elevation | Heat Capacity/Density |
|---|---|---|
| 1 | Mean Sea Level | 0.0180 Btu/h•°F |
| 2 | 2000 | 0.0168 Btu/h•°F |
| 3 | 3000 | 0.0162 Btu/h•°F |

AMENDATORY SECTION (Amending WSR 91-01-112, filed 12/19/90, effective 7/1/91)

**WAC 51-11-1009** ((~~Section 1008 Air infiltration.~~)) **Section 1009 Mass.**

((~~1008.1 General: Tables 10-8 and 10-9 list effective air change rates and heat capacities for heat loss due to infiltration.~~

~~Estimated seasonal average infiltration rate in air changes per hour (ACH) is given for standard air leakage control (see section 502.4 Air Leakage for All Occupancies). The effective air change rate shall be used in calculations for compliance under either the Component Performance or Systems Analysis approaches.~~

~~Heat loss due to infiltration shall be computed using the following equation:~~

~~$Q_{infil} = ACH_{eff} * HCP$~~

~~where: $Q_{infil}$ = Heat loss due to air infiltration~~

~~$ACH_{eff}$ = the effective infiltration rate in Table 10-8~~

~~HCP = the Heat Capacity Density Product for the appropriate elevation or climate zone as given below.~~

PROPOSED

~~TABLE 10-8~~
~~ASSUMED EFFECTIVE AIR CHANGES PER HOUR~~

| ~~Air Leakage Control Package~~ | ~~Air Changes per Hour Natural~~ | ~~Effective~~ |
|---|---|---|
| ~~Standard~~ | ~~0.35~~ | ~~0.35~~ |

~~TABLE 10-9~~
~~DEFAULT HEAT CAPACITY/DENSITY PRODUCT FOR AIR~~

| ~~Zone~~ | ~~Average Elevation~~ | ~~Heat Capacity/Density~~ |
|---|---|---|
| ~~1~~ | ~~Mean Sea Level~~ | ~~0.0180 Btu/h•°F~~ |
| ~~2~~ | ~~2000~~ | ~~0.0168 Btu/h•°F~~ |
| ~~3~~ | ~~3000~~ | ~~0.0162 Btu/h•°F~~ |

1009.1 General: Table 10-10 lists default mass-values for residential construction types. All calculations are based on standard ASHRAE values for heat-storage capacity as listed in Standard RS-1 Chapter 22.

Thermal capacity of furniture is ignored, as is heat storage beyond the first four inches of mass thickness. All mass is assumed to be in direct contact with the conditioned space. Concrete separated from the heated volume by other materials must multiply the listed concrete mass value by the result of the following formula:

Ln(R-value) x (-.221) + 0.5

Where:

Ln = Natural log

R-value = R-value of material covering concrete

Note: All default values for covered concrete slabs have been adjusted according to this procedure.

1009.2 Mass Description: Mass is divided into two types: Structural and additional.

Structural Mass: Includes heat-storage capacity of all standard building components of a typical residential structure, including floors, ceilings, and interior and exterior walls in Btu/ft$^2$●°F of floor area. It also assumes exterior wall, interior wall and ceiling surface area approximately equals three times the floor area.

Additional Mass: Includes any additional building material not part of the normal structure, which is added specifically to increase the building's thermal-storage capability. This category includes masonry fireplaces, water or trombe walls, and extra layers of sheetrock. Coefficients are in Btu/ft$^2$●°F of surface area of material exposed to conditioned space. The coefficient for water is Btu/°F●gallon.

1009.3 Component Description: Light frame assumes one inch thick wood flooring with five-eighths inch sheetrock on ceilings and interior walls, and walls consisting of either five-eighths inch sheetrock or solid logs. Slab assumes a four-inch concrete slab on or below grade, with five-eighths inch sheetrock on exterior and interior walls and ceiling, and with separate values for interior or exterior wall insulation. Adjustments for slab covering is based on R-value of material. Additional mass values are based on the density multiplied by the specific heat of the material adjusted for listed thickness.

## TABLE 10-10
## DEFAULT MASS VALUES

| Structural Mass M-value | Btu/ft²•°F floor area |
|---|---|
| **Light Frame:** | |
| Joisted/post & beam floor, sheetrock walls and ceilings | 3.0 |
| Joisted/post & beam floor, log walls, sheetrock ceilings | 4.0 |
| **Slab With Interior Wall Insulation:** | |
| Slab, no covering or tile, sheetrock walls and ceilings | 10.0 |
| Slab, hardwood floor covering, sheetrock walls and ceilings | 7.0 |
| Slab, carpet and pad, sheetrock walls and ceilings | 5.0 |
| **Slab With Exterior Wall Insulation:** | |
| Slab, no covering or tile, sheetrock walls and ceilings | 12.0 |
| Slab, hardwood floor covering, sheetrock walls and ceilings | 9.0 |
| Slab, carpet and pad, sheetrock walls and ceilings | 7.0 |
| **Additional Mass M-Value:** | **Btu/ft²•°F surface area** |
| Gypsum wallboard, 1/2 inch thickness | 0.54 |
| Gypsum wallboard, 5/8 inch thickness | 0.68 |
| Hardwood floor | 1.40 |
| Concrete/Brick, 4 inch-thickness | 10.30 |
| Concrete/Brick, 6 inch-thickness | 15.40 |
| | **Btu/°F•gallon** |
| Water, 1 gallon | 8.0 |

AMENDATORY SECTION (Amending WSR 93-21-052, filed 10/18/93, effective 4/1/94)

**WAC 51-11-1120 Scope.** This Code sets forth minimum requirements for the design of new or altered buildings and structures or portions thereof that provide facilities or shelter for public assembly, educational, business, mercantile, institutional, storage, factory, and industrial occupancies by regulating their exterior envelopes and the selection of their HVAC, service water heating, electrical distribution and illuminating systems and equipment for efficient use and conservation of energy.

EXCEPTION: The provisions of this code do not apply to temporary growing structures used solely for the commercial production of horticultural plants including ornamental plants,

flowers, vegetables, and fruits. "Temporary growing structure" means a structure that has the sides and roof covered with polyethylene, polyvinyl, or similar flexible synthetic material and is used to provide plants with either frost protection or increased heat retention. A temporary growing structure is not considered a building for purposes of this code.

AMENDATORY SECTION (Amending WSR 93-21-052, filed 10/18/93, effective 4/1/94)

**WAC 51-11-1130 Application to existing buildings.** Additions, alterations or repairs, changes of occupancy or use, ((~~and~~)) or historic buildings that do not comply with the requirements for new buildings, shall comply with the requirements in Sections 1130 through 1134 as applicable.

EXCEPTION: The building official may approve designs of alterations or repairs which do not fully conform with all of the requirements of Sections 1130 through 1134 where in the opinion of the building official full compliance is physically impossible and/or economically impractical and the alteration or repair improves the energy efficiency of the building.

In no case shall energy code requirements be less than those requirements in effect at the time of the initial construction of the building.

AMENDATORY SECTION (Amending WSR 93-21-052, filed 10/18/93, effective 4/1/94)

**WAC 51-11-1132 Alterations and repairs.** Alterations and repairs to buildings or portions thereof originally constructed subject to the requirements of this Code shall conform to the provisions of this Code without the use of the exception in Section 1130. Other alterations and repairs may be made to existing buildings and moved buildings without making the entire building comply with all of the requirements of this Code for new buildings, provided the following requirements are met:

1132.1 Building Envelope: Alterations or repairs shall comply with nominal R-values and glazing requirements in Table 13-1 or 13-2.

EXCEPTIONS:

1. Storm windows installed over existing glazing.
2. Glass replaced in existing sash and frame provided that glazing is of equal or lower U-factor.
3. For solar heat gain coefficient compliance, glazing with a solar heat gain coefficient equal to or lower than that of the other existing glazing.
4. Existing roof/ceiling, wall or floor cavities exposed during construction provided that these cavities are insulated to full depth with insulation having a minimum nominal value of R-3.0 per inch installed per Sections 1311 and 1313.
5. Existing walls and floors without framing cavities, provided that any new cavities added to existing walls and floors comply with Exception 4.
6. Existing roofs where the roof membrane is being replaced and
   a. The roof sheathing or roof insulation is not exposed; or
   b. If there is existing roof insulation below the deck.

In no case shall the energy efficiency of the building be decreased.

1132.2 Building Mechanical Systems: Those parts of systems which are altered or replaced shall comply with Chapter 14 of this Code.

1132.3 Lighting and Motors: Tenant improvements, alterations or repairs where 60 percent or more of the fixtures are new shall comply with Sections 1531 and 1532. Where less than 60 percent of the fixtures are new, the installed lighting wattage shall be maintained or reduced. Where 60 percent or more of the lighting fixtures in a suspended ceiling are new, and the existing insulation is on the suspended ceiling, the roof/ceiling assembly shall be insulated according to the provisions of Chapter 13 Section 1311.2.

Where new wiring is being installed to serve added fixtures and/or fixtures are being relocated to a new circuit, controls shall comply with Sections 1513.1 through 1513.5. Where a new lighting panel with all new raceway and conductor wiring from the panel to the fixtures is being installed, controls shall comply with Section 1513.6.

Those motors which are altered or replaced shall comply with Section 1511.

AMENDATORY SECTION (Amending WSR 93-21-052, filed 10/18/93, effective 4/1/94)

**WAC 51-11-1133 Change of occupancy or use.** Changes of occupancy or use shall comply with the following requirements:

a. Any unconditioned space that is altered to become ((~~conditioned~~)) semi-heated, cooled, or fully heated, or any semi-heated space that is altered to become cooled or fully heated space shall be required to be brought into full compliance with this Code.

b. Any Group R Occupancy which is converted to other than a Group R Occupancy shall be required to comply with all of the provisions of Sections 1130 through 1132 of this Code.

AMENDATORY SECTION (Amending WSR 97-03-017, filed 1/7/97, effective 7/1/97)

**WAC 51-11-1210 Application of terms.** For the purposes of this Code, certain abbreviations, terms, phrases, words and their derivatives, shall be as set forth in this chapter. Where terms are not defined, they shall have their ordinary accepted meanings within the context with which they are used. In the event there is a question about the definition of a term, the definitions for terms in the Codes enumerated in RCW 19.27.031 and the edition of Webster's dictionary referenced therein shall be considered as the sources for providing ordinarily accepted meanings.

**AAMA:** American Architectural Manufacturers Association.

**ADDITION:** See the Washington State Building Code.

**ADVANCED FRAMED CEILING:** Advanced framing assumes full and even depth of insulation extending to the outside edge of exterior walls. (See **Standard Framing** and Section 2007.2 of this Code.)

**ADVANCED FRAMED WALLS:** Studs framed on twenty-four inch centers with double top plate and single bottom plate. Corners use two studs or other means of fully insulating corners, and one stud is used to support each header. Headers consist of double 2X material with R-10 insulation between the header and exterior sheathing. Interior partition wall/exterior wall intersections are fully insulated in the exterior wall. (See **Standard Framing** and Section 2005.2 of this Code.)

**AFUE - ANNUAL FUEL UTILIZATION EFFICIENCY:** Unlike steady state conditions, this rating is based on average usage including on and off cycling as set out in the standardized Department of Energy Test Procedures.

**AIR CONDITIONING, COMFORT:** The process of treating air to control simultaneously its temperature, humidity, cleanliness and distribution to meet requirements of the conditioned space.

**ARI:** Air Conditioning and Refrigeration Institute.

**ASHRAE:** American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc.

**ASTM:** American Society for Testing and Materials.

**AUTOMATIC:** Self-acting, operating by its own mechanism when actuated by some impersonal influence, as for example, a change in current strength, pressure, temperature or mechanical configuration. (See **Manual**.)

**BELOW GRADE WALLS:** Walls or the portion of walls which are entirely below the finished grade or which extend two feet or less above the finish grade.

**BOILER CAPACITY:** The rate of heat output in Btu/h measured at the boiler outlet, at the design inlet and outlet conditions and rated fuel/energy input.

**BUILDING ENVELOPE:** The elements of a building which enclose conditioned spaces through which thermal energy may be transferred to or from the exterior, or to or from unconditioned spaces, or to or from semi-heated spaces, or to or from spaces exempted by the provisions of Section 1301.

**BUILDING, EXISTING:** See the Washington State Building Code.

**BUILDING OFFICIAL:** The official authorized to act in behalf of a jurisdiction code enforcement agency or its authorized representative.

**BUILDING PROJECT:** A building or group of buildings, including on-site energy conversion or electric-generating facilities, which utilize a single submittal for a construction permit or are within the boundary of a contiguous area under one ownership.

**CONDITIONED FLOOR AREA:** (See **Gross Conditioned Floor Area.**)

**CONDITIONED SPACE:** A cooled space, heated space (fully heated), heated space (semi-heated), or indirectly conditioned space.

**COOLED SPACE:** An enclosed space within a building that is cooled by a cooling system whose sensible capacity

a. exceeds 5 Btu/(h•ft$^2$), or
b. is capable of maintaining space dry bulb temperature of 90 degrees F or less at design cooling conditions.

**COP - COEFFICIENT OF PERFORMANCE:** The ratio of the rate of net heat output (heating mode) or heat removal (cooling mode) to the rate of total on-site energy input to the heat pump, expressed in consistent units and under designated rating conditions. (See **Net Heat Output, Net Heat Removal, Total On-Site Energy Input.**)

**DAYLIGHTED ZONE:**

a. Under overhead glazing: The area under overhead glazing whose horizontal dimension, in each direction, is equal to the overhead glazing dimension in that direction plus either the floor to ceiling height or the dimension to a ceiling height opaque partition, or one-half the distance to adjacent overhead or vertical glazing, whichever is least.
b. At vertical glazing: The area adjacent to vertical glazing which receives daylighting from the glazing. For purposes of this definition and unless more detailed daylighting analysis is provided, the daylighting zone depth is assumed to extend into the space a distance of 15 feet or to the nearest ceiling height opaque partition, whichever is less. The daylighting zone width is assumed to be the width of the window plus either two feet on each side (the distance to an opaque partition) or one-half the distance to adjacent overhead or vertical glazing, whichever is least.

**DAYLIGHT SENSING CONTROL (DS):** A device that automatically regulates the power input to electric lighting near the glazing to maintain the desired workplace illumination, thus taking advantage of direct or indirect sunlight.

**DEADBAND:** The temperature range in which no heating or cooling is used.

**DESIGN COOLING CONDITIONS:** The cooling outdoor design temperature from the 0.5 percent column for summer from the Puget Sound Chapter of ASHRAE publication "Recommended Outdoor Design Temperatures, Washington State, ASHRAE."

**DESIGN HEATING CONDITIONS:** The heating outdoor design temperature from the 0.6 percent column for winter from the Puget Sound Chapter of ASHRAE publication "Recommended Outdoor Design Temperatures, Washington State, ASHRAE."

**DOOR AREA:** Total area of door measured using the rough opening and including the door and frame.

**DOOR:** All operable opening areas, which are not glazing, in the building envelope including swinging and roll-up doors, fire doors, smoke vents and access hatches.

**DWELLING UNIT:** See the Washington State Building Code.

**EER - ENERGY EFFICIENCY RATIO:** The ratio of net equipment cooling capacity in Btu/h to total rate of electric input in watts under designated operating conditions.

**ECONOMIZER, AIR:** A ducting arrangement and automatic control system that allows a cooling supply fan system to supply outside air to reduce or eliminate the need for mechanical refrigeration during mild or cold weather.

**ECONOMIZER, WATER:** A system by which the supply air of a cooling system is cooled directly, indirectly, or both, by evaporation of water or by other appropriate fluid in order to reduce or eliminate the need for mechanical refrigeration.

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**EFFICIENCY, HVAC SYSTEM:** The ratio of useful energy (at the point of use) to the energy input for a designated time period, expressed in percent.

**EMISSIVITY:** The ability to absorb infrared radiation. A low emissivity implies a higher reflectance of infrared radiation.

**ENERGY:** The capacity for doing work; taking a number of forms which may be transformed from one into another, such as thermal (heat), mechanical (work), electrical and chemical; in customary units, measured in kilowatt-hours (Kwh) or British thermal units (Btu). (See **New energy**.)

**ENERGY, RECOVERED:** (See **Recovered energy**.)

**EXTERIOR ENVELOPE:** (See **Building envelope**.)

**FACADE AREA:** Vertical projected area including nonhorizontal roof area, overhangs, cornices, etc. measured in elevation in a vertical plane parallel to the plane of the building face.

**FLOOR OVER UNCONDITIONED SPACE:** A floor which separates a conditioned space from an unconditioned space which is buffered from exterior ambient conditions including vented crawl spaces and unconditioned basements or other similar spaces, or exposed to exterior ambient conditions including open parking garages and enclosed garages which are mechanically ventilated.

**F-FACTOR:** The perimeter heat loss factor expressed in Btu/h●ft °F.

**F-VALUE:** (See **F-Factor**.)

**GLAZING:** All areas, including the frames, in the shell of a conditioned space that let in natural light including windows, clerestories, skylights, sliding or swinging glass doors and glass block walls.

**GLAZING AREA:** Total area of the glazing measured using the rough opening, and including the glazing, sash, and frame. For doors where the daylight opening area is less than fifty percent of the door area, the glazing area is the daylight opening area. For all other doors, the glazing area is the door area.

**GROSS CONDITIONED FLOOR AREA:** The horizontal projection of that portion of interior space which is contained within exterior walls and which is conditioned directly or indirectly by an energy-using system, and which has an average height of five feet or greater, measured from the exterior faces.

**GROSS EXTERIOR WALL AREA:** The normal projection of the building envelope wall area bounding interior space which is conditioned by an energy-using system and which separates conditioned space from: Unconditioned space, or semi-heated space, or exterior ambient conditions or earth; includes opaque wall, vertical glazing and door areas. The gross area of walls consists of all opaque wall areas, including foundation walls, between floor spandrels, peripheral edges of floors, vertical glazing areas, and door areas, where such surfaces are exposed to exterior ambient conditions and enclose a conditioned space including interstitial areas between two such spaces. (See **Below Grade Wall.**)

**GROSS FLOOR AREA:** The sum of the areas of the several floors of the building, including basements, cellars, mezzanine and intermediate floored tiers and penthouses of headroom height, measured from the exterior faces of exterior walls or from the center line of walls separating buildings, but excluding: Covered walkways, open roofed-over areas, porches and similar spaces, pipe trenches, exterior terraces or steps, chimneys, roof overhangs and similar features.

**GROSS ROOF/CEILING AREA:** A roof/ceiling assembly shall be considered as all components of the roof/ceiling envelope through which heat flows, thus creating a building transmission heat loss or gain, where such assembly is exposed to exterior ambient conditions and encloses a conditioned space. The assembly does not include those components that are separated from a heated and/or cooled space by a vented airspace. The gross area of a roof/ceiling assembly consists of the total interior surface of such assembly, including overhead glazing.

**GUEST ROOM:** See the Washington State Building Code.

**HEAT:** The form of energy that is transferred by virtue of a temperature difference.

**HEAT STORAGE CAPACITY:** The physical property of materials (mass) located inside the building envelope to absorb, store, and release heat.

**HEATED SPACE (FULLY HEATED):** An enclosed space within a building, including adjacent connected spaces separated by an un-insulated component (e.g., basements, utility rooms, garages, corridors), which is heated by a heating system whose output capacity is

a. capable of maintaining a space dry-bulb temperature of 45 degrees F or greater at design heating conditions; or
b. 8 Btu/(h●ft$^2$) or greater in Climate Zone 1 and 12 Btu/(h●ft$^2$) or greater in Climate Zone 2.

**HEATED SPACE (SEMI-HEATED):** An enclosed space within a building, including adjacent connected spaces separated by an un-insulated component (e.g., basements, utility rooms, garages, corridors), which is heated by a heating system

a. whose output capacity is 3 Btu/(h●ft$^2$) or greater in Climate Zone 1 and 5 Btu/(h●ft$^2$) or greater in Climate Zone 2; and
b. is not a Heated Space (Fully Heated).

**HSPF - HEATING SEASON PERFORMANCE FACTOR:** The total heating output (in Btu) of a heat pump during its normal annual usage period for heating divided by the total (watt hour) electric power input during the same period, as determined by test procedures consistent with the U.S. Department of Energy "Test Procedure for Central Air Conditioners, Including Heat Pumps" published in RS-30. When specified in Btu per watt hour an HSPF of 6.826 is equivalent to a COP of 2.0.

**HUMIDISTAT:** A regulatory device, actuated by changes in humidity, used for automatic control of relative humidity.

**HVAC:** Heating, ventilating and air conditioning.

**HVAC SYSTEM COMPONENTS:** HVAC system components provide, in one or more factory-assembled packages, means for chilling and/or heating water with controlled temperature for delivery to terminal units serving the conditioned spaces of the buildings. Types of HVAC system components include, but are not limited to, water chiller packages, reciprocating condensing units and water source (hydronic) heat pumps. (See **HVAC system equipment.**)

**HVAC SYSTEM EFFICIENCY:** (See **Efficiency, HVAC system.**)

**HVAC SYSTEM EQUIPMENT:** HVAC system equipment provides, in one (single package) or more (split system) factory-assembled packages, means for air circulation, air cleaning, air cooling with controlled temperature and dehumidification; and optionally, either alone or in combination with a heating plant, the functions of heating and humidifying. The cooling function may be either electrically or heat operated and the refrigerant condenser may be air, water or evaporatively cooled. Where the equipment is provided in more than one package, the separate packages shall be designed by the manufacturer to be used together. The equipment may provide the heating function as a heat pump or by the use of electric elements. (The word "equipment" used without modifying adjective may, in accordance with common industry usage, apply either to HVAC system equipment or HVAC system components.)

**INDIRECTLY CONDITIONED SPACE:** An enclosed space within a building that is not a heated or cooled space, whose area weighted heat transfer coefficient to heated or cooled spaces exceeds that to the outdoors or to unconditioned spaces; or through which air from heated or cooled spaces is transferred at a rate exceeding three air changes per hour. Enclosed corridors between conditioned spaces shall be considered as indirectly conditioned space. (See **Heated Space, Cooled Space** and **Unconditioned Space.**)

**INFILTRATION:** The uncontrolled inward air leakage through cracks and interstices in any building element and around windows and doors of a building caused by the pressure effects of wind and/or the effect of differences in the indoor and outdoor air density.

**INSULATION BAFFLE:** A rigid material, resistant to wind driven moisture, the purpose of which is to allow air to flow freely into the attic or crawl space and to prevent insulation from blocking the ventilation of these spaces, or the loss of insulation. Example materials for this purpose are sheet metal, or wax impregnated cardboard.

**INSULATION POSITION:**

a. **Exterior Insulation Position:** A wall having all or nearly all of its mass exposed to the room air with the insulation on the exterior of the mass.
b. **Integral Insulation Position:** A wall having mass exposed to both room and outside air, with substantially equal amounts of mass on the inside and outside of the insulation layer.
c. **Interior Insulation Position:** A wall not meeting either of the above definitions; particularly a wall having most of its mass external to the insulation layer.

**IPLV - INTEGRATED PART-LOAD VALUE:** A single number figure of merit based on part-load EER or COP expressing part-load efficiency for air-conditioning and heat pump equipment on the basis of weighted operation at various load capacities for the equipment as specified in the Air Conditioning and Refrigeration Institute (ARI) and Cooling Tower Institute (CTI) procedures.

**LUMINAIRE:** A complete lighting unit consisting of a lamp or lamps together with the parts designed to distribute the light, to position and protect the lamps and to connect the lamps to the electric power supply.

**MANUAL:** Capable of being operated by personal intervention.
(See **Automatic.**)

**MICROCELL:** A wireless communication facility consisting of an antenna that is either: (a) Four (4) feet in height and with an area of not more than five hundred eighty (580) square inches; or (b) if a tubular antenna, no more than four (4) inches in diameter and no more than six (6) feet in length; and the associated equipment cabinet that is six (6) feet or less in height and no more than forty-eight (48) square feet in floor area.

**NFPA:** National Fire Protection Association.

**NFRC:** National Fenestration Rating Council.

**NET HEAT OUTPUT:** The change in the total heat content of the air entering and leaving the equipment (not including supplementary heat and heat from boilers).

**NET HEAT REMOVAL:** The total difference in heat content of the air entering and leaving the equipment (without heat) or the difference in total heat content of the water or refrigerant entering and leaving the component.

**NEW ENERGY:** Energy, other than recovered energy, utilized for the purpose of heating or cooling. (See **Energy.**)

**NOMINAL R-VALUE:** The thermal resistance of insulation as specified by the manufacturer according to recognized trade and engineering standards.

**NONRENEWABLE ENERGY SOURCES:** All energy sources that are not renewable energy sources including natural gas, oil, coal, wood, liquified petroleum gas, steam, and any utility-supplied electricity.

**NONRESIDENTIAL:** All buildings and spaces in the Uniform Building Code (UBC) occupancies other than Group R.

**OCCUPANCY:** See the Washington State Uniform Building Code.

**OCCUPANCY SENSOR:** A device that detects occupants within an area, causing any combination of lighting, equipment or appliances to be turned on or shut off.

**OPAQUE ENVELOPE AREAS:** All exposed areas of a building envelope which enclose conditioned space, except openings for doors, glazing and building service systems.

**OPEN BLOWN:** Loose fill insulation pneumatically installed in an unconfined attic space.

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**OUTDOOR AIR (OUTSIDE AIR):** Air taken from the outdoors and, therefore, not previously circulated through a building.

**OVERHEAD GLAZING:** A glazing surface that has a slope of less than sixty degrees from the horizontal plane.

**PACKAGED TERMINAL AIR CONDITIONER:** A factory-selected combination of heating and cooling components, assemblies or sections intended to serve a room or zone. (For the complete technical definition, see Standard RS-10.)

**PERMEANCE (PERM):** The ability of a material of specified thickness to transmit moisture in terms of amount of moisture transmitted per unit time for a specified area and differential pressure (grains per hour●ft$^2$●inches of HG). Permeance may be measured using ASTM E-96-72 or other approved dry cup method as specified in RS-1.

**PERSONAL WIRELESS SERVICE FACILITY:** A Wireless Communication Facility (WCF), including a microcell, which is a facility for the transmission and/or reception of radio frequency signals and which may include antennas, equipment shelter or cabinet, transmission cables, a support structure to achieve the necessary elevation, and reception and/or transmission devices or antennas.

**POOL COVER:** A vapor-retardant cover which lies on or at the surface of the pool.

**POWER:** In connection with machines, the time rate of doing work. In connection with the transmission of energy of all types, the rate at which energy is transmitted; in customary units, it is measured in watts (W) or British Thermal Units per hour (Btu/h).

**PROCESS ENERGY:** Energy consumed in support of a manufacturing, industrial, or commercial process other than the maintenance of building comfort or amenities for building occupants.

**RADIANT FLOOR:** A floor assembly, on grade or below, containing heated pipes, ducts, or electric heating cables that constitute a floor or portion thereof for complete or partial heating of the structure.

**READILY ACCESSIBLE:** See the Washington State Mechanical Code.

**RECOOLING:** The removal of heat by sensible cooling of the supply air (directly or indirectly) that has been previously heated above the temperature to which the air is to be supplied to the conditioned space for proper control of the temperature of that space.

**RECOVERED ENERGY:** Energy utilized which would otherwise be wasted (i.e., not contribute to a desired end use) from an energy utilization system.

**REHEAT:** The application of sensible heat to supply air that has been previously cooled below the temperature of the conditioned space by either mechanical refrigeration or the introduction of outdoor air to provide cooling.

**RENEWABLE ENERGY SOURCES:** Renewable energy sources (excluding minerals) derived from: (1) incoming solar radiation, including but not limited to, natural daylighting and photosynthetic processes; (2) energy sources resulting from wind, waves and tides, lake or pond thermal differences; and (3) energy derived from the internal heat of the earth, including nocturnal thermal exchanges.

**RESET:** Adjustment of the set point of a control instrument to a higher or lower value automatically or manually to conserve energy.

**ROOF/CEILING ASSEMBLY:** (See **Gross Roof/Ceiling Area.**)

**SEER - SEASONAL ENERGY EFFICIENCY RATIO:** The total cooling output of an air conditioner during its normal annual usage period, in Btu's, divided by the total electric energy input in watt-hours, during the same period, as determined by 10 CFR, Part 430.

**SEMI-HEATED SPACE:** Sub-category of **Heated Space.** (See **Heated Space.**)

**SEQUENCE:** A consecutive series of operations.

**SERVICE SYSTEMS:** All energy-using systems in a building that are operated to provide services for the occupants or processes housed therein, including HVAC, service water heating, illumination, transportation, cooking or food preparation, laundering or similar functions.

**SERVICE WATER HEATING:** Supply of hot water for domestic or commercial purposes other than comfort heating.

**SHADED:** Glazed area which is externally protected from direct solar radiation by use of devices permanently affixed to the structure or by an adjacent building, topographical feature, or vegetation.

**SHADING COEFFICIENT:** The ratio of solar heat gain occurring through non-opaque portions of the glazing, with or without integral shading devices, to the solar heat gain occurring through an equivalent area of unshaded, 1/8-inch thick, clear, double-strength glass.

Note: Heat gains to be compared under the same conditions. See Chapter 26 of Standard RS-27, listed in Chapter 17 of this Code.

**SHALL:** Denotes a mandatory Code requirement.

**SKYLIGHT:** (See **Overhead Glazing.**)

**SLAB-BELOW-GRADE:** Any portion of a slab floor in contact with the ground which is more than twenty-four inches below the final elevation of the nearest exterior grade.

**SLAB-ON-GRADE, EXTERIOR:** Any portion of a slab floor in contact with the ground which is less than or equal to twenty-four inches below the final elevation of the nearest exterior grade.

**SOLAR ENERGY SOURCE:** Source of natural daylighting and of thermal, chemical or electrical energy derived directly from conversion of incident solar radiation.

**SOLAR HEAT GAIN COEFFICIENT (SHGC):** The ratio of the solar heat gain entering the space through the glazing product to the incident solar radiation. Solar heat gain includes directly transmitted solar heat and absorbed solar radiation which is then reradiated, conducted, or convected into the space.

**SPLIT SYSTEM:** Any heat pump or air conditioning unit which is provided in more than one assembly requiring refrigeration piping installed in the field.

**STANDARD FRAMING:** All framing practices not defined as "intermediate" or "advanced" shall be considered standard. (See **Advanced framed ceiling, Advanced framed walls, Intermediate framed wall.**)

**SUBSTANTIAL CONTACT:** A condition where adjacent building materials are placed in a manner that proximal surfaces are contiguous, being installed and supported as to eliminate voids between materials, without compressing or degrading the thermal performance of either product.

**SYSTEM:** A combination of central or terminal equipment or components and/or controls, accessories, interconnecting means, and terminal devices by which energy is transformed so as to perform a specific function, such as HVAC, service water heating or illumination.

**TAPERING:** Installation of a reduced level of ceiling insulation at the eaves, due to reduced clearance.

**THERMAL BY-PASS:** An area where the envelope surrounding the conditioned space is breached, or where an ineffective application compromises the performance of a thermal or infiltration barrier, increasing the structure's energy consumption by exposing finished surfaces to ambient conditions and additional heat transfer.

**THERMAL CONDUCTANCE (C):** Time rate of heat flow through a body (frequently per unit area) from one of its bounding surfaces to the other for a unit temperature difference between the two surfaces, under steady conditions ($Btu/h \bullet ft^2 \bullet °F$).

**THERMAL RESISTANCE (R):** The reciprocal of thermal conductance ($h \bullet ft^2 \bullet °F/Btu$).

**THERMAL TRANSMITTANCE (U):** The coefficient of heat transmission (air to air). It is the time rate of heat flow per unit area and unit temperature difference between the warm side and cold side air films ($Btu/h \bullet ft^2 \bullet °F$).

**THERMAL TRANSMITTANCE, OVERALL ($U_o$):** The overall (average) heat transmission of a gross area of the exterior building envelope ($Btu/h \bullet ft^2 \bullet °F$). The $U_o$-factor applies to the combined effect of the time rate of heat flows through the various parallel paths, such as glazing, doors and opaque construction areas, comprising the gross area of one or more exterior building components, such as walls, floors or roof/ceiling.

**THERMOSTAT:** An automatic control device actuated by temperature and designed to be responsive to temperature.

**TOTAL ON-SITE ENERGY INPUT:** The combination of all the energy inputs to all elements and accessories as included in the equipment components, including but not limited to, compressor(s), compressor sump heater(s), circulating pump(s), purge devices, fan(s), and the HVAC system component control circuit.

**TRANSMISSION COEFFICIENT:** The ratio of the solar heat gain through a glazing system to that of an unshaded single pane of double strength window glass under the same set of conditions.

**U-FACTOR:** (See **Thermal Transmittance.**)

**U-VALUE:** (See **U-Factor.**)

**UNCONDITIONED SPACE:** Space within a building that is not a conditioned space. (See **Conditioned Space**).

**UNIFORM BUILDING CODE:** The Washington State Uniform Building Code as modified by the Washington State Building Code Council.

**UNIFORM MECHANICAL CODE:** The Washington State Uniform Mechanical Code as modified by the Washington State Building Code Council.

**UNIFORM PLUMBING CODE (UPC):** The Washington State Uniform Plumbing Code as modified by the Washington State Building Code Council.

**UNITARY COOLING AND HEATING EQUIPMENT:** One or more factory-made assemblies which include an evaporator or cooling coil, a compressor and condenser combination, and may include a heating function as well. Where such equipment is provided in more than one assembly, the separate assemblies shall be designed to be used together.

**UNITARY HEAT PUMP:** One or more factory-made assemblies which include an indoor conditioning coil, compressor(s) and outdoor coil or refrigerant-to-water heat exchanger, including means to provide both heating and cooling functions. When such equipment is provided in more than one assembly, the separate assemblies shall be designed to be used together.

**VAPOR RETARDER:** A layer of low moisture transmissivity material (not more than 1.0 perm dry cup) placed over the warm side (in winter) of insulation, over the exterior of below grade walls, and under floors as ground cover to limit the transport of water and water vapor through exterior walls, ceilings, and floors. Vapor retarding paint, listed for this application, also meets this definition.

**VAULTED CEILINGS:** All ceilings where enclosed joist or rafter space is formed by ceilings applied directly to the underside of roof joists or rafters.

**VENTILATION:** The process of supplying or removing air by natural or mechanical means to or from any space. Such air may or may not have been conditioned.

**VENTILATION AIR:** That portion of supply air which comes from outside (outdoors) plus any recirculated air that has been treated to maintain the desired quality of air within a designated space.

**VERTICAL GLAZING:** A glazing surface that has a slope of sixty degrees or greater from the horizontal plane.

**WALLS (EXTERIOR):** Any member or group of members which defines the exterior boundaries or courts of a building and which have a slope of sixty degrees or greater with the horizontal plane, and separates conditioned from unconditioned space. Band joists between floors are to be considered a part of exterior walls.

**ZONE:** A space or group of spaces within a building with heating and/or cooling requirements sufficiently similar so that comfort conditions can be maintained throughout by a

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single controlling device. Each dwelling unit in residential buildings shall be considered a single zone.

AMENDATORY SECTION (Amending WSR 93-21-052, filed 10/18/93, effective 4/1/94)

**WAC 51-11-1310 General requirements.** The building envelope shall comply with Sections 1311 through 1314.

1310.1 Conditioned Spaces: The building envelope for conditioned spaces shall also comply with one of the following paths:

a. Prescriptive Building Envelope Option Sections 1320 through 1323.

b. Component Performance Building Envelope Option Sections 1330 through 1334.

c. Systems Analysis. See Section 1141.4.

1310.2 Semi-Heated Spaces: All spaces shall be considered conditioned spaces, and shall comply with the requirements in Section 1310.1 unless they meet the following criteria for semi-heated spaces and are approved as such by the building official. The installed heating equipment output, in Climate Zone 1, shall be 3 Btu/(h•ft$^2$) or greater but not greater than 8 Btu/(h•ft$^2$) and in Climate Zone 2, shall be 5 Btu/(h•ft$^2$) or greater but not greater than 12 Btu/(h•ft$^2$). Heating shall be controlled by a thermostat mounted not lower than the heating unit and capable of preventing heating above 44 degrees space temperature. For semi-heated spaces, the only prescriptive, component performance, or systems analysis building envelope requirement shall be that:

Climate Zone 1

a. U=0.10 maximum for the roof assembly, or
b. continuous R-9 insulation installed entirely outside of the roof structure, or
c. R-11 insulation installed inside or within a wood roof structure, or
d. R-19 insulation installed inside or within a metal roof structure, or
e. for roofs with skylights,
i. maximum skylight area of 2% of the gross roof area and U-1.45 maximum, and
ii. R-21 minimum insulation (metal roofs to have a minimum 1 inch rigid insulation thermal block between the metal structure and the metal roofing).

Climate Zone 2

a. U=0.07 maximum for the roof assembly, or
b. continuous R-14 insulation installed entirely outside of the roof structure, or
c. R-19 insulation installed inside or within a wood roof structure, or
d. R-25 insulation installed inside or within a metal roof structure, or
e. for roofs with skylights,
i. maximum skylight area of 2% of the gross roof area and U-1.25 maximum, and
ii. R-25 minimum insulation (metal roofs to have a minimum 1 inch rigid insulation thermal block between the metal structure and the metal roofing).

**Figure 13A**
**Building Envelope Compliance Options**

| Section Number | Subject | Prescriptive Option | Component Performance Option | Systems Analysis Option |
|---|---|---|---|---|
| 1310 | General Requirements | X | X | X |
| 1311 | Insulation | X | X | X |
| 1312 | Glazing and Doors | X | X | X |
| 1313 | Moisture Control | X | X | X |
| 1314 | Air Leakage | X | X | X |
| 1320 | Prescriptive Building Envelope Option | X | | |
| 1321 | General | X | | |
| 1322 | Opaque Envelope | X | | |
| 1323 | Glazing | X | | |
| 1330 | Component Performance Building Envelope Option | | X | |
| 1331 | General | | X | |
| 1332 | Component U-Factors | | X | |
| 1333 | UA Calculations | | X | |
| 1334 | Solar Heat Gain Coefficient | | X | |
| RS-29 | Systems Analysis | | | X |

AMENDATORY SECTION (Amending WSR 93-21-052, filed 10/18/93, effective 4/1/94)

**WAC 51-11-1312 Glazing and doors.**

1312.1 Standard Procedure for Determination of Glazing and Door U-Factors: U-Factors for glazing and doors shall be determined, certified and labeled in accordance with Standard RS-31 by a certified independent agency licensed by the National Fenestration Rating Council (NFRC). Compliance shall be based on the Residential or the Nonresidential Model Size ((~~AA or BB~~)). Product samples used for U-factor determinations shall be production line units or representative of units as purchased by the consumer or contractor. Unlabeled glazing and doors shall be assigned the default U-factor in Section 2006.

1312.2 Solar Heat Gain Coefficient and Shading Coefficient: Solar Heat Gain Coefficient (SHGC), shall be determined, certified and labelled in accordance with the National Fenestration Rating Council (NFRC) Standard by a certified, independent agency, licensed by the NFRC.

EXCEPTION: Shading coefficients (SC) shall be an acceptable alternate for compliance with solar heat gain coefficient requirements. Shading coefficients for glazing shall be taken from Chapter 27 of RS-27 or from the manufacturer's test data.

AMENDATORY SECTION (Amending WSR 93-21-052, filed 10/18/93, effective 4/1/94)

**WAC 51-11-1322 Opaque envelope.** Roof/ceilings, opaque exterior walls, opaque doors, floors over unconditioned space, below grade walls, slab on grade floors, and radiant floors enclosing conditioned spaces shall be insulated according to Section 1311 and Tables 13-1 or 13-2. Compliance with nominal R-values shall be demonstrated for the thermal resistance of the added insulation in framing cavities and/or insulated sheathing only. Nominal R-values shall not include the thermal transmittance of other building materials or air films.

EXCEPTIONS:

1. Opaque smoke vents are not required to meet insulation requirements.

((~~2. The perimeter edge of an above grade floor slab which penetrates the exterior wall may be left uninsulated provided that the wall insulation is increased by R-2 above that required in Tables 13-1 and 13-2.~~))

Option 1:

2. The perimeter edge of an above grade floor slab which penetrates the exterior wall and the perimeter edge of an interior concrete wall which penetrates the exterior wall shall be insulated on the exterior with R-5 insulation minimum.

Option 2:

2. The perimeter edge of an above grade floor slab which penetrates the exterior wall and the perimeter edge of an interior concrete wall which penetrates the exterior wall shall be insulated on the exterior with R-5 insulation minimum, or, may be left uninsulated provided that the wall insulation is increased by R-2 above that required in Tables 13-1 and 13-2.
3. Unheated slabs-on-grade may be left uninsulated provided that the wall insulation is increased by R-2 above that required in Tables 13-1 and 13-2.

AMENDATORY SECTION (Amending WSR 93-21-052, filed 10/18/93, effective 4/1/94)

**WAC 51-11-1323 Glazing.** Glazing shall comply with Section 1312 and Tables 13-1 or 13-2. All glazing shall be, at a minimum, double glazing.

EXCEPTIONS:

1. Vertical glazing located on the street level story of a retail occupancy provided the glazing is double-glazed with a minimum 1/2 inch airspace and does not exceed 75 percent of the gross exterior wall area of the street level story which does not exceed 20 feet in height. When this exception is utilized, separate calculations shall be performed for these sections of the building envelope and these values shall not be averaged with any others for compliance purposes. The 75 percent area may be exceeded on the street level, if the additional glass area is provided from allowances from other areas of the building.
2. Single glazing for ornamental, security, or architectural purposes shall be included in the percentage of the total glazing area, U-factor calculation and SHGC as allowed in the Tables 13-1 or 13-2. The

maximum area allowed for the total of all single glazing is one percent of the gross exterior wall floor area.

1323.1 Area: The percentage of total glazing (vertical and overhead) area relative to the gross exterior wall area shall not be greater than the appropriate value from Tables 13-1 or 13-2 for the vertical glazing U-factor, overhead glazing U-factor and solar heat gain coefficient selected.

1323.2 U-Factor: The area-weighted average U-factor of vertical glazing shall not be greater than that specified in Tables 13-1 or 13-2 for the appropriate area and solar heat gain coefficient. The area-weighted average U-factor of overhead glazing shall not be greater than that specified in Tables 13-1 or 13-2 for the appropriate area and solar heat gain coefficient. U-factors for glazing shall be determined in accordance with Section 1312.

1323.3 Solar Heat Gain Coefficient: The area-weighted average solar heat gain coefficient of ((~~vertical~~)) all glazing shall not be greater than that specified in Tables 13-1 or 13-2 for the appropriate area and U-factor. ((~~The area-weighted average solar heat gain coefficient of overhead glazing shall not be greater than that specified in Tables 13-1 or 13-2 for the appropriate area and U-factor.~~))

AMENDATORY SECTION (Amending WSR 93-21-052, filed 10/18/93, effective 4/1/94)

**WAC 51-11-1331 General.** Buildings or structures whose design heat loss rate ($UA_p$) and solar heat gain coefficient ((~~($SHGC_p$)~~)) rate ($SHGC*A_p$) are less than or equal to the target heat loss rate ($UA_t$) and solar heat gain coefficient ((~~($SHGC_t$)~~)) rate ($SHGC*A_t$) shall be considered in compliance with this section. The stated U-factor, F-factor or allowable area of any component assembly, listed in Tables 13-1 or 13-2, such as roof/ceiling, opaque wall, opaque door, glazing, floor over conditioned space, slab on grade floor, radiant floor or opaque floor may be increased and the U-factor or F-factor for other components decreased, provided that the total heat gain or loss for the entire building envelope does not exceed the total resulting from compliance to the U-factors, F-factors or allowable areas specified in this section.

EXCEPTION: For buildings or structures utilizing the other space heat type (including heat pumps and VAV) compliance path, for the gross opaque wall, opaque door and glazing (vertical and overhead) area only, compliance may also be shown using the ENVSTD diskette version 2.1 or later of Standard RS-9, or an approved alternative, with the following additional requirements:

1. Only the Exterior Wall Requirements portion of ((~~RS-32~~)) the ENVSTD computer program may be used under this exception.
2. Overhead glazing shall be added to vertical glazing, and shall be input as 1/4 north, 1/4 east, 1/4 south and 1/4 west facing.
3. Lighting loads shall be determined according to Table 15-1.
4. Equipment loads shall be determined from Table 3-1 of Standard RS-29.

AMENDATORY SECTION (Amending WSR 93-21-052, filed 10/18/93, effective 4/1/94)

**WAC 51-11-1334 Solar heat gain coefficient rate calculations.** Solar heat gain coefficient shall comply with Section 1323.3. The target $SHGCA_t$ and the proposed $SHGCA_p$ shall be calculated using Equation 13-3 and 13-4 and the corresponding areas and SHGCs from Table 13-1 or 13-2.

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**EQUATION 13-1:**
**Target UA**

$$UA_t = U_{rat}A_{rat} + U_{ograt}A_{ograt} + U_{ort}A_{ort} + U_{ogort}A_{ogort} + U_{wt}A_{wt} + U_{vgt}A_{vgt} + U_{dt}A_{dt} + U_{ft}A_{ft} + F_{st}P_{st} + U_{bgwt}A_{bgwt}$$

$UA_t$ = The target combined specific heat transfer of the gross roof/ceiling assembly, exterior wall and floor area.

Where:

$U_{rat}$ = The thermal transmittance value for roofs over attics found in Table 13-1 or 13-2.

$U_{ograt}$ = The thermal transmittance for overhead glazing found in Table 13-1 or 13-2 which corresponds to the proposed total glazing area as a percent of gross exterior wall area.

$U_{ort}$ = The thermal transmittance value for other roofs found in Table 13-1 or 13-2.

$U_{ogort}$ = The thermal transmittance for overhead glazing found in Table 13-1 or 13-2 which corresponds to the proposed total glazing area as a percent of gross exterior wall area.

$U_{wt}$ = The thermal transmittance value for opaque walls found in Table 13-1 or 13-2.

$U_{vgt}$ = The thermal transmittance value for vertical glazing found in Table 13-1 or 13-2 which corresponds to the proposed total glazing area as a percent of gross exterior wall area.

$U_{dt}$ = The thermal transmittance value for opaque doors found in Table 13-1 or 13-2.

$U_{ft}$ = The thermal transmittance value for floors over unconditioned space found in Table 13-1 or 13-2.

$F_{st}$ = The F-factor for slab-on-grade and radiant slab floors found in Table 13-1 or 13-2.

$U_{bgwt}$ = The thermal transmittance value for opaque walls found in Table 13-1 or 13-2.

$A_{dt}$ = The proposed opaque door area, $A_d$.

$A_{ft}$ = The proposed floor over unconditioned space area, $A_f$.

$P_{st}$ = The proposed lineal feet of slab-on-grade and radiant slab floor perimeter, $P_s$.

$A_{bgwt}$ = The proposed below grade wall area, $A_{bgw}$.

**and;**

if the total amount of glazing area as a percent of gross exterior wall area does not exeed the maximum allow in Table 13-1 or 13-2:

$A_{rat}$ = The proposed roof over attic area, $A_{ra}$.

$A_{ograt}$ = The proposed overhead glazing area in roofs over attics, $A_{ogra}$.

$A_{ort}$ = The proposed other roof area, $A_{or}$.

$A_{ogort}$ = The proposed overhead glazing area in other roofs, $A_{ogor}$.

$A_{wt}$ = The proposed opaque above grade wall area, $A_{w}$.

$A_{vgt}$ = The proposed vertical glazing area, $A_{vg}$.

or;

if the total amount of glazing area as a percent of gross exterior wall area exceeds the maximum allowed in Table 13-1 or 13-2:

$A_{rat}$ = The greater of:
the proposed roof over attic area, and
the gross roof over attic area minus $A_{ograt}$.

$A_{ograt}$ = The lesser of:
proposed overhead glazing area in roofs over attics, and
the maximum allowed glazing area from Table 13-1 or 13-2.

$A_{ort}$ = The greater of:
the proposed other roof area, and
the gross other roof area minus $A_{ogort}$.

$A_{ogort}$ = The lesser of:
the proposed overhead glazing area in other roofs, and
the maximum allowed glazing area from Table 13-1 or 13-2 minus $A_{ograt}$

$A_{wt}$ = The greater of:
proposed opaque above grade wall area, and
the gross exterior above grade wall area minus $A_{dt}$ minus $A_{vgt}$.

$A_{vgt}$ = The lesser of:
the proposed vertical glazing area, and
the maximum allowed glazing area from Table 13-1 or 13-2 minus $A_{ograt}$ minus $A_{ogort}$.

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## EQUATION 13-2

### Proposed $UA_p$

$$UA_p = U_{ra}A_{ra}+U_{or}A_{or}+U_{og}A_{og}+U_wA_w+U_dA_d+U_{vg}A_{vg}+U_fA_f+F_sP_s+U_{bgw}A_{bgw}$$

Where:

$UA_p$ = The combined proposed specific heat transfer of the gross exterior wall, floor and roof/ceiling assembly area.

$U_{ra}$ = The thermal transmittance of the roof over attic area.
$A_{ra}$ = Opaque roof over attic area.

$U_{or}$ = The thermal transmittance of the other roof area.
$A_{or}$ = Opaque other roof area.

$U_{og}$ = The thermal transmittance for the overhead glazing
$A_{og}$ = Overhead glazing area.

$U_w$ = The thermal transmittance of the opaque wall area.
$A_w$ = Opaque above grade wall area (not including opaque doors).

$U_{vg}$ = The thermal transmittance of the vertical glazing area.
$A_{vg}$ = Vertical glazing area.

$U_d$ = The thermal transmittance value of the opaque door area.
$A_d$ = Opaque door area.

$U_f$ = The thermal transmittance of the floor over unconditioned space area.
$A_f$ = Floor area over unconditioned space.

$F_s$ = Slab-on-grade or radiant floor component F-factor.
$P_s$ = Lineal feet of slab-on-grade or radiant floor perimeter.

$U_{bgw}$ = The thermal transmittance value of the below grade wall area.
$A_{bgw}$ = Below grade wall area as defined in Tables 13-1 or 13-2.

**NOTE:** Where more than one type of wall, window, roof/ceiling, door and skylight is used, the U and A terms for those items shall be expanded into sub-elements as:

$$U_{w1}A_{w1}+U_{w2}A_{w2}+U_{w3}A_{w3}+\ldots\text{etc.},$$

PROPOSED

## EQUATION 13-3:

## Target $SHGCA_t$

$$SHGCA_t = SHGC_t (A_{ograt} + A_{ogort} + A_{vgt})$$

Where:

$SHGCA_t$ = The target combined specific heat gain of the target glazing area.

$SHGC_t$ = The solar heat gain coefficient for glazing found in Table 13-1 or 13-2 which corresponds to the proposed total glazing area as a percent of gross exterior wall area, and

$A_{ograt}$, $A_{ogort}$, and $A_{vgt}$ are defined under Equation 13-1.

## EQUATION 13-4:

## Proposed $SHGCA_p$

$$SHGCA_p = SHGC_{og}A_{og} + SHGC_{vg}A_{vg}$$

Where:

$SHGCA_t$ = The combined proposed specific heat gain of the proposed glazing area.

$SHGC_{og}$ = The solar heat gain coefficient of the overhead glazing.
$A_{og}$ = The overhead glazing area.

$SHGC_{vg}$ = The solar heat gain coefficient of the vertical glazing.
$A_{vg}$ = The vertical glazing area.

PROPOSED

~~TABLE 13-1~~
~~BUILDING ENVELOPE REQUIREMENTSFOR CLIMATE ZONE 1~~
~~MINIMUM INSULATION R-VALUES OR MAXIMUM COMPONENT U-FACTORS FOR ZONE 1~~

~~Building Components~~

| ~~Space Heat Type~~ | ~~Components~~ | | | | | |
|---|---|---|---|---|---|---|
| | ~~Roofs Over Attic~~ | ~~All Other Roofs~~ | ~~Opaque Walls[1,2]~~ | ~~Opaque Doors~~ | ~~Floor Over Uncond Space~~ | ~~Slab On Grade[5]~~ |
| ~~1. Electric resistance heat~~ | ~~R-38 or U=0.031~~ | ~~R-30 or U=0.034~~ | ~~R-19 or U=0.062[3]~~ | ~~U=0.60~~ | ~~R-30 or U=0.029~~ | ~~R-10 or F=0.54~~ |
| ~~2. All others including Heat pumps and VAV~~ | ~~R-30 or U=0.036~~ | ~~R-21 or U=0.050~~ | ~~R-11 or U=0.14~~ | ~~U=0.60~~ | ~~R-19 or U=0.056~~ | ~~R-10 or F=0.54~~ |

~~MAXIMUM GLAZING AREAS AND U-FACTORS ANDMAXIMUM GLAZING SOLAR HEAT GAIN COEFFICIENTS FOR ZONE 1~~

~~Glazing~~

| ~~Maximum Glazing Area as % of Wall~~ | ~~0% to 15%~~ | | | ~~>15% to 20%~~ | | | ~~>20% to 30%~~ | | | ~~>30% to 40%~~ | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ~~Maximum U-Factor~~ | | ~~Max. SHGC[4]~~ | ~~Maximum U-Factor~~ | | ~~Max. SHGC[4]~~ | ~~Maximum U-Factor~~ | | ~~Max. SHGC[4]~~ | ~~Maximum U-Factor~~ | | ~~Max. SHGC[4]~~ |
| | ~~VG~~ | ~~OG~~ | | ~~VG~~ | ~~OG~~ | | ~~VG~~ | ~~OG~~ | | ~~VG~~ | ~~OG~~ | |
| ~~1. Electric resistance heat~~ | ~~0.40~~ | ~~0.80~~ | ~~1.0~~ | ~~0.40~~ | ~~0.80~~ | ~~1.0~~ | ~~PRESCRIPTIVE PATH NOT ALLOWED~~ | | | | | |
| ~~2. All others including Heat pumps and VAV~~ | ~~0.90~~ | ~~1.45~~ | ~~1.0~~ | ~~0.75~~ | ~~1.40~~ | ~~1.0~~ | ~~0.60~~ | ~~1.30~~ | ~~0.65~~ | ~~0.50~~ | ~~1.25~~ | ~~0.45~~ |

~~Footnotes~~

~~1. Below Grade Walls: Below grade walls shall be insulated either on the interior or the exterior. Below grade walls insulated on the exterior shall use a minimum of R-10 insulation. Below grade walls insulated on the interior shall use opaque wall values. No insulation is required for those portions of below grade walls and footings that are more than 10 feet below grade. Below grade walls, however, shall not be included in the gross exterior wall area unless insulated to the levels given above.~~

~~2. Concrete Masonry Walls: If the area weighted heat capacity of the total opaque above grade wall is a minimum of 9.0 Btu/ft$^2$ • °F, then the U-factor may be increased to 0.19 for interior insulation and 0.25 for integral and exterior insulation for insulation position as defined in Chapter 12. Individual walls with heat capacities less than 9.0 Btu/ft$^2$ • °F and below grade walls shall meet opague wall requirements listed above. Glazing shall comply with the following:~~

| ~~Maximum Glazing Area as % of Wall~~ | ~~0 to 10 %~~ | | | ~~>10 to 15 %~~ | | | ~~>15% to 20 %~~ | | | ~~>20% to 25 %~~ | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ~~Maximum U-Factor~~ | | ~~Max. SHGC[4]~~ | ~~Maximum U-Factor~~ | | ~~Max. SHGC[4]~~ | ~~Maximum U-Factor~~ | | ~~Max. SHGC[4]~~ | ~~Maximum U-Factor~~ | | ~~Max. SHGC[4]~~ |
| | ~~VG~~ | ~~OG~~ | | ~~VG~~ | ~~OG~~ | | ~~VG~~ | ~~OG~~ | | ~~VG~~ | ~~OG~~ | |
| ~~1. Electric resistance heat~~ | ~~0.40~~ | ~~0.80~~ | ~~1.0~~ | ~~0.40~~ | ~~0.80~~ | ~~1.0~~ | ~~0.40~~ | ~~0.80~~ | ~~1.0~~ | ~~NOT ALLOWED~~ | | |
| ~~2. All others including Heat pumps and VAV~~ | ~~0.90~~ | ~~1.45~~ | ~~1.0~~ | ~~0.75~~ | ~~1.40~~ | ~~1.0~~ | ~~0.65~~ | ~~1.30~~ | ~~0.80~~ | ~~0.60~~ | ~~1.30~~ | ~~0.65~~ |

~~3. Metal Stud Walls: For metal stud construction U=0.11.~~

~~4. SHGC (Solar Heat Gain Coefficient per Section 1312.2): May substitute Maximum Shading Coefficient (SC) for SHGC (See Section 1210 for definition of Shading Coefficient).~~

~~5. Radiant Floors: Where insulation is required under the entire slab, radiant floors shall use a minimum of R-10 insulation or F=0.55 maximum. Where insulation is not required under the entire slab, radiant floors shall use R-10 perimeter insulation according to Section 1311.6 or F=0.78 maximum.~~

PROPOSED

## TABLE 13-1
## BUILDING ENVELOPE REQUIREMENTS
## FOR CLIMATE ZONE 1

### MINIMUM INSULATION R-VALUES OR MAXIMUM COMPONENT U-FACTORS FOR ZONE 1

**Building Components**

| Space Heat Type | Components | | | | | |
|---|---|---|---|---|---|---|
| | Roofs Over Attic | All Other Roofs | Opaque Walls[1,2] | Opaque Doors | Floor Over Uncond Space | Slab On Grade[5] |
| 1. Electric resistance heat | R-38 or U=0.031 | R-30 or U=0.034 | R-19 or U=0.062[3] | U=0.60 | R-30 or U=0.029 | R-10 or F=0.54 |
| 2. All others including Heat pumps and VAV | R-30 or U=0.036 | R-21 or U=0.050 | R-11 or U=0.14 | U=0.60 | R-19 or U=0.056 | R-10 or F=0.54 |

### MAXIMUM GLAZING AREAS AND U-FACTORS AND MAXIMUM GLAZING SOLAR HEAT GAIN COEFFICIENTS FOR ZONE 1

**Glazing**

| Maximum Glazing Area as % of Wall | 0% to 15% | | | >15% to 20% | | | >20% to 30% | | | >30% to 40% | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Maximum U-Factor | | Max. SHGC[4] | Maximum U-Factor | | Max. SHGC[4] | Maximum U-Factor | | Max. SHGC[4] | Maximum U-Factor | | Max. SHGC[4] |
| | VG | OG | | VG | OG | | VG | OG | | VG | OG | |
| 1. Electric resistance heat | 0.40 | 0.80 | 1.0 | 0.40 | 0.80 | 1.0 | PRESCRIPTIVE PATH NOT ALLOWED | | | | | |
| 2. All others including Heat pumps and VAV | 0.90 | 1.45 | 1.0 | 0.75 | 1.40 | 1.0 | 0.60 | 1.30 | 0.65 | 0.50 | 1.25 | 0.45 |

**Footnotes**

1. **Below Grade Walls:** ~~Below grade walls shall be insulated either on the interior or the exterior. Below grade walls insulated on the exterior shall use a minimum of R-10 insulation. Below grade walls insulated on the interior shall use opaque wall values. No insulation is required for those portions of below grade walls and footings that are more than 10 feet below grade. Below grade walls, however, shall not be included in the gross exterior wall area unless insulated to the levels given above.~~

   When complying by the prescriptive approach, Section 1322:

   a) walls insulated on the interior shall use opaque wall values,

   b) walls insulated on the exterior shall use a minimum of R-10 insulation,

   c) those portions of below grade walls and footings that are more than 10 feet below grade, and not included in the gross exterior wall area, may be left uninsulated.

   When complying by the component performance approach, Section 1331:

   a) walls insulated on the interior shall use the opaque wall values when determining $U_{brwt}$,

   b) walls insulated on the exterior shall use a target U-factor of U=0.070 for $U_{brwt}$,

   c) those portions of below grade walls and footings that are more than 10 feet below grade, and not included in the gross exterior wall area, need not be included when determining $A_{brwt}$ and $A_{brw}$.

2. **Concrete Masonry Walls:** If the area weighted heat capacity of the total opaque above grade wall is a minimum of 9.0 Btu/ft$^2$ • °F, then the U-factor may be increased to 0.19 for interior insulation and 0.25 for integral and exterior insulation for insulation position as defined in Chapter 12. Individual walls with heat capacities less than 9.0 Btu/ft$^2$ • °F and below grade walls shall meet opague wall requirements listed above. Glazing shall comply with the following:

| Maximum Glazing Area as % of Wall | 0 to 10 % | | | >10 to 15 % | | | >15% to 20 % | | | >20% to 25 % | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Maximum U-Factor | | Max. SHGC[4] | Maximum U-Factor | | Max. SHGC[4] | Maximum U-Factor | | Max. SHGC[4] | Maximum U-Factor | | Max. SHGC[4] |
| | VG | OG | | VG | OG | | VG | OG | | VG | OG | |
| 1. Electric resistance heat | 0.40 | 0.80 | 1.0 | 0.40 | 0.80 | 1.0 | 0.40 | 0.80 | 1.0 | NOT ALLOWED | | |
| 2. All others including Heat pumps and VAV | 0.90 | 1.45 | 1.0 | 0.75 | 1.40 | 1.0 | 0.65 | 1.30 | 0.80 | 0.60 | 1.30 | 0.65 |

3. **Metal Stud Walls:** For metal stud construction U=0.11.
4. **SHGC (Solar Heat Gain Coefficient per Section 1312.2):** May substitute Maximum Shading Coefficient (SC) for SHGC (See Section 1210 for definition of Shading Coefficient).
5. **Radiant Floors:** Where insulation is required under the entire slab, radiant floors shall use a minimum of R-10 insulation or F=0.55 maximum. Where insulation is not required under the entire slab, radiant floors shall use R-10 perimeter insulation according to Section 1311.6 or F=0.78 maximum.

PROPOSED

~~TABLE 13-2~~
~~BUILDING ENVELOPE REQUIREMENTSFOR CLIMATE ZONE 2~~
~~MINIMUM INSULATION R-VALUES OR MAXIMUM COMPONENT U-FACTORS FOR ZONE 2~~

~~Building Components~~

| ~~Space Heat Type~~ | ~~Components~~ | | | | | |
|---|---|---|---|---|---|---|
| | ~~Roofs Over Attic~~ | ~~All Other Roofs~~ | ~~Opaque Walls[1,2]~~ | ~~Opaque Doors~~ | ~~Floor Over Uncond Space~~ | ~~Slab On Grade~~ |
| ~~1. Electric resistance heat~~ | ~~R-38 or U=0.031~~ | ~~R-30 or U=0.034~~ | ~~R-24 or U=0.044[3]~~ | ~~U=0.60~~ | ~~R-30 or U=0.029~~ | ~~R-10 or F=0.54~~ |
| ~~2. All others including Heat pumps and VAV~~ | ~~R-38 or U=0.031~~ | ~~R-25 or U=0.040~~ | ~~R-19 or U=0.11~~ | ~~U=0.60~~ | ~~R-21 or U=0.047~~ | ~~R-10 or F=0.54~~ |

~~MAXIMUM GLAZING AREAS AND U-FACTORS ANDMAXIMUM GLAZING SOLAR HEAT GAIN COEFFICIENTS FOR ZONE 2~~

~~Glazing~~

| ~~Maximum Glazing Area as % of Wall~~ | ~~0% to 15%~~ | | | ~~>15% to 20%~~ | | | ~~>20% to 25%~~ | | | ~~>25% to 30%~~ | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ~~Maximum U-Factor~~ | | ~~Max. SHGC[4]~~ | ~~Maximum U-Factor~~ | | ~~Max. SHGC[4]~~ | ~~Maximum U-Factor~~ | | ~~Max. SHGC[4]~~ | ~~Maximum U-Factor~~ | | ~~Max. SHGC[4]~~ |
| | ~~VG~~ | ~~OG~~ | | ~~VG~~ | ~~OG~~ | | ~~VG~~ | ~~OG~~ | | ~~VG~~ | ~~OG~~ | |
| ~~1. Electric resistance heat~~ | ~~0.40~~ | ~~0.80~~ | ~~1.0~~ | ~~0.40~~ | ~~0.80~~ | ~~1.0~~ | ~~PRESCRIPTIVE PATH NOT ALLOWED~~ | | | | | |
| ~~2. All others including Heat pumps and VAV~~ | ~~0.90~~ | ~~1.45~~ | ~~1.0~~ | ~~0.75~~ | ~~1.40~~ | ~~1.0~~ | ~~0.60~~ | ~~1.30~~ | ~~0.60~~ | ~~0.50~~ | ~~1.25~~ | ~~0.50~~ |

~~Footnotes~~

~~1. Below Grade Walls: Below grade walls shall be insulated either on the interior or the exterior. Below grade walls insulated on the exterior shall use a minimum of R-12 insulation. Below grade walls insulated on the interior shall use opaque wall values. No insulation is required for those portions of below grade walls and footings that are more than 10 feet below grade. Below grade walls, however, shall not be included in the gross exterior wall area unless insulated to the levels given above.~~

~~2. Concrete Masonry Walls: If the area weighted heat capacity of the total opaque above grade wall is a minimum of 9.0 Btu/ft$^2$ • °F, then the U-factor may be increased to 0.19 for interior insulation and 0.25 for integral and exterior insulation for insulation position as defined in Chapter 12. Individual walls with heat capacities less than 9.0 Btu/ft$^2$ • °F and below grade walls shall meet opague wall requirements listed above. Glazing shall comply with the following:~~

| ~~Maximum Glazing Area as % of Wall~~ | ~~0 to 5 %~~ | | | ~~>5 to 7 %~~ | | | ~~>7% to 10 %~~ | | | ~~>10% to 15%~~ | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ~~Maximum U-Factor~~ | | ~~Max. SHGC[4]~~ | ~~Maximum U-Factor~~ | | ~~Max. SHGC[4]~~ | ~~Maximum U-Factor~~ | | ~~Max. SHGC[4]~~ | ~~Maximum U-Factor~~ | | ~~Max. SHGC[4]~~ |
| | ~~VG~~ | ~~OG~~ | | ~~VG~~ | ~~OG~~ | | ~~VG~~ | ~~OG~~ | | ~~VG~~ | ~~OG~~ | |
| ~~1. Electric resistance heat~~ | ~~0.40~~ | ~~0.80~~ | ~~1.0~~ | ~~0.40~~ | ~~0.80~~ | ~~1.0~~ | ~~0.40~~ | ~~0.80~~ | ~~1.0~~ | ~~NOT ALLOWED~~ | | |
| ~~2. All others including Heat pumps and VAV~~ | ~~0.90~~ | ~~1.45~~ | ~~1.0~~ | ~~0.60~~ | ~~1.30~~ | ~~0.70~~ | ~~0.50~~ | ~~1.25~~ | ~~0.50~~ | ~~0.40~~ | ~~0.80~~ | ~~0.40~~ |

~~3. Metal Stud Walls: For metal stud construction U=0.10.~~

~~4. SHGC (Solar Heat Gain Coefficient per Section 1312.2): May substitute Maximum Shading Coefficient (SC) for SHGC (See Section 1210 for definition of Shading Coefficient).~~

~~5. Radiant Floors: Where insulation is required under the entire slab, radiant floors shall use a minimum of R-10 insulation or F=0.55 maximum. Where insulation is not required under the entire slab, radiant floors shall use R-10 perimeter insualtion according to Section 1311.6 or F=0.78 maximum.~~

PROPOSED

## TABLE 13-2
## BUILDING ENVELOPE REQUIREMENTS
## FOR CLIMATE ZONE 2

## MINIMUM INSULATION R-VALUES OR
## MAXIMUM COMPONENT U-FACTORS FOR ZONE 2

**Building Components**

| Space Heat Type | Components | | | | | |
|---|---|---|---|---|---|---|
| | Roofs Over Attic | All Other Roofs | Opaque Walls[1,2] | Opaque Doors | Floor Over Uncond Space | Slab On Grade |
| 1. Electric resistance heat | R-38 or U=0.031 | R-30 or U=0.034 | R-24 or U=0.044[3] | U=0.60 | R-30 or U=0.029 | R-10 or F=0.54 |
| 2. All others including Heat pumps and VAV | R-38 or U=0.031 | R-25 or U=0.040 | R-19 or U=0.11 | U=0.60 | R-21 or U=0.047 | R-10 or F=0.54 |

## MAXIMUM GLAZING AREAS AND U-FACTORS AND
## MAXIMUM GLAZING SOLAR HEAT GAIN COEFFICIENTS
## FOR ZONE 2

**Glazing**

| Maximum Glazing Area as % of Wall | 0% to 15% | | | >15% to 20% | | | >20% to 25% | | | >25% to 30% | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Maximum U-Factor | | Max. SHGC[4] | Maximum U-Factor | | Max. SHGC[4] | Maximum U-Factor | | Max. SHGC[4] | Maximum U-Factor | | Max. SHGC[4] |
| | VG | OG | | VG | OG | | VG | OG | | VG | OG | |
| 1. Electric resistance heat | 0.40 | 0.80 | 1.0 | 0.40 | 0.80 | 1.0 | PRESCRIPTIVE PATH NOT ALLOWED | | | | | |
| 2. All others including Heat pumps and VAV | 0.90 | 1.45 | 1.0 | 0.75 | 1.40 | 1.0 | 0.60 | 1.30 | 0.60 | 0.50 | 1.25 | 0.50 |

**Footnotes**

1. **Below Grade Walls:** ~~Below grade walls shall be insulated either on the interior or the exterior. Below grade walls insulated on the exterior shall use a minimum of R-10 insulation. Below grade walls insulated on the interior shall use opaque wall values. No insulation is required for those portions of below grade walls and footings that are more than 10 feet below grade. Below grade walls, however, shall not be included in the gross exterior wall area unless insulated to the levels given above.~~

   When complying by the prescriptive approach, Section 1322:

   a) walls insulated on the interior shall use opaque wall values,

   b) walls insulated on the exterior shall use a minimum of R-12 insulation,

   c) those portions of below grade walls and footings that are more than 10 feet below grade, and not included in the gross exterior wall area, may be left uninsulated.

   When complying by the component performance approach, Section 1331:

   a) walls insulated on the interior shall use the opaque wall values when determining $U_{brwt}$,

   b) walls insulated on the exterior shall use a target U-factor of U=0.061 for $U_{brwt}$,

   c) those portions of below grade walls and footings that are more than 10 feet below grade, and not included in the gross exterior wall area, need not be included when determining $A_{brwt}$ and $A_{brw}$.

2. **Concrete Masonry Walls:** If the area weighted heat capacity of the total opaque above grade wall is a minimum of 9.0 Btu/ft$^2$ • °F, then the U-factor may be increased to 0.19 for interior insulation and 0.25 for integral and exterior insulation for insulation position as defined in Chapter 12. Individual walls with heat capacities less than 9.0 Btu/ft$^2$ • °F and below grade walls shall meet opague wall requirements listed above. Glazing shall comply with the following:

| Maximum Glazing Area as % of Wall | 0 to 5 % | | | >5 to 7 % | | | >7% to 10 % | | | >10% to 15% | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Maximum U-Factor | | Max. SHGC[4] | Maximum U-Factor | | Max. SHGC[4] | Maximum U-Factor | | Max. SHGC[4] | Maximum U-Factor | | Max. SHGC[4] |
| | VG | OG | | VG | OG | | VG | OG | | VG | OG | |
| 1. Electric resistance heat | 0.40 | 0.80 | 1.0 | 0.40 | 0.80 | 1.0 | 0.40 | 0.80 | 1.0 | NOT ALLOWED | | |
| 2. All others including Heat pumps and VAV | 0.90 | 1.45 | 1.0 | 0.60 | 1.30 | 0.70 | 0.50 | 1.25 | 0.50 | 0.40 | 0.80 | 0.40 |

3. **Metal Stud Walls:** For metal stud construction U=0.10.
4. **SHGC (Solar Heat Gain Coefficient per Section 1312.2):** May substitute Maximum Shading Coefficient (SC) for SHGC (See Section 1210 for definition of Shading Coefficient).
5. **Radiant Floors:** Where insulation is required under the entire slab, radiant floors shall use a minimum of R-10 insulation or F=0.55 maximum. Where insulation is not required under the entire slab, radiant floors shall use R-10 perimeter insualtion according to Section 1311.6 or F=0.78 maximum.

AMENDATORY SECTION (Amending WSR 93-21-052, filed 10/18/93, effective 4/1/94)

**WAC 51-11-1411 HVAC equipment performance requirements.**

1411.1 General: Equipment shall have a minimum performance at the specified rating conditions not less than the values shown in Tables 14-1 through 14-3.

1411.2 Rating Conditions: Cooling equipment shall be rated at ARI test conditions and procedures when available. Where no applicable procedures exist, data shall be furnished by the equipment manufacturer.

1411.3 Combination Space and Service Water Heating: ((~~Equipment whose listed principal function is service water heating and which is used to provide additional functions (e.g., space heating) as part of a combination system, shall comply with minimum performance requirements for the principal function category.~~)) For combination space and service water heaters with a principal function of providing space heat, the Combined Annual Efficiency (CAE) may be calculated by using ASHRAE Standard 124-1991. Storage water heaters used in combination space heat and water heat applications shall have either an Energy Factor (EF) or a Combined Annual Efficiency (CAE) of not less than the following:

| | Energy Factor (EF) | Combined Annual Efficiency (CAE) |
|---|---|---|
| < 50 gallon storage | 0.58 | 0.71 |
| 50 to 70 gallon storage | 0.57 | 0.71 |
| > 70 gallon storage | 0.55 | 0.70 |

1411.4 Packaged Electric Heating and Cooling Equipment: Packaged electric equipment providing both heating and cooling with a total cooling capacity greater than 20,000 Btu/h shall be a heat pump.

EXCEPTION: unstaffed equipment shelters or cabinets used solely for personal wireless service facilities.

1411.5 Unenclosed Spaces: Unless otherwise approved by the building official, radiant heating systems shall be used in lieu of convective or all-air heating systems to heat loading docks and all unenclosed spaces including garages. Energy used for heating unenclosed spaces is limited to 100 Btuh/sf of the radiated area.

EXCEPTION: Loading docks equipped with air curtains.

All systems shall be controlled by one or more of the following:

a. an occupancy sensor capable of automatically turning off the system no more than 30 minutes after the area has been vacated, or

b. a manual switch or timer which allows the system to remain on for no more than 2 hours.

AMENDATORY SECTION (Amending WSR 93-21-052, filed 10/18/93, effective 4/1/94)

**WAC 51-11-1412 Controls.**

1412.1 Temperature Controls: Each system shall be provided with at least one temperature control device. Each zone shall be controlled by individual thermostatic controls responding to temperature within the zone. At a minimum, each floor of a building shall be considered as a separate zone.

1412.2 Deadband Controls: When used to control both comfort heating and cooling, zone thermostatic controls shall be capable of a deadband of at least 5 degrees F within which the supply of heating and cooling energy to the zone is shut off or reduced to a minimum.

EXCEPTIONS:

1. Special occupancy, special usage, or code requirements where deadband controls are not appropriate.
2. Buildings complying with Section 1141.4, if in the proposed building energy analysis, heating and cooling thermostat setpoints are set to the same temperature between 70 degrees F and 75 degrees F inclusive, and assumed to be constant throughout the year.
3. Thermostats that require manual changeover between heating and cooling modes.

1412.3 Humidity Controls: If a system is equipped with a means for adding moisture, a humidistat shall be provided.

1412.4 Setback and Shut-Off: HVAC systems shall be equipped with automatic controls capable of accomplishing a reduction of energy use through control setback or equipment shutdown during periods of non-use or alternate use of the spaces served by the system. The automatic controls shall have a minimum seven-day clock and be capable of being set for seven different day types per week.

EXCEPTIONS:

1. Systems serving areas which require continuous operation at the same temperature setpoint.
2. Equipment with full load demands of 2 Kw (6,826 Btu/h) or less may be controlled by readily accessible manual off-hour controls.

1412.4.1 Dampers: Outside air intakes, exhaust outlets and relief outlets serving conditioned spaces shall be equipped with dampers which close automatically when the system is off or upon power failure. Stair shaft and elevator shaft smoke relief openings shall be equipped with normally open dampers. These dampers shall remain closed in normal operation until activated by the fire alarm system, a manual switch, or other approved smoke detection system.

EXCEPTIONS:

1. Systems serving areas which require continuous operation.
2. Combustion air intakes.

1412.5 Heat Pump Controls: Unitary air cooled heat pumps shall include microprocessor controls that minimize supplemental heat usage during start-up, set-up, and defrost conditions. These controls shall anticipate need for heat and use compression heating as the first stage of heat. Controls



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shall indicate when supplemental heating is being used through visual means (e.g., LED indicators).

1412.6 Combustion Heating Equipment Controls: Combustion heating equipment with a capacity over 225,000 Btu/h shall have modulating or staged combustion control.

EXCEPTIONS:
1. Boilers.
2. Radiant heaters.

1412.7 Balancing: Each air supply outlet or air or water terminal device shall have a means for balancing, including but not limited to, dampers, temperature and pressure test connections and balancing valves.

PROPOSED

AMENDATORY SECTION (Amending WSR 93-21-052, filed 10/18/93, effective 4/1/94)

**WAC 51-11-1414 Ducting systems.**

1414.1 Sealing: Duct work which is designed to operate at pressures above 1/2 inch water column static pressure shall be sealed in accordance with Standard RS-18. Extent of sealing required is as follows:

1. Static pressure: 1/2 inch to 2 inches; seal transverse joints.
2. Static pressure: 2 inches to 3 inches; seal all transverse joints and longitudinal seams.
3. Static pressure: Above 3 inches; seal all transverse joints, longitudinal seams and duct wall penetrations.

Duct tape and other pressure sensitive tape shall not be used as the primary sealant where ducts are designed to operate at static pressures of 1 inch W.C. or greater.

1414.2 Insulation: Ducts and plenums that are constructed and function as part of the building envelope, by separating interior space from exterior space, shall meet ((~~the~~)) all applicable requirements of Chapter 13. These requirements include insulation installation, moisture control, air leakage, and building envelope insulation levels. Outside air duct runs are considered building envelope until they,

1. connect to the heating or cooling equipment, or
2. are isolated from the exterior with an automatic shut-off damper. Other ducts and plenums shall be thermally insulated per Table 14-5.

EXCEPTIONS:
1. Within the HVAC equipment.
2. Exhaust air ducts not subject to condensation.
3. Exposed ductwork within a space that serves that space only.

AMENDATORY SECTION (Amending WSR 93-21-052, filed 10/18/93, effective 4/1/94)

**WAC 51-11-1421 System type.** To qualify as a simple system, systems shall be one of the following:

a. Air cooled, constant volume packaged equipment, which provide heating, cooling or both, and require only external connection to duct work and energy services.
b. Air cooled, constant volume split systems, which provide heating, cooling or both, with cooling capacity of ((~~54,000~~)) 84,000 Btu/h or less.
c. Heating only systems which have a capacity of less than 5,000 cfm or which have a minimum outside air supply of less than 70 percent of the total air circulation.

All other systems shall comply with Sections 1430 through 1438.

AMENDATORY SECTION (Amending WSR 93-21-052, filed 10/18/93, effective 4/1/94)

**WAC 51-11-1422 Controls.** In addition to the control requirements in Section 1412, where separate heating and cooling equipment serve the same temperature zone, thermostats shall be interlocked to prevent simultaneous heating and cooling. Systems which provide heating and cooling simultaneously to a zone are prohibited.

AMENDATORY SECTION (Amending WSR 93-21-052, filed 10/18/93, effective 4/1/94)

**WAC 51-11-1423 Economizers.** Economizers meeting the requirements of Section 1413 shall be installed on ((~~packaged roof top~~)) single package unitary fan-cooling units having a supply capacity of greater than 1,900 cfm or a total cooling capacity greater than 54,000 Btu/h.

The total capacity of all units without economizers shall not exceed 240,000 Btu/h per building, or 10% of its aggregate cooling (economizer) capacity, whichever is greater.

AMENDATORY SECTION (Amending WSR 93-21-052, filed 10/18/93, effective 4/1/94)

**WAC 51-11-1433 Economizers.** Economizers meeting the requirements of Section 1413 shall be installed on the following systems:

a. ((~~Packaged roof top~~)) Single package unitary fan-cooling units with a supply capacity of greater than 1,900 cfm or a total cooling capacity greater than 54,000 Btu/h.
b. Other individual fan-cooling units with a supply capacity of greater than 2,800 cfm or a total cooling capacity greater than 84,000 Btu/h.

The total capacity of all units without economizers shall not exceed 240,000 Btu/h per building, or 10% of its aggregate cooling (economizer) capacity, whichever is greater.

EXCEPTIONS:
1. Systems with air or evaporatively cooled condensers and that either one of the following can be demonstrated to the satisfaction of the enforcing agency:
   a. Special outside air filtration and treatment, for the reduction and treatment of unusual outdoor contaminants, makes an air economizer infeasible.
   b. The use of outdoor air cooling affects the operation of other systems (such as humidification, dehumidification, and supermarket refrigeration systems) so as to increase the overall building energy consumption.
2. Systems for which at least 75 percent of the annual energy used for mechanical cooling is provided from site-recovery or site-solar energy source.
3. A water economizer system, which is capable of cooling supply air by indirect evaporation. Such a system shall be designed and capable of being controlled to provide 100 percent of the expected system cooling load at outside air temperatures of 50 degrees F dry-bulb/45 degrees F wet-bulb and below. For this calculation, all factors

including solar and internal load shall be the same as those used for peak load calculations, except for the outside air temperatures.

AMENDATORY SECTION (Amending WSR 93-21-052, filed 10/18/93, effective 4/1/94)

**WAC 51-11-1452** ((~~**Pool water heaters. Pool water heaters using electric resistance heating as the primary source of heat are prohibited for pools over 2,000 gallons.**~~)) (Reserved.)

AMENDATORY SECTION (Amending WSR 93-21-052, filed 10/18/93, effective 4/1/94)

**WAC 51-11-1454 Pool covers.** Heated pools shall be equipped with a vapor retardant pool cover on or at the water surface. Pools heated to more than 90 degrees F shall have a pool cover with a minimum insulation value of R-12.

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## TABLE 14-1
## Standard Rating Conditions and Minimum Performance for Air Cooled Unitary Air Conditioners, Heat Pumps, Packaged Terminal Air Conditioners, Warm Air Furnaces, Duct Furnaces and Unit Heaters

| Equipment Type & Rating | Category | Sub-category & Rating Conditions | Minimum Rating: Steady State | Minimum Rating: Seasonal or Part Load | Standard |
|---|---|---|---|---|---|
| Air Conditioners and Heat Pumps Cooling Ratings | ≤65,000 Btu/h Cooling Capacity | Split Systems<br>Single Package | NA<br>NA | 10.0 SEER<br>9.7 SEER | ARI 210/240-1989 |
| | >65,000 and ≤135,000 Btu/h Cooling Capacity | All Unitary<br>Standard Ratings: | 8.9 EER<br>95°F db | 8.3 IPLV<br>80°F db | |
| | >135,000 and ≤760,000 Btu/h [1] Cooling Capacity | Air Conditioners<br>Heat Pumps | 8.5 EER<br>8.5 EER | 7.5 IPLV<br>7.5 IPLV | ARI 360-1986 |
| | >760,000 Btu/h[1] Cooling Capacity | Air Conditioners<br>Heat Pumps | 8.2 EER<br>8.7 EER | 7.5 IPLV<br>7.5 IPLV | |
| Packaged Term. Air Conditioners & Heat Pumps Cooling Ratings | All Capacities | Air Conditioners and Heat Pumps<br>Standard/Low Temp: | 10.0 - (0.16 x Cap/1000)[3] EER<br>95°F | 12.2 - (0.20 x Cap/1000)[2,3] EER<br>82°F | ARI 310-1990 |
| Heat Pump Heating Ratings | ≤65,000 Btu/h Cooling Capacity | Split Systems<br>Single Package | | 6.8 HSPF<br>6.6 HSPF | ARI 210/240-1989 |
| | >65,000 and ≤135,000 Btu/h Cooling Capacity | All Unitary<br>Standard Ratings: | 3.0 COP<br>47°F db/43°F wb | 2.0 COP<br>17°F db/15°F wb | |
| | >135,000 Btu/h Cooling Capacity | Standard Ratings: | 2.9 COP<br>47 °F | 2.0 COP<br>17 °F | ARI 365-1986 |
| Packaged Term. Heat Pumps Heating Ratings | All Capacities | Heat Pumps<br>Standard Ratings: | 2.9 - (0.026x Cap/1000)[3] EER<br>47°F db/43°F wb | | ARI 380-1990 |
| Warm Air Furnaces & Combination Furnace/A.C. | <225,000 Btu/h | Gas and Oil Fired<br>Seasonal Ratings: | 80% $E_t$[4] | 78% AFUE[5] | DOE 10CFR Part430 AppN |
| | ≥225,000 Btu/h | Gas, Max Rating[6]<br>Gas, Min Rating[6] | 80% $E_t$[4]<br>78% $E_t$[4] | NA<br>NA | ANSI Z21.47-1983 |
| | ≥225,000 Btu/h | Oil, Max Rating[6]<br>Oil, Min Rating[6] | 81% $E_t$[4]<br>81% $E_t$[4] | NA<br>NA | UL 727-1986 |
| Warm-Air Duct Furnaces and Unit Heaters | All Size Gas Duct Furnaces | Max Rated Capacity[6]<br>Min Rated Capacity[6] | 78% $E_t$[4]<br>75% $E_t$[4] | NA<br>NA | ANSI Z83.9-1986 |
| | All Size Gas Unit Heaters | Max Rated Capacity[6]<br>Min Rated Capacity[6] | 78% $E_t$[4]<br>74% $E_t$[4] | NA<br>NA | ANSI Z83.8-1985 |
| | All Size Oil Unit Heaters | Max Rated Capacity[6]<br>Min Rated Capacity[6] | 81% $E_t$[4]<br>81% $E_t$[4] | NA<br>NA | UL 731-1988 |

1. For units that have a heating section, deduct 0.2 from all required EER's and IPLV's.
2. For multi-capacity equipment the minimum performance shall apply to each step provided Multi-capacity refers to manufacturer published rating for more than one capacity mode allowed by the product's controls.
3. Capacity (Cap) means the rated cooling capacity of the product in Btu/h in accordance with the cited ARI standard. If the unit's capacity is less than 7,000 Btu/h, use 7,000 Btu/h in the calculation. If the unit's capacity is greater than 15,000 Btu/h, use 15,000 Btu/h in the calculation.
4. These values apply to non-NAECA equipment. See referenced standard for definition of Thermal efficiency (Et), (100% - flue losses).
5. To be consistent with National Appliance Energy Conservation Act (NAECA) of 1987 (Public Law 100-12). These values apply to furnace and combination units covered by NAECA.
6. Minimum and maximum ratings as provided for and allowed by the unit's controls.

## TABLE 14-2
## Standard Rating Conditions and Minimum Performance for Water and Evaporatively Cooled Unitary Air Conditioners, Heat Pumps, Water Source and Ground Source Heat Pumps, Condensing Units, and Water Chilling Packages

| Equipment Type & Rating | Category | Sub-category & Rating Conditions | Minimum Rating | | Standard |
|---|---|---|---|---|---|
| | | | Steady State | Seasonal or Part Load | |
| Evaporatively Cooled A/Cs & Heat Pumps Cooling Ratings | ≤65,000 Btu/h Cooling Capacity | Standard Conditions[1]: Outdoor Conditions: 95°F db/75°F wb | 9.3 EER | 8.5 IPLV | ARI 210/240-1989 CTI 201-1986 |
| | >65,000 and ≤135,000 Btu/h Cooling Capacity | | 10.5 EER | 9.7 IPLV | |
| Water Source Heat Pump Cooling Ratings | ≤65,000 Btu/h Cooling Capacity | Standard Conditions[1]: Entering Water 85°F ewt[2] | 9.3 EER | 10.2 EER 75°F ewt[2] | ARI 320-1986 CTI 201-1986 |
| | >65,000 and ≤135,000 Btu/h Cooling Capacity | Standard Conditions[1]: Entering Water 85°F ewt[2] | 10.5 EER | NA | |
| Ground Water Heat Pump Cooling Ratings | <135,000 Btu/h Cooling Capacity | Standard Conditions[1]: Entering Water 70°F ewt[2] | 11.0 EER | 11.5 EER 50°F ewt[2] | ARI 325-1985 |
| Water Cooled Unitary Air Conditioners Cooling Ratings | ≤65,000 Btu/h Cooling Capacity | Standard Conditions[1]: Entering Water 85°F ewt[2] | 9.3 EER | 8.3 IPLV 75°F ewt[2] | ARI 210/240-1989 CTI 201-1986 |
| | >65,000 and ≤135,000 Btu/h Cooling Capacity | Standard Conditions[1]: Entering Water 85°F ewt[2] | 10.5 EER | NA | |
| Water/Evap Cooled Air Cond. and Heat Pumps Cooling Ratings | >135,000 Btu/h Cooling Capacity | Standard Conditions[1]: | 9.6 EER | 9.0 IPLV | ARI 360-1986 CTI 201-1986 |
| Air and Water/ Evap Cooled Condensing Units Cooling Ratings[3] | >135,000 Btu/h Cooling Capacity | Air Cooled | 9.9 EER | 11.0 IPLV | ARI 365-1987 CTI 201-1986 |
| | | Water/Evap Cooled | 12.9 EER | 12.9 IPLV | |
| Air and Water Cooled Water Chilling Packages Cooling Ratings | <150 Tons | Water Cooled | 3.8 COP | 3.9 IPLV | ARI 550-90 ARI 590-86pN CTI 201-1986 |
| | ≥150 and <300 Tons | | 4.2 COP | 4.5 IPLV | |
| | ≥300 Tons | | 5.2 COP[4] | 5.3 IPLV[4] | |
| | <150 Tons | Air Cooled with Condenser | 2.7 COP | 2.8 IPLV | |
| | ≥150 Tons | | 2.5 COP | 2.5 IPLV | |
| | All Capacities | Air Cooled Condenserless | 3.1 COP | 3.2 IPLV | |
| Water & Ground-Water Source Heat Pumps Heating Ratings | <135,000 Btu/h Cooling Capacity | Water Source Standard Conditions[1]: | 3.8 COP 70°F ewt[2] | NA NA | ARI 320-1986 |
| | | Ground Water Source Standard Conditions[1]: | 3.4 COP 70°F ewt[2] | 3.0 COP 50°F ewt[2] | ARI 325-1985 |

1. Standard Indoor Conditions: 80°F dry bulb and 67°F wet bulb.
2. ewt: Entering Water Temperature for water cooled heat pumps and air conditioners.
3. Condensing unit requirements are based on single - number rating defined in paragraph 5.1.3.2 of ARI Standard 365.
4. These requirements are reduced to 4.7 COP and 4.8 IPLV, where refrigerants with ozone depletion factors of 0.05 or less are used. No reduction is allowed for standard design systems analyzed under Standard RS-29.

PROPOSED

## TABLE 14-3
## Standard Rating Conditions and Minimum Performance, Gas- and Oil-Fired Boilers

| Reference | Category | Rating Condition | Minimum Performance |
|---|---|---|---|
| DOE Test Procedure 10 CFR, Part 430 AppN | Gas-Fired <300,000 Btu/h | Seasonal Rating | AFUE 80%[1,3] |
| | Oil-Fired <300,000 Btu/h | Seasonal Rating | AFUE 80%[1] |
| ANSI Z21.13-87 H.I. Htg. Boiler Std. 86 ASME PTC4.1-64 U.L. 795-73 | Gas-Fired ≥300,000 Btu/h | 1. Max. Rated Capacity[2] Steady-State | $E_c$[4] 80% |
| | | 2. Min. Rated Capacity[2] Steady-State | $E_c$[4] 80% |
| U.L. 726-75 H.I. Htg. Boiler Std. 86 ASME PTC4.1-64 | Oil-Fired ≥300,000 Btu/h | 1. Max. Rated Capacity[2] Steady-State | $E_c$[4] 83% |
| | | 2. Min. Rated Capacity[2] Steady-State | $E_c$[4] 83% |
| H.I. Htg. Boiler Std. 86 ASME PTC4.1-64 | Oil-Fired (Residual) ≥300,000 Btu/h | 1. Max. Rated Capacity[2] Steady-State | $E_c$[4] 83% |
| | | 2. Min. Rated Capacity[2] Steady-State | $E_c$[4] 83% |

1. To be consistent with National Appliance Energy Conservation Act of 1987 (P.L. 100-12).
2. Provided and allowed by the controls.
3. Except for gas-fired steam boilers for which minimum AFUE is 75%.
4. $E_c$ = combustion efficiency, 100% - flue losses. See reference document for detailed information.

## TABLE 14-4
## Energy Efficient Electric Motors
## Minimum Nominal Full-Load Efficiency

| | Open Motors | | | Closed Motors | | |
|---|---|---|---|---|---|---|
| Synchronous Speed (RPM) | 3,600 | 1,800 | 1,200 | 3,600 | 1,800 | 1,200 |
| HP | Efficiency | Efficiency | Efficiency | Efficiency | Efficiency | Efficiency |
| 1.0 | - | 82.5 | 80.0 | 75.5 | 82.5 | 80.0 |
| 1.5 | 82.5 | 84.0 | 84.0 | 82.5 | 84.0 | 85.5 |
| 2.0 | 84.0 | 84.0 | 85.5 | 84.0 | 84.0 | 86.5 |
| 3.0 | 84.0 | 86.5 | 86.5 | 85.5 | 87.5 | 87.5 |
| 5.0 | 85.5 | 87.5 | 87.5 | 87.5 | 87.5 | 87.5 |
| 7.5 | 87.5 | 88.5 | 88.5 | 88.5 | 89.5 | 89.5 |
| 10.0 | 88.5 | 89.5 | 90.2 | 89.5 | 89.5 | 89.5 |
| 15.0 | 89.5 | 91.0 | 90.2 | 90.2 | 91.0 | 90.2 |
| 20.0 | 90.2 | 91.0 | 91.0 | 90.2 | 91.0 | 90.2 |
| 25.0 | 91.0 | 91.7 | 91.7 | 91.0 | 92.4 | 91.7 |
| 30.0 | 91.0 | 92.4 | 92.4 | 91.0 | 92.4 | 91.7 |
| 40.0 | 91.7 | 93.0 | 93.0 | 91.7 | 93.0 | 93.0 |
| 50.0 | 92.4 | 93.0 | 93.0 | 92.4 | 93.0 | 93.0 |
| 60.0 | 93.0 | 93.6 | 93.6 | 93.0 | 93.6 | 93.6 |
| 75.0 | 93.0 | 94.1 | 93.6 | 93.0 | 94.1 | 93.6 |
| 100.0 | 93.0 | 94.1 | 94.1 | 93.6 | 94.5 | 94.1 |
| 125.0 | 93.6 | 94.5 | 94.1 | 94.5 | 94.5 | 94.1 |
| 150.0 | 93.6 | 95.0 | 94.5 | 94.5 | 95.0 | 95.0 |
| 200.0 | 94.5 | 95.0 | 94.5 | 95.0 | 95.0 | 95.0 |

## ~~TABLE 14-5~~
## ~~Duct Insulation~~

| ~~Duct Location~~ | ~~Insulation R-Value~~ |
|---|---|
| ~~Not within conditioned space: On exterior of building, on roof, in attic, in enclosed ceiling space, in walls, in garage, in crawl spaces~~ | ~~R-7[1]~~ |
| ~~Not within conditioned space: in concrete, in ground~~ | ~~R-5.3~~ |
| ~~Supply air ducts within conditioned space with HVAC equipment supply air temperature <55 or >105°F~~ | ~~R-3.3~~ |

~~Note: Requirements apply to both supply and return ducts, whether heated or mechanically cooled. Mechanically cooled ducts requiring insulation shall have a vapor retarder, with a perm rating not greater than 0.5 and all joints sealed.~~

~~1. With approved weatherproof barrier.~~

~~INSULATION TYPES: Minimum densities and out of package thickness. Nominal R-values are for the insulation as installed and do not include air film resistance.~~

~~INSTALLED:~~

~~R-3.3 1.0 inch 1.5 to 3.0 lb/cu.ft. duct liner, mineral or glass fiber blanket or equivalent to provide an installed total thermal resistance of at least R-3.3.~~

~~R-5.3 2.0 inch 0.75 lb/cu.ft. mineral or glass fiber blanket, 1.5 inch 1.5 to 3.0 lb/cu.ft. duct liner, mineral or glass fiber blanket, 1.5 inch 3.0 to 7.0 lb/cu.ft. mineral or glass fiber board or equivalent to provide an installed total thermal resistance of at least R-5.3.~~

~~R-7 3.0 inch 0.75 lb/cu.ft. mineral or glass fiber blanket, 2.0 inch 1.5 to 3.0 lb/cu.ft. duct liner, mineral or glass fiber blanket, 2.0 inch 3.0 to 7.0 lb/cu.ft. mineral or glass fiber board or equivalent to provide an installed total thermal resistance of at least R-7.~~

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## TABLE 14-5
## Duct Insulation

| Duct Type | Duct Location | Insulation R-Value | Other Requirements |
|---|---|---|---|
| Supply, Return | Not within conditioned space: On exterior of building, on roof, in attic, in enclosed ceiling space, in walls, in garage, in crawl spaces | R-7~~1~~ | Approved weather proof barrier |
| Outside air intake | Within conditioned space | R-7 | |
| Supply, Return, Outside air intake | Not within conditioned space: in concrete, in ground | R-5.3 | |
| Supply with supply air temperature <55°F or >105°F | ~~Supply air ducts w~~Within conditioned space ~~with HVAC equipment supply air temperature <55 or >105°F~~ | R-3.3 | |

Note: Requirements apply to both supply and return ducts, whether heated or mechanically cooled. Mechanically cooled ducts requiring insulation shall have a vapor retarder, with a perm rating not greater than 0.5 and all joints sealed.

~~1. With approved weatherproof barrier.~~

**INSULATION TYPES:** Minimum densities and out of package thickness. Nominal R-values are for the insulation as installed and do not include air film resistance.

**INSTALLED:**

**R-3.3** 1.0 inch 1.5 to 3.0 lb/cu.ft. duct liner, mineral or glass fiber blanket or equivalent to provide an installed total thermal resistance of at least R-3.3.

**R-5.3** 2.0 inch 0.75 lb/cu.ft.mineral or glass fiber blanket, 1.5 inch 1.5 to 3.0 lb/cu.ft. duct liner, mineral or glass fiber blanket, 1.5 inch 3.0 to 7.0 lb/cu.ft. mineral or glass fiber board or equivalent to provide an installed total thermal resistance of at least R-5.3.

**R-7** 3.0 inch 0.75 lb/cu.ft. mineral or glass fiber blanket, 2.0 inch 1.5 to 3.0 lb/cu.ft. duct liner, mineral or glass fiber blanket, 2.0 inch 3.0 to 7.0 lb/cu.ft. mineral or glass fiber board or equivalent to provide an installed total thermal resistance of at least R-7.

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# TABLE 14-6
## Minimum Pipe Insulation (inches)[1]

| Fluid Design Operating Temp. Range, °F | Insulation Conductivity | | Nominal Pipe Diameter (in.) | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Conductivity Range Btu • in./(h • ft² • °F) | Mean Rating Temp. °F | Runouts[2] up to 2 | 1 and less | > 1 to 2 | > 2 to 4 | > 4 to 6 | > 6 |
| Heating systems (Steam, Steam Condensate and Hot water) | | Nominal Insulation Thickness | | | | | | |
| Above 350 | 0.32-0.34 | 250 | 1.5 | 2.5 | 2.5 | 3.0 | 3.5 | 3.5 |
| 251-350 | 0.29-0.31 | 200 | 1.5 | 2.0 | 2.5 | 2.5 | 3.5 | 3.5 |
| 201-250 | 0.27-0.30 | 150 | 1.0 | 1.5 | 1.5 | 2.0 | 2.0 | 3.5 |
| 141-200 | 0.25-0.29 | 125 | 0.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| 105-140 | 0.24-0.28 | 100 | 0.5 | 1.0 | 1.0 | 1.0 | 1.5 | 1.5 |
| Domestic and Service Hot Water Systems | | | | | | | | |
| 105 and Greater | 0.24-0.28 | 100 | 0.5 | 1.0 | 1.0 | 1.5 | 1.5 | 1.5 |
| Cooling Systems (Chilled Water, Brine and Refrigerant) | | | | | | | | |
| 40-55 | 0.23-0.27 | 75 | 0.5 | 0.5 | 0.75 | 1.0 | 1.0 | 1.0 |
| Below 40 | 0.23-0.27 | 75 | 1.0 | 1.0 | 1.5 | 1.5 | 1.5 | 1.5 |

1. Alternative Insulation Types. Insulation thicknesses in Table 14-6 are based on insulation with thermal conductivities within the range listed in Table 14-6 for each fluid operating temperature range, rated in accordance with ASTM C 335-84 at the mean temperature listed in the table. For insulation that has a conductivity outside the range shown in Table 14-6 for the applicable fluid operating temperature range at the mean rating temperature shown (when rounded to the nearest 0.01 Btu • in./(h • ft² • °F)), the minimum thickness shall be determined in accordance with the following equation:

$$T = PR[(1 + t/PR)^{K/k} - 1]$$

Where

T = Minimum insulation thickness for material with conductivity K, inches.
PR = Pipe actual outside radius, inches
t = Insulation thickness from Table 14-6, inches
K = Conductivity of alternate material at the mean rating temperature indicated in Table 14-6 for the applicable fluid temperature range, Btu • in/(h • ft² • °F)
k = The lower value of the conductivity range listed in Table 14-6 for the applicable fluid temperature range, Btu • in/(h • ft² • °F)

2. Runouts to individual terminal units not exceeding 12 ft. in length.

**Reviser's note:** The brackets and enclosed material in the text of the above section occurred in the copy filed by the agency and appear in the Register pursuant to the requirements of RCW 34.08.040.

AMENDATORY SECTION (Amending WSR 93-21-052, filed 10/18/93, effective 4/1/94)

**WAC 51-11-1512 Exempt lighting.**

1512.1 Exempt Spaces: The following rooms, spaces, and areas, are exempt from the lighting power requirements in Sections 1520 and 1530 but shall comply with all other requirements of this chapter.

1. Areas in which medical or dental tasks are performed.
2. High risk security areas or any area identified by ((~~safety~~)) building officials as requiring additional lighting.
3. Spaces designed for primary use by the visually impaired, hard of hearing (lip-reading) or by senior citizens.
4. Food preparation areas.
5. Outdoor manufacturing, greenhouses, and processing areas.
6. Electrical/mechanical equipment rooms.
7. Outdoor athletic facilities.

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8. Inspection and restoration areas in galleries and museums.

1512.2 Exempt Lighting Equipment: The following lighting equipment and tasks are exempt from the lighting requirements of Section 1520 and need not be included when calculating the installed lighting power under Section 1530 but shall comply with all other requirements of this chapter. All other lighting in areas that are not exempted by Section 1512.2, where exempt tasks and equipment are used, shall comply with all of the requirements of this chapter.

1. Special lighting needs for research.
2. Emergency lighting that is automatically OFF during normal building operation.
3. Lighting ((~~for~~)) integral to signs, and permanently ballasted lighting fixtures for walkways and pathways.
4. Lighting that is part of machines, equipment or furniture.
5. Lighting that is used solely for indoor plant growth during the hours of 10:00 p.m. to 6:00 a.m.
6. Lighting for theatrical productions, television broadcasting (including sports facilities), audio-visual presentations, and special effects lighting for stage areas and dance floors in entertainment facilities.
7. Lighting for art exhibits, non-retail displays, portable plug in display fixtures, and show case lighting.
8. Exterior lighting for public monuments.

AMENDATORY SECTION (Amending WSR 93-21-052, filed 10/18/93, effective 4/1/94)

**WAC 51-11-1530 ((~~Component performance~~)) Lighting power allowance option.** The installed lighting wattage shall not exceed the lighting power allowance. Lighting wattage includes lamp and ballast wattage. Wattage for fluorescent lamps and ballasts shall be tested per ANSI Standard C82.2-1984.

The wattage used for any unballasted fixture shall be the maximum UL listed wattage for that fixture regardless of the lamp installed. The wattage used for track lighting shall be ((~~the maximum of actual luminaire wattage or 50 watts per lineal foot of track~~)):

a. for line voltage track, 50 watts per lineal foot of track or actual luminare wattage, whichever is greater

b. for low voltage track, 25 watts per lineal foot of track or the VA rating of the transformer, whichever is greater.

No credit towards compliance with the lighting power allowances shall be given for the use of any controls, automatic or otherwise.

AMENDATORY SECTION (Amending WSR 93-21-052, filed 10/18/93, effective 4/1/94)

**WAC 51-11-1701 Scope.** The following standards ((~~will~~))shall apply to Chapters 11 through 20.

The standards and portions thereof, which are referred to in various parts of this Code shall be part of the Washington State Energy Code and are hereby declared to be a part of this Code.

| CODE STANDARD NO. | TITLE AND SOURCE |
|---|---|
| RS-1 | Same as RS-27 |
| RS-2 | through RS-8 **(Reserved)** |
| RS-9 | ASHRAE/IES Standard 90.1-1989, Efficient Design of Buildings Except New Low-Rise Residential Buildings. |
| RS-10 | Standard for Packaged Terminal Air Conditioners and Heat Pumps, ARI Standard 310/380-93. |
| RS-11 | through RS-17 **(Reserved)** |
| RS-18 | SMACNA, HVAC Duct Construction Standards Metal and Flexible ((~~Construction Standards, 1st Edition~~)), 2nd Edition, 1995. |
| RS-19 | through RS-24 **(Reserved)** |
| RS-25 | Thermal Bridges in Sheet Metal Construction from Appendix E of RS-9. |
| RS-26 | Super Good Cents Technical Reference (Builder's Field Guide). |
| RS-27 | ((~~1993~~)) 1997 ASHRAE Fundamentals Handbook. |
| RS-28 | ((~~1992 ASHRAE HVAC Systems and Equipment Handbook.~~)) **(Reserved.)** |
| RS-29 | Commercial Building Design by Systems Analysis. |
| RS-30 | Title 10, Code of Federal Regulations (CFR), Part 430 (March 14, 1988). |
| RS-31 | National Fenestration Rating Council (NFRC) Standard 100((~~-91~~)), 1997 Edition. |

**ACCREDITED AUTHORITATIVE AGENCIES**

**AAMA** refers to the American Architectural Manufacturers Association, 1827 Walden Office Square, Suite 104, Schaumburg, IL 60173-4268
Phone (847) 303-5664 Fax (847) 303-5774, Internet www.aamanet.org

**ANSI** refers to the American National Standards Institute, Inc., ((~~1430 Broadway, New York, NY 10018~~)) 11 West 42nd Street, New York, NY 10036
Phone (212) 642-4900 Fax (212) 398-0023, Internet www.-ansi.org

**ARI** refers to the Air Conditioning and Refrigeration Institute, 4301 North Fairfax Drive, Suite 425, Arlington, VA 22203
Phone (703) 524-8800 Fax (703) 528-3816, Internet www.-ari.org

**ASHRAE** refers to the American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc., 1791 Tullie Circle, N.E., Atlanta, GA 30329
Phone (404) 636-8400 Fax (404) 321-5478, Internet www.-ashrae.org

**ASTM** refers to the American Society for Testing and Materials, ((~~1916 Race Street, Philadelphia, PA 19103~~)) 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959
Phone (610) 832-9585 Fax (610) 832-9555, Internet www.-astm.org

**CTI** refers to the Cooling Tower Institute, ((~~P.O. Box 73383 Houston TX 77273~~)) 530 Wells Fargo Drive, Suite 218, Houston, TX 77090
Phone (281) 583-4087 Fax (281) 537-1721, Internet www.-cti.org

**IES** refers to the Illuminating Engineering Society, 120 Wall Street, Floor 17, New York, NY 10005-4001
Phone (212) 248-5000 Fax (212) 248-5017, Internet www.-ies.org

**NFRC** refers to the National Fenestration Rating Council, 1300 Spring Street, Suite 120, Silver Spring, MD 20910
Phone (301) 589-NFRC Fax (301) 588-0854, Internet www.nfrc.org

**SMACNA** refers to the Sheet Metal and Air Conditioning Contractors National Association, Inc., 4201 Lafayette Center Drive, P.O. Box 221230 Chantilly, VA ((~~22021-1209~~)) 20153-1230.
Phone (703) 803-2980 Fax (703) 803-3732, Internet www.-smacna.org

AMENDATORY SECTION (Amending WSR 93-21-052, filed 10/18/93, effective 4/1/94)

**WAC 51-11-2005 Above grade walls.**

2005.1 General: Table 20-5, 20-5a and 20-5b list heat-loss coefficients for the opaque portion of above-grade wood stud frame walls, metal stud frame walls and concrete masonry walls (Btu/h●ft$^2$●°F). They are derived from procedures listed in Standard RS-27, listed in Chapter 17.

2005.2 Framing Description: For wood stud frame walls, three framing types are considered, and defined as follows:

Standard: Studs framed on sixteen inch centers with double top plate and single bottom plate. Corners use three studs and each opening is framed using two studs. Headers consist of double 2X or single 4X material with an air space left between the header and the exterior sheathing. Interior partition wall/exterior wall intersections use two studs in the exterior wall.

Standard framing weighting factors:

| | |
|---|---|
| Studs and plates | 0.19 |
| Insulated cavity | 0.77 |
| Headers | 0.04 |

Intermediate: Studs framed on sixteen inch centers with double top plate and single bottom plate. Corners use two studs or other means of fully insulating corners, and each opening is framed by two studs. Headers consist of double 2X material with R-10 insulation between the header and exterior sheathing. Interior partition wall/exterior wall intersections are fully insulated in the exterior wall.

Intermediate framing weighting factors:

| | |
|---|---|
| Studs and plates | 0.18 |
| Insulated cavity | 0.78 |
| Headers | 0.04 |

Advanced: Studs framed on twenty-four inch centers with double top plate and single bottom plate. Corners use two studs or other means of fully insulating corners, and one stud is used to support each header. Headers consist of double 2X material with R-10 insulation between the header and exterior sheathing. Interior partition wall/exterior wall intersections are fully insulated in the exterior wall.

Advanced Framing Weighting Factors:

| | |
|---|---|
| Studs and plates | 0.13 |
| Insulated cavity | 0.83 |
| Headers | 0.04 |

2005.3 Component Description: For wood stud frame walls, default coefficients for three types of walls are listed: Single-stud walls, strap walls, and double-stud walls.

Single-Stud Wall: Assumes either 2x4 or 2x6 studs framed on sixteen or twenty-four inch centers. Headers are solid for 2x4 walls and double 2x for 2x6 walls, with either dead-air or rigid-board insulation in the remaining space.

Strap Wall: Assumes 2x6 studs framed on sixteen or twenty-four inch centers. 2x3 or 2x4 strapping is run horizontally along the interior surface of the wall to provide additional space for insulation.

Double-Stud Wall: Assumes an exterior structural wall and a separate interior, nonstructural wall. Insulation is placed in both wall cavities and in the space between the two walls. Stud spacing is assumed to be on twenty-four inch centers for both walls.

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# TABLE 20-5
## Default U-factors for Above-Grade Walls

### 2 x 4 Single Wood Stud: R-11 Batt

**NOTE:**
Nominal Batt R-value:
R-11 at 3.5 inch thickness

Installed Batt R-value:
R-11 in 3.5 inch cavity

| Siding Material/Framing Type | | | | |
|---|---|---|---|---|
| | Lapped Wood | | T1-11 | |
| R-value of Foam Board | STD | ADV | STD | ADV |
| 0 | 0.088 | 0.084 | 0.094 | 0.090 |
| 1 | 0.080 | 0.077 | 0.085 | 0.082 |
| 2 | 0.074 | 0.071 | 0.078 | 0.075 |
| 3 | 0.069 | 0.066 | 0.072 | 0.070 |
| 4 | 0.064 | 0.062 | 0.067 | 0.065 |
| 5 | 0.060 | 0.058 | 0.063 | 0.061 |
| 6 | 0.056 | 0.055 | 0.059 | 0.057 |
| 7 | 0.053 | 0.052 | 0.055 | 0.054 |
| 8 | 0.051 | 0.049 | 0.052 | 0.051 |
| 9 | 0.048 | 0.047 | 0.050 | 0.049 |
| 10 | 0.046 | 0.045 | 0.047 | 0.046 |
| 11 | 0.044 | 0.043 | 0.045 | 0.044 |
| 12 | 0.042 | 0.041 | 0.043 | 0.042 |

### 2 x 4 Single Wood Stud: R-13 Batt

**NOTE:**
Nominal Batt R-value:
R-13 at 3.63 inch thickness

Installed Batt R-value:
R-12.7 in 3.5 inch cavity

| Siding Material/Framing Type | | | | |
|---|---|---|---|---|
| | Lapped Wood | | T1-11 | |
| R-value of Foam Board | STD | ADV | STD | ADV |
| 0 | 0.082 | 0.078 | 0.088 | 0.083 |
| 1 | 0.075 | 0.072 | 0.080 | 0.076 |
| 2 | 0.069 | 0.066 | 0.073 | 0.070 |
| 3 | 0.065 | 0.062 | 0.068 | 0.065 |
| 4 | 0.060 | 0.058 | 0.063 | 0.061 |
| 5 | 0.057 | 0.055 | 0.059 | 0.057 |
| 6 | 0.053 | 0.052 | 0.056 | 0.054 |
| 7 | 0.051 | 0.049 | 0.052 | 0.051 |
| 8 | 0.048 | 0.047 | 0.050 | 0.048 |
| 9 | 0.046 | 0.045 | 0.047 | 0.046 |
| 10 | 0.044 | 0.043 | 0.045 | 0.044 |
| 11 | 0.042 | 0.041 | 0.043 | 0.042 |
| 12 | 0.040 | 0.039 | 0.041 | 0.040 |

**2 x 4 Single Wood Stud: R-15 Batt**

**NOTE:**
Nominal Batt R-value:
R-15 at 3.5 inch thickness

Installed Batt R-value:
R-15 in 3.5 inch cavity

| Siding Material/Framing Type | | | | |
|---|---|---|---|---|
| | Lapped Wood | | T1-11 | |
| R-value of Foam Board | STD | ADV | STD | ADV |
| 0 | 0.076 | 0.071 | 0.081 | 0.075 |
| 1 | 0.069 | 0.065 | 0.073 | 0.069 |
| 2 | 0.064 | 0.061 | 0.068 | 0.069 |
| 3 | 0.060 | 0.057 | 0.063 | 0.059 |
| 4 | 0.056 | 0.053 | 0.059 | 0.056 |
| 5 | 0.053 | 0.051 | 0.055 | 0.052 |
| 6 | 0.050 | 0.048 | 0.052 | 0.050 |
| 7 | 0.047 | 0.046 | 0.049 | 0.047 |
| 8 | 0.045 | 0.044 | 0.047 | 0.045 |
| 9 | 0.043 | 0.042 | 0.044 | 0.043 |
| 10 | 0.041 | 0.040 | 0.042 | 0.041 |
| 11 | 0.039 | 0.038 | 0.041 | 0.039 |
| 12 | 0.038 | 0.037 | 0.039 | 0.038 |

**2 x 6 Single Wood Stud: R-19 Batt**

**NOTE:**
Nominal Batt R-value:
R-19 at 6 inch thickness

Installed Batt R-value:
R-18 in 5.5 inch cavity

| Siding Material/Framing Type | | | | | | |
|---|---|---|---|---|---|---|
| | Lapped Wood | | | T1-11 | | |
| R-value of Foam Board | STD | INT | ADV | STD | INT | ADV |
| 0 | 0.062 | 0.058 | 0.055 | 0.065 | 0.061 | 0.058 |
| 1 | 0.058 | 0.055 | 0.052 | 0.060 | 0.057 | 0.055 |
| 2 | 0.054 | 0.052 | 0.050 | 0.056 | 0.054 | 0.051 |
| 3 | 0.051 | 0.049 | 0.047 | 0.053 | 0.051 | 0.049 |
| 4 | 0.048 | 0.046 | 0.045 | 0.050 | 0.048 | 0.046 |
| 5 | 0.046 | 0.044 | 0.043 | 0.048 | 0.046 | 0.044 |
| 6 | 0.044 | 0.042 | 0.041 | 0.045 | 0.044 | 0.042 |
| 7 | 0.042 | 0.040 | 0.039 | 0.043 | 0.042 | 0.040 |
| 8 | 0.040 | 0.039 | 0.038 | 0.041 | 0.040 | 0.039 |
| 9 | 0.038 | 0.037 | 0.035 | 0.039 | 0.038 | 0.037 |
| 10 | 0.037 | 0.036 | 0.035 | 0.038 | 0.037 | 0.036 |
| 11 | 0.036 | 0.035 | 0.034 | 0.036 | 0.035 | 0.035 |
| 12 | 0.034 | 0.033 | 0.033 | 0.035 | 0.034 | 0.033 |

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## 2 x 6 Single Wood Stud: R-21 Batt

**NOTE:**
Nominal Batt R-value:
R-21 at 5.5 inch thickness

Installed Batt R-value:
R-21 in 5.5 inch cavity

| Siding Material/Framing Type | | | | | | |
|---|---|---|---|---|---|---|
| | Lapped Wood | | | T1-11 | | |
| R-value of Foam Board | STD | INT | ADV | STD | INT | ADV |
| 0 | 0.057 | 0.054 | 0.051 | 0.060 | 0.056 | 0.053 |
| 1 | 0.054 | 0.051 | 0.048 | 0.056 | 0.053 | 0.050 |
| 2 | 0.050 | 0.048 | 0.045 | 0.052 | 0.050 | 0.047 |
| 3 | 0.048 | 0.045 | 0.043 | 0.049 | 0.047 | 0.045 |
| 4 | 0.045 | 0.043 | 0.041 | 0.047 | 0.045 | 0.043 |
| 5 | 0.043 | 0.041 | 0.040 | 0.044 | 0.042 | 0.041 |
| 6 | 0.041 | 0.039 | 0.038 | 0.042 | 0.041 | 0.039 |
| 7 | 0.039 | 0.038 | 0.036 | 0.040 | 0.039 | 0.037 |
| 8 | 0.038 | 0.036 | 0.035 | 0.039 | 0.037 | 0.036 |
| 9 | 0.036 | 0.035 | 0.034 | 0.037 | 0.036 | 0.035 |
| 10 | 0.035 | 0.034 | 0.033 | 0.036 | 0.035 | 0.033 |
| 11 | 0.033 | 0.033 | 0.032 | 0.034 | 0.033 | 0.032 |
| 12 | 0.032 | 0.031 | 0.031 | 0.033 | 0.032 | 0.031 |

## 2 x 6 Single Wood Stud: R-22 Batt

**NOTE:**
Nominal Batt R-value:
R-22 at 6.75 inch thickness

Installed Batt R-value:
R-20 in 5.5 inch cavity

| Siding Material/Framing Type | | | | | | |
|---|---|---|---|---|---|---|
| | Lapped Wood | | | T1-11 | | |
| R-value of Foam Board | STD | INT | ADV | STD | INT | ADV |
| 0 | 0.059 | 0.055 | 0.052 | 0.062 | 0.058 | 0.054 |
| 1 | 0.055 | 0.052 | 0.049 | 0.057 | 0.054 | 0.051 |
| 2 | 0.052 | 0.049 | 0.047 | 0.054 | 0.051 | 0.048 |
| 3 | 0.049 | 0.046 | 0.044 | 0.050 | 0.048 | 0.046 |
| 4 | 0.046 | 0.044 | 0.042 | 0.048 | 0.046 | 0.044 |
| 5 | 0.044 | 0.042 | 0.041 | 0.045 | 0.043 | 0.042 |
| 6 | 0.042 | 0.040 | 0.039 | 0.043 | 0.042 | 0.040 |
| 7 | 0.040 | 0.039 | 0.037 | 0.041 | 0.040 | 0.038 |
| 8 | 0.038 | 0.037 | 0.036 | 0.039 | 0.038 | 0.037 |
| 9 | 0.037 | 0.036 | 0.035 | 0.038 | 0.037 | 0.035 |
| 10 | 0.035 | 0.034 | 0.033 | 0.036 | 0.035 | 0.034 |
| 11 | 0.034 | 0.033 | 0.032 | 0.035 | 0.034 | 0.033 |
| 12 | 0.033 | 0.032 | 0.031 | 0.034 | 0.033 | 0.032 |

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## 2 x 6 Single Wood Stud: Two R-11 Batts

**NOTE:**
Nominal Batt R-value:
R-22 at 7 inch thickness

Installed Batt R-value:
R-18.9 in 5.5 inch cavity

| Siding Material/Framing Type | | | | | | |
|---|---|---|---|---|---|---|
| | Lapped Wood | | | T1-11 | | |
| R-value of Foam Board | STD | INT | ADV | STD | INT | ADV |
| 0 | 0.060 | 0.057 | 0.054 | 0.063 | 0.059 | 0.056 |
| 1 | 0.056 | 0.053 | 0.051 | 0.059 | 0.056 | 0.053 |
| 2 | 0.053 | 0.050 | 0.048 | 0.055 | 0.052 | 0.050 |
| 3 | 0.050 | 0.048 | 0.046 | 0.052 | 0.049 | 0.047 |
| 4 | 0.047 | 0.045 | 0.044 | 0.049 | 0.047 | 0.045 |
| 5 | 0.045 | 0.043 | 0.042 | 0.046 | 0.045 | 0.043 |
| 6 | 0.043 | 0.041 | 0.040 | 0.044 | 0.043 | 0.041 |
| 7 | 0.041 | 0.040 | 0.038 | 0.042 | 0.041 | 0.039 |
| 8 | 0.039 | 0.038 | 0.037 | 0.040 | 0.039 | 0.038 |
| 9 | 0.038 | 0.037 | 0.036 | 0.039 | 0.038 | 0.036 |
| 10 | 0.036 | 0.035 | 0.034 | 0.037 | 0.036 | 0.035 |
| 11 | 0.035 | 0.034 | 0.033 | 0.036 | 0.035 | 0.034 |
| 12 | 0.034 | 0.033 | 0.032 | 0.034 | 0.034 | 0.033 |

## 2 x 8 Single Stud: R-25 Batt

**NOTE:**
Nominal Batt R-value:
R-25 at 8 inch thickness

Installed Batt R-value:
R-23.6 in 7.25 inch cavity

| Siding Material/Framing Type | | | | | | |
|---|---|---|---|---|---|---|
| | Lapped Wood | | | T1-11 | | |
| R-value of Foam Board | STD | INT | ADV | STD | INT | ADV |
| 0 | 0.051 | 0.047 | 0.045 | 0.053 | 0.049 | 0.046 |
| 1 | 0.048 | 0.045 | 0.043 | 0.049 | 0.046 | 0.044 |
| 2 | 0.045 | 0.043 | 0.041 | 0.047 | 0.044 | 0.042 |
| 3 | 0.043 | 0.041 | 0.039 | 0.044 | 0.042 | 0.040 |
| 4 | 0.041 | 0.039 | 0.037 | 0.042 | 0.040 | 0.038 |
| 5 | 0.039 | 0.037 | 0.036 | 0.040 | 0.038 | 0.037 |
| 6 | 0.037 | 0.036 | 0.035 | 0.038 | 0.037 | 0.036 |
| 7 | 0.036 | 0.035 | 0.033 | 0.037 | 0.035 | 0.034 |
| 8 | 0.035 | 0.033 | 0.032 | 0.035 | 0.034 | 0.033 |
| 9 | 0.033 | 0.032 | 0.031 | 0.034 | 0.033 | 0.032 |
| 10 | 0.032 | 0.031 | 0.030 | 0.033 | 0.032 | 0.031 |
| 11 | 0.031 | 0.030 | 0.029 | 0.032 | 0.031 | 0.030 |
| 12 | 0.030 | 0.029 | 0.028 | 0.031 | 0.030 | 0.029 |

PROPOSED

## 2 x 6: Strap Wall

| | Siding Material/Frame Type | | | |
|---|---|---|---|---|
| | Lapped Wood | | T1-11 | |
| | STD | ADV | STD | ADV |
| R-19 + R-11 Batts | 0.036 | 0.035 | 0.038 | 0.036 |
| R-19 + R-8 Batts | 0.041 | 0.039 | 0.042 | 0.040 |

## 2 x 6 + 2 x 4: Double Wood Stud

| Batt Configuration | | | Siding Material/Frame Type | | | |
|---|---|---|---|---|---|---|
| | | | Lapped Wood | | T1-11 | |
| Exterior | Middle | Interior | STD | ADV | STD | ADV |
| R-19 | -- | R-11 | 0.040 | 0.037 | 0.041 | 0.038 |
| R-19 | -- | R-19 | 0.034 | 0.031 | 0.035 | 0.032 |
| R-19 | R-8 | R-11 | 0.029 | 0.028 | 0.031 | 0.029 |
| R-19 | R-11 | R-11 | 0.027 | 0.026 | 0.028 | 0.027 |
| R-19 | R-11 | R-19 | 0.024 | 0.023 | 0.025 | 0.023 |
| R-19 | R-19 | R-19 | 0.021 | 0.020 | 0.021 | 0.020 |

## 2 x 4 + 2 x 4: Double Wood Stud

| Batt Configuration | | | Sliding Material/Frame Type | | | |
|---|---|---|---|---|---|---|
| | | | Lapped Wood | | T1-11 | |
| Exterior | Middle | Interior | STD | ADV | STD | ADV |
| R-11 | -- | R-11 | 0.050 | 0.046 | 0.052 | 0.048 |
| R-19 | -- | R-11 | 0.039 | 0.037 | 0.043 | 0.039 |
| R-11 | R-8 | R-11 | 0.037 | 0.035 | 0.036 | 0.036 |
| R-11 | R-11 | R-11 | 0.032 | 0.031 | 0.033 | 0.032 |
| R-13 | R-13 | R-13 | 0.029 | 0.028 | 0.029 | 0.028 |
| R-11 | R-19 | R-11 | 0.026 | 0.026 | 0.027 | 0.026 |

## Log Walls

| Average Log Diameter, Inches | U-factor |
|---|---|
| 6 | 0.148 |
| 8 | 0.111 |
| 10 | 0.089 |
| 12 | 0.074 |
| 14 | 0.063 |
| 16 | 0.056 |

NOTE:
R-value of wood:
R-1.25 per inch thickness

Average wall thickness
90% average log diameter

## Stress Skin Panel

| Panel Thickness, Inches | U-factor |
|---|---|
| 3 1/2 | 0.071 |
| 5 1/2 | 0.048 |
| 7 1/4 | 0.037 |
| 9 1/4 | 0.030 |
| 11 1/4 | 0.025 |

NOTE:
R-value of expanded polystyrene: R-3.85 per inch

Framing: 6%
Spline: 8%
No thermal bridging between interior and exterior splines

Metal Stud Walls: The nominal R-values in Table 20-5a may be used for purposes of calculating metal stud wall section U-factors in lieu of the ASHRAE zone calculation method as provided in Chapter 22 of Standard RS-27.

PROPOSED

## TABLE 20-5A
## Default U-Factors and Effective R-Values for Metal Stud Walls

### OVERALL ASSEMBLY U-FACTORS FOR METAL STUD WALLS

| Nominal Wall Thickness, Inches | Nominal Insulation R-Value | Overall Assembly U-Factors | |
|---|---|---|---|
| | | 16" O.C. | 24" O.C. |
| 4 | R-11 | 0.14 | 0.13 |
| 4 | R-13 | 0.13 | 0.12 |
| 4 | R-15 | 0.12 | 0.11 |
| 6 | R-19 | 0.11 | 0.10 |
| 6 | R-21 | 0.11 | 0.09 |
| 8 | R-25 | 0.10 | 0.09 |

### EFFECTIVE R-VALUES FOR METAL STUD AND INSULATED CAVITY ONLY

| Cavity | | Insulation | | |
|---|---|---|---|---|
| | | | Effective R-value | |
| Nominal Depth, Inches | Actual Depth, Inches | Nominal R-Value | 16" O.C. | 24" O.C. |
| 4 | 3-1/2 | R-11 | 5.5 | 6.6 |
| 4 | 3-1/2 | R-13 | 6.0 | 7.2 |
| 4 | 3-1/2 | R-15 | 6.4 | 7.8 |
| 6 | 5-1/2 | R-19 | 7.1 | 8.6 |
| 6 | 5-1/2 | R-21 | 7.4 | 9.0 |
| 8 | 7-1/4 | R-25 | 7.8 | 9.6 |

PROPOSED

# TABLE 20-5A
## Default U-Factors and Effective R-Values for Metal ~~Stud Walls~~ Buildings

### OVERALL ASSEMBLY U-FACTORS FOR METAL STUD WALLS

| Nominal Wall Thickness, Inches | Nominal Insulation R-Value | Overall Assembly U-Factors | |
|---|---|---|---|
| | | 16" O.C. | 24" O.C. |
| 4 | R-11 | 0.14 | 0.13 |
| 4 | R-13 | 0.13 | 0.12 |
| 4 | R-15 | 0.12 | 0.11 |
| 6 | R-19 | 0.11 | 0.10 |
| 6 | R-21 | 0.11 | 0.09 |
| 8 | R-25 | 0.10 | 0.09 |

### EFFECTIVE R-VALUES FOR METAL STUD AND INSULATED CAVITY ONLY

| CAVITY | | INSULATION | | |
|---|---|---|---|---|
| | | | Effective R-value | |
| Nominal Depth, Inches | Actual Depth, Inches | Nominal R-Value | 16" O.C. | 24" O.C. |
| 4 | 3-1/2 | R-11 | 5.5 | 6.6 |
| 4 | 3-1/2 | R-13 | 6.0 | 7.2 |
| 4 | 3-1/2 | R-15 | 6.4 | 7.8 |
| 6 | 5-1/2 | R-19 | 7.1 | 8.6 |
| 6 | 5-1/2 | R-21 | 7.4 | 9.0 |
| 8 | 7-1/4 | R-25 | 7.8 | 9.6 |

### DEFAULT METAL BUILDING U-FACTORS

| | R-10 | R-11 | R-13 | R-19 | R-24 | R-30 |
|---|---|---|---|---|---|---|
| Faced fiber glass blanket insulation rolled over and perpendicular to structural frame. Metal covering sheets fastened to the frame, holding insulation in place. | 0.133 | 0.127 | 0.114 | 0.091 | na | na |
| Faced fiber glass batt insulation suspended between structural frame. Metal covering sheets fastened directly to frame. | 0.131 | 0.123 | 0.107 | 0.079 | 0.065 | 0.057 |
| Faced fiber glass blanket insulation rolled over and perpendicular to structural frame. Rigid insulation blocks placed over insulation to align with structural frame | 0.102 | 0.096 | 0.084 | 0.065 | na | na |
| Faced fiber glass batt insulation suspended between structural frame. Rigid insulation blocks placed over insulation to align with structural frame. | 0.099 | 0.093 | 0.080 | 0.059 | 0.048 | 0.041 |

Concrete Masonry Walls: The nominal R-values in Table 20-5b may be used for purposes of calculating concrete masonry wall section U-factors in lieu of the ASHRAE isothermal planes calculation method as provided in Chapter 22 of Standard RS-27.

PROPOSED

# TABLE 20-5B
## Default U-Factors for Concrete and Masonry Walls

### 8" CONCRETE MASONRY

| WALL DESCRIPTION | CORE TREATMENT | | | |
|---|---|---|---|---|
| | Partial Grout with Ungrouted Cores | | | Solid Grout |
| | Empty | Loose-fill insulated | | |
| | | Perlite | Vermiculite | |
| Exposed Block, Both Sides | 0.40 | 0.23 | 0.24 | 0.43 |
| R-5 Interior Insulation, Wood Furring | 0.14 | 0.11 | 0.12 | 0.15 |
| R-6 Interior Insulation, Wood Furring | 0.14 | 0.11 | 0.11 | 0.14 |
| R-10.5 Interior Insulation, Wood Furring | 0.11 | 0.09 | 0.09 | 0.11 |
| R-8 Interior Insulation, Metal Clips | 0.11 | 0.09 | 0.09 | 0.11 |
| R-6 Exterior Insulation | 0.12 | 0.10 | 0.10 | 0.12 |
| R-10 Exterior Insulation | 0.08 | 0.07 | 0.07 | 0.08 |
| R-9.5 Rigid Polystyrene Integral Insulation, Two Webbed Block | 0.11 | 0.09 | 0.09 | 0.12 |

### 12" CONCRETE MASONRY

| WALL DESCRIPTION | CORE TREATMENT | | | |
|---|---|---|---|---|
| | Partial Grout with Ungrouted Cores | | | Solid Grout |
| | Empty | Loose-fill insulated | | |
| | | Perlite | Vermiculite | |
| Exposed Block, Both Sides | 0.35 | 0.17 | 0.18 | 0.33 |
| R-5 Interior Insulation, Wood Furring | 0.14 | 0.10 | 0.10 | 0.13 |
| R-6 Interior Insulation, Wood Furring | 0.13 | 0.09 | 0.10 | 0.13 |
| R-10.5 Interior Insulation, Wood Furring | 0.11 | 0.08 | 0.08 | 0.10 |
| R-8 Interior Insulation, Metal Clips | 0.10 | 0.08 | 0.08 | 0.09 |
| R-6 Exterior Insulation | 0.11 | 0.09 | 0.09 | 0.11 |
| R-10 Exterior Insulation | 0.08 | 0.06 | 0.06 | 0.08 |
| R-9.5 Rigid Polystyrene Integral Insulation, Two Webbed Block | 0.11 | 0.08 | 0.09 | 0.12 |

PROPOSED

## 8" CLAY BRICK

| WALL DESCRIPTION | CORE TREATMENT | | | |
|---|---|---|---|---|
| | Partial Grout with Ungrouted Cores | | | Solid Grout |
| | Empty | Loose-fill insulated | | |
| | | Perlite | Vermiculite | |
| Exposed Block, Both Sides | 0.50 | 0.31 | 0.32 | 0.56 |
| R-5 Interior Insulation, Wood Furring | 0.15 | 0.13 | 0.13 | 0.16 |
| R-6 Interior Insulation, Wood Furring | 0.15 | 0.12 | 0.12 | 0.15 |
| R-10.5 Interior Insulation, Wood Furring | 0.12 | 0.10 | 0.10 | 0.12 |
| R-8 Interior Insulation, Metal Clips | 0.11 | 0.10 | 0.10 | 0.11 |
| R-6 Exterior Insulation | 0.12 | 0.11 | 0.11 | 0.13 |
| R-10 Exterior Insulation | 0.08 | 0.08 | 0.08 | 0.09 |

## 6" CONCRETE POURED OR PRECAST

| WALL DESCRIPTION | CORE TREATMENT | | | |
|---|---|---|---|---|
| | Partial Grout with Ungrouted Cores | | | Solid Grout |
| | Empty | Loose-fill insulated | | |
| | | Perlite | Vermiculite | |
| Exposed Concrete, Both Sides | NA | NA | NA | 0.61 |
| R-5 Interior Insulation, Wood Furring | NA | NA | NA | 0.16 |
| R-6 Interior Insulation, Wood Furring | NA | NA | NA | 0.15 |
| R-10.5 Interior Insulation, Wood Furring | NA | NA | NA | 0.12 |
| R-8 Interior Insulation, Metal Clips | NA | NA | NA | 0.12 |
| R-6 Exterior Insulation | NA | NA | NA | 0.13 |
| R-10 Exterior Insulation | NA | NA | NA | 0.09 |

## Notes for Default Table 20-5B

1. Grouted cores at 40" x 48" on center vertically and horizontally in partial grouted walls.
2. Interior insulation values include 1/2" gypsum board on the inner surface.
3. Furring and stud spacing is 16" on center. Insulation is assumed to fill furring space and is not compressed.
4. Intermediate values may be interpolated using this table. Values not contained in this table may be computed using the procedures listed in Standard RS-27.

AMENDATORY SECTION (Amending WSR 93-21-052, filed 10/18/93, effective 4/1/94)

**WAC 51-11-2006 Default U-factors for glazing and doors.**

2006.1 Untested Glazing and Doors: Untested glazing and doors shall be assigned the following U-factors:

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~~TABLE 20-6~~

~~Default U-Factors for Vertical Glazing, Overhead Glazing and Opaque Doors~~

~~Vertical Glazing~~

| | U-Factor |
|---|---|
| ~~Single~~ | ~~1.45~~ |
| ~~Double~~ | ~~0.90~~ |
| ~~1/2 Inch Air, Fixed~~ | ~~0.75~~ |
| ~~1/2 Inch Air, Low-e(0.40), Fixed~~ | ~~0.60~~ |
| ~~1/2 Inch Argon, Low-e(0.10), Fixed~~ | ~~0.50~~ |

~~Overhead Glazing~~

| | U-Factor | |
|---|---|---|
| | Any Frame | Vinyl/Wood Frame |
| ~~Single~~ | ~~2.15~~ | ~~2.15~~ |
| ~~Double~~ | ~~1.45~~ | ~~1.00~~ |
| ~~Low-e(0.40) or Argon~~ | ~~1.40~~ | ~~0.95~~ |
| ~~Low-e(0.40) + Argon~~ | ~~1.30~~ | ~~0.85~~ |
| ~~Low-e(0.20) Air~~ | ~~1.30~~ | ~~0.90~~ |
| ~~Low-e(0.20) + Argon~~ | ~~1.25~~ | ~~0.80~~ |
| ~~Triple~~ | ~~1.25~~ | ~~0.80~~ |

~~Opaque Doors~~

| | U-Factor |
|---|---|
| ~~Uninsulated Metal~~ | ~~1.20~~ |
| ~~Insulated Metal (Including Fire Door and Smoke Vent)~~ | ~~0.60~~ |
| ~~Wood~~ | ~~0.50~~ |

~~NOTES:~~

~~Where a gap width is listed (i.e.: 1/2 inch), that is the minimum allowed.~~

~~Where a low emissivity emittance is listed (i.e.: 0.40, 0.20, 0.10), that is the maximum allowed.~~

~~Where a gas other than air is listed (i.e.: argon), the gas fill shall be a minimum of 90%.~~

~~Where an operator type is listed (i.e.: fixed), the default is only allowed for that operator type.~~

~~Where a frame type is listed (i.e.: wood/vinyl), the default is only allowed for that frame type.~~

~~Wood/Vinyl frame includes reinforced vinyl and aluminum clad wood.~~

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# TABLE 20-6
## Default U-Factors for Vertical Glazing, Overhead Glazing and Opaque Doors

### Vertical Glazing

| | U-Factor | |
|---|---|---|
| | Any Frame | Vinyl/Wood Frame |
| Single | 1.45 | 1.45 |
| Double | 0.90 | 0.75 |
| 1/2 Inch Air, Fixed | 0.75 | 0.60 |
| 1/2 Inch Air, Low-e(0.40), Fixed | 0.60 | 0.50 |
| 1/2 Inch Argon, Low-e(0.10), Fixed | 0.50 | 0.40 |

### Overhead Glazing

| | U-Factor | |
|---|---|---|
| | Any Frame | Vinyl/Wood Frame |
| Single | 2.15 | 2.15 |
| Double | 1.45 | 1.00 |
| Low-e(0.40) or Argon | 1.40 | 0.95 |
| Low-e(0.40) + Argon | 1.30 | 0.85 |
| Low-e(0.20) Air | 1.30 | 0.90 |
| Low-e(0.20) + Argon | 1.25 | 0.80 |
| Triple | 1.25 | 0.80 |

### Opaque Doors

| | U-Factor |
|---|---|
| Uninsulated Metal | 1.20 |
| Insulated Metal (Including Fire Door and Smoke Vent) | 0.60 |
| Wood | 0.50 |

NOTES:
Where a gap width is listed (i.e.: 1/2 inch), that is the minimum allowed.
Where a low-emissivity emittance is listed (i.e.: 0.40, 0.20, 0.10), that is the maximum allowed.
Where a gas other than air is listed (i.e.: argon), the gas fill shall be a minimum of 90%.
Where an operator type is listed (i.e.: fixed), the default is only allowed for that operator type.
Where a frame type is listed (i.e.: wood/vinyl), the default is only allowed for that frame type.
Wood/Vinyl frame includes reinforced vinyl and aluminum-clad wood.

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AMENDATORY SECTION (Amending WSR 93-21-052, filed 10/18/93, effective 4/1/94)

**WAC 51-11-2007 Ceilings.**

2007.1 General: Table 20-7 lists heat-loss coefficients for the opaque portion of exterior ceilings below vented attics, vaulted ceilings, and roof decks in units of Btu/h●ft²●°F of ceiling.

They are derived from procedures listed in Standard RS-27, listed in Chapter 17. Ceiling U-factors are modified for the buffering effect of the attic, assuming an indoor temperature of 65 degrees F and an outdoor temperature of 45 degrees F.

2007.2 Component Description: The three types of ceilings are characterized as follows:

Ceilings Below a Vented Attic: Attic insulation is assumed to be blown-in, loose-fill fiberglass with a K-value of 2.6 (h●ft²●°F)/Btu per inch. Full bag count for specified R-value is assumed in all cases. Ceiling dimensions for flat ceiling calculations are forty-five by thirty feet, with a gabled roof having a 4/12 pitch. The attic is assumed to vent naturally at the rate of three air changes per hour through soffit and ridge vents. A void fraction of 0.002 is assumed for all attics with insulation baffles. Standard-framed, unbaffled attics assume a void fraction of 0.008.

Attic framing is either standard or advanced. Standard framing assumes tapering of insulation depth around the perimeter with resultant decrease in thermal resistance. An increased R-value is assumed in the center of the ceiling due to the effect of piling leftover insulation. Advanced framing assumes full and even depth of insulation extending to the outside edge of exterior walls. Advanced framing does not change from the default value.

U-factors for flat ceilings below vented attics with standard framing may be modified with the following table:

| | U-Factor for Standard Framing | |
|---|---|---|
| Roof Pitch | R-30 | R-38 |
| 4/12 | 0.036 | 0.031 |
| 5/12 | 0.035 | 0.030 |
| 6/12 | 0.034 | 0.029 |
| 7/12 | 0.034 | 0.029 |
| 8/12 | 0.034 | 0.028 |
| 9/12 | 0.034 | 0.028 |
| 10/12 | 0.033 | 0.028 |
| 11/12 | 0.033 | 0.027 |
| 12/12 | 0.033 | 0.027 |

Vented scissors truss attics assume a ceiling pitch of 2/12 with a roof pitch of either 4/12 or 5/12. Unbaffled standard framed scissors truss attics are assumed to have a void fraction of 0.016.

Vaulted Ceilings: Insulation is assumed to be fiberglass batts installed in roof joist cavities. In the vented case, at least 1.5-inches between the top of the batts and the underside of the roof sheathing is left open for ventilation in each cavity. A ventilation rate of three air changes per hour is assumed. In the unvented or dense pack case, the ceiling cavity is assumed to be fully packed with insulation, leaving no space for ventilation.

Roof Decks: Rigid insulation is applied to the top of roof decking with no space left for ventilation. Roofing materials are attached directly on top of the insulation. Framing members are often left exposed on the interior side.

Metal Truss Framing: Overall system tested values for the roof/ceiling $U_o$ for metal framed truss assemblies from approved laboratories shall be used, when such data is acceptable to the building official.

Alternatively, the $U_o$ for roof/ceiling assemblies using metal truss framing may be obtained from Tables 20-7A, 20-7B, 20-7C, 20-7D and 20-7E.

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# TABLE 20-7
## Default U-factors for Ceilings

| Ceilings Below Vented Attics | Standard Frame | Advanced Frame |
|---|---|---|
| **Flat Ceiling** | **Baffled** | |
| R-19 | 0.049 | 0.047 |
| R-30 | 0.036 | 0.032 |
| R-38 | 0.031 | 0.026 |
| R-49 | 0.027 | 0.020 |
| R-60 | 0.025 | 0.017 |
| **Scissors Truss** | | |
| R-30 (4/12 roof pitch) | 0.043 | 0.031 |
| R-38 (4/12 roof pitch) | 0.040 | 0.025 |
| R-49 (4/12 roof pitch) | 0.038 | 0.020 |
| R-30 (5/12 roof pitch) | 0.039 | 0.032 |
| R-38 (5/12 roof pitch) | 0.035 | 0.026 |
| R-49 (5/12 roof pitch) | 0.032 | 0.020 |

| Vaulted Ceilings | 16" O.C. | 24" O.C. |
|---|---|---|
| **Vented** | | |
| R-19 2x10 joist | 0.049 | 0.048 |
| R-30 2x12 joist | 0.034 | 0.033 |
| R-38 2x14 joist | 0.027 | 0.027 |
| **Unvented** | | |
| R-30 2x10 joist | 0.034 | 0.033 |
| R-38 2x12 joist | 0.029 | 0.027 |
| R-21 + R-21 2x12 joist | 0.026 | 0.025 |

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**Table 20-7A**
**Steel Truss[1] Framed Ceiling $U_o$**

| Cavity R-value | Truss Span (ft) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 |
| 19 | 0.1075 | 0.0991 | 0.0928 | 0.0878 | 0.0839 | 0.0807 | 0.0780 | 0.0757 | 0.0737 | 0.0720 | 0.0706 | 0.0693 | 0.0681 |
| 30 | 0.0907 | 0.0823 | 0.0760 | 0.0710 | 0.0671 | 0.0638 | 0.0612 | 0.0589 | 0.0569 | 0.0552 | 0.0538 | 0.0525 | 0.0513 |
| 38 | 0.0844 | 0.0759 | 0.0696 | 0.0647 | 0.0607 | 0.0575 | 0.0548 | 0.0525 | 0.0506 | 0.0489 | 0.0474 | 0.0461 | 0.0449 |
| 49 | 0.0789 | 0.0704 | 0.0641 | 0.0592 | 0.0552 | 0.0520 | 0.0493 | 0.0470 | 0.0451 | 0.0434 | 0.0419 | 0.0406 | 0.0395 |

**Table 20-7B**
**Steel Truss[1] Framed Ceiling $U_o$ with R-3 Sheathing[2]**

| Cavity R-value | Truss Span (ft) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 |
| 19 | 0.0809 | 0.0763 | 0.0728 | 0.0701 | 0.0679 | 0.0661 | 0.0647 | 0.0634 | 0.0623 | 0.0614 | 0.0606 | 0.0599 | 0.0592 |
| 30 | 0.0641 | 0.0595 | 0.0560 | 0.0533 | 0.0511 | 0.0493 | 0.0478 | 0.0466 | 0.0455 | 0.0446 | 0.0438 | 0.0431 | 0.0424 |
| 38 | 0.0577 | 0.0531 | 0.0496 | 0.0469 | 0.0447 | 0.0430 | 0.0415 | 0.0402 | 0.0392 | 0.0382 | 0.0374 | 0.0367 | 0.0361 |
| 49 | 0.0523 | 0.0476 | 0.0441 | 0.0414 | 0.0393 | 0.0375 | 0.0360 | 0.0348 | 0.0337 | 0.0328 | 0.0319 | 0.0312 | 0.0306 |

**Table 20-7C**
**Steel Truss[1] Framed Ceiling $U_o$ with R-5 Sheathing[2]**

| Cavity R-value | Truss Span (ft) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 |
| 19 | 0.0732 | 0.0697 | 0.0670 | 0.0649 | 0.0633 | 0.0619 | 0.0608 | 0.0598 | 0.0590 | 0.0583 | 0.0577 | 0.0571 | 0.0567 |
| 30 | 0.0564 | 0.0529 | 0.0502 | 0.0481 | 0.0465 | 0.0451 | 0.0440 | 0.0430 | 0.0422 | 0.0415 | 0.0409 | 0.0403 | 0.0399 |
| 38 | 0.0501 | 0.0465 | 0.0438 | 0.0418 | 0.0401 | 0.0388 | 0.0376 | 0.0367 | 0.0359 | 0.0351 | 0.0345 | 0.0340 | 0.0335 |
| 49 | 0.0446 | 0.0410 | 0.0384 | 0.0363 | 0.0346 | 0.0333 | 0.0322 | 0.0312 | 0.0304 | 0.0297 | 0.0291 | 0.0285 | 0.0280 |

**Table 20-7D**
**Steel Truss[1] Framed Ceiling $U_o$ with R-10 Sheathing[2]**

| Cavity R-value | Truss Span (ft) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 |
| 19 | 0.0626 | 0.0606 | 0.0590 | 0.0578 | 0.0569 | 0.0561 | 0.0555 | 0.0549 | 0.0545 | 0.0541 | 0.0537 | 0.0534 | 0.0531 |
| 30 | 0.0458 | 0.0437 | 0.0422 | 0.0410 | 0.0401 | 0.0393 | 0.0387 | 0.0381 | 0.0377 | 0.0373 | 0.0369 | 0.0366 | 0.0363 |
| 38 | 0.0394 | 0.0374 | 0.0359 | 0.0347 | 0.0337 | 0.0330 | 0.0323 | 0.0318 | 0.0313 | 0.0309 | 0.0305 | 0.0302 | 0.0299 |
| 49 | 0.0339 | 0.0319 | 0.0304 | 0.0292 | 0.0283 | 0.0275 | 0.0268 | 0.0263 | 0.0258 | 0.0254 | 0.0251 | 0.0247 | 0.0245 |

**Table 20-7E**
**Steel Truss[1] Framed Ceiling $U_o$ with R-15 Sheathing[2]**

| Cavity R-value | Truss Span (ft) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 |
| 19 | 0.0561 | 0.0550 | 0.0541 | 0.0535 | 0.0530 | 0.0526 | 0.0522 | 0.0519 | 0.0517 | 0.0515 | 0.0513 | 0.0511 | 0.0509 |
| 30 | 0.0393 | 0.0382 | 0.0373 | 0.0367 | 0.0362 | 0.0358 | 0.0354 | 0.0351 | 0.0349 | 0.0347 | 0.0345 | 0.0343 | 0.0341 |
| 38 | 0.0329 | 0.0318 | 0.0310 | 0.0303 | 0.0298 | 0.0294 | 0.0291 | 0.0288 | 0.0285 | 0.0283 | 0.0281 | 0.0279 | 0.0278 |
| 49 | 0.0274 | 0.0263 | 0.0255 | 0.0249 | 0.0244 | 0.0239 | 0.0236 | 0.0233 | 0.0230 | 0.0228 | 0.0226 | 0.0225 | 0.0223 |

1 - Assembly values based on 24 inch on center truss spacing; 11 Truss member connections penetrating insulation (4 at the eaves, 7 in the interior space); ½ inch drywall ceiling; all truss members are 2x4 "C" channels with a solid web.

2 - Ceiling sheathing installed between bottom chord and drywall.

AMENDATORY SECTION (Amending WSR 93-21-052, filed 10/18/93, effective 4/1/94)

**WAC 51-11-99903 Section 3—Specific modeling assumptions.**

The specific modeling assumptions consist of methods and assumptions for calculating the standard energy consumption for the standard building and the proposed energy consumption of the proposed design. In order to maintain consistency between the standard and the proposed design energy consumptions, the input assumptions in this section shall be used.

"Prescribed" assumptions shall be used without variation. "Default" assumptions shall be used unless the designer can demonstrate that a different assumption better characterizes the building's use over its expected life. Any modification of a default assumption shall be used in modeling both the standard building and the proposed design unless the designer demonstrates a clear cause to do otherwise.

**3.1 Orientation and Shape:** The standard building shall consist of the same number of stories and gross floor area for each story as the proposed design. Each floor shall be oriented exactly as the proposed design. The geometric form shall be the same as the proposed design.

**3.2 Internal Loads:** Internal loads shall be modeled as noted in the following parts of Section 3.2. The systems specified for calculating the standard energy consumption in Section 3.2 are intended only as constraints in calculating the consumption. They are not intended as requirements or recommendations for systems to be used in the proposed building or for the calculation of the proposed energy consumption.

**3.2.1 Occupancy:** Occupancy schedules shall be default assumptions. The same assumptions shall be made in computing proposed energy consumption as were used in calculating the standard energy consumption. Occupancy levels vary by building type and time of day. Table 3-1 establishes the density presented as $ft^2$/person of conditioned floor area that will be used by each building type. Table 3-2 establishes the percentage of the people that are in the building by hours of the day for each building type.

**3.2.2 Lighting:** The interior and exterior lighting power allowance for calculating the standard energy consumption shall be determined from Sections 1531 and 1532. The lighting power used to calculate the proposed energy consumption shall be the actual lighting power of the proposed lighting design. Exempt lighting in the standard design shall be equal to the exempt lighting in the proposed design.

Lighting levels in buildings vary based on the type of uses within buildings, by area and by time of day. Table 3-2 contains the lighting energy profiles which establish the percentage of the lighting load that is switched ON in each prototype or reference building by hour of the day. These profiles are default assumptions and can be changed if required when calculating the standard energy consumption to provide, for example, a 12 hour rather than an 8 hour work day or to reflect the use of automatic lighting controls. The lighting schedules used in the standard and proposed designs shall be identical and shall reflect the type of controls to be installed in the proposed design. The controls in the proposed design shall comply with the requirements in Section 1513 and no credit shall be given for the use of any additional controls, automatic or otherwise.

**3.2.3 Receptacle:** Receptacle loads and profiles are default assumptions. The same assumptions shall be made in calculating proposed energy consumption as were used in calculating the standard energy consumption. Receptacle loads include all general service loads that are typical in a building. These loads should include additional process electrical usage but exclude HVAC primary or auxiliary electrical usage. Table 3-1 establishes the density in $W/ft^2$ to be used. The receptacle energy profiles shall be the same as the lighting energy profiles in Table 3-2. This profile establishes the percentage of the receptacle load that is switched ON by hour of the day and by building type.

**3.3 Envelope**

**3.3.1 Insulation and Glazing:** Glazing area and U-factor of the standard building envelope shall be determined by using the Target UA requirements of Equation 13-1 and U-factor values in Table 13-1 or 13-2. The glazing solar heat gain coefficient (SHGC) or shading coefficient of the standard building shall be the lesser of 0.65 and the SHGC required by Table 13-1 or 13-2 for the vertical or overhead glazing area for the appropriate wall type. The opaque area U-factors of the standard building shall be determined by using the Target UA requirements from Equation 13-1 including the appropriate mass for walls. The insulation characteristics and glazing area are prescribed assumptions for the standard building for calculating the standard energy consumption. In the calculation of the proposed energy consumption of the proposed design, the envelope characteristics of the proposed design shall be used. The standard design shall use the maximum glazing areas listed in Tables 13-1 or 13-2 for the appropriate use. The distribution of vertical glazing in the gross wall area of the standard design shall be equal to the distribution of vertical glazing in the proposed design or shall constitute an equal percentage of gross wall area on all sides of the standard building. The distribution of overhead glazing in the gross roof/ceiling area of the standard design shall be equal to the distribution of overhead glazing in the proposed design. The distribution of doors in the gross opaque wall area of the standard design shall be identical to the distribution of doors in the proposed design.

**3.3.2 Infiltration:** For standard and proposed buildings, infiltration assumptions shall be equal.

**3.3.3 Envelope and Ground Absorptivities:** For the standard building, absorptivity assumptions shall be default assumptions for computing the standard energy consumption and default assumptions for computing the proposed energy consumption. The solar absorptivity of opaque elements of the building envelope shall be assumed to be 70 percent. The solar absorptivity of ground surfaces shall be assumed to be 80 percent (20 percent reflectivity).

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**3.3.4 Window Treatment:** No draperies or blinds shall be modeled for the standard or proposed building.

**3.3.5 Shading:** For standard building and the proposed design, shading by permanent structures and terrain shall be taken into account for computing energy consumption whether or not these features are located on the building site. A permanent fixture is one that is likely to remain for the life of the proposed design. Credit may be taken for external shading devices that are part of the proposed design.

**3.4 HVAC Systems and Equipment:** For the standard building, the HVAC system used shall be the system type used in the proposed design. If the proposed HVAC system type does not comply with Sections 1432 through 1438, the standard design system shall comply in all respects with those sections.

Exception: When approved by the building official, a prototype HVAC system may be used, if the proposed design system cannot be modified to comply with Sections 1422 and 1432 through 1438, as a standard design. Use of prototype HVAC systems shall only be permitted for the building types listed below. For mixed-use buildings, the floor space of each building type is allocated within the floor space of the standard building. The specifications and requirements for the HVAC systems of prototype buildings shall be those in Table 3-3.

1. assembly
2. health/institutional
3. hotel/motel
4. light manufacturing
5. office (business)
6. restaurant
7. retail (mercantile)
8. school (educational)
9. warehouse (storage)

**3.4.1 HVAC Zones:** HVAC zones for calculating the standard energy consumption and proposed energy consumption shall consist of at least four perimeter and one interior zone per floor, with at least one perimeter zone facing each orientation. The perimeter zones shall be fifteen feet in width or one-third the narrow dimension of the building when this dimension is between 30 and 45 feet inclusive or half the narrow dimension of the building when this dimension is less than thirty feet.

Exceptions:
1. Building types such as assembly or warehouse may be modeled as a single zone if there is only one space.
2. Thermally similar zones, such as those facing one orientation on different floors, may be grouped together for the purposes of either the standard or proposed building simulation.

**3.4.2 Process Equipment Sizing:** Process sensible and latent loads shall be equal in calculating both the standard energy consumption and the proposed energy consumption. The designer shall document the installation of process equipment and the size of process loads.

**3.4.3 HVAC Equipment Sizing:** The equipment shall be sized to include the capacity to meet the process loads. For calculating the proposed energy consumption, actual air flow rates and installed equipment size shall be used in the simulation. Equipment sizing in the simulation of the proposed design shall correspond to the equipment intended to be selected for the design and the designer shall not use equipment sized automatically by the simulation tool.

Equipment sizing for the standard design shall be based on the same as the proposed design or lesser sizing ratio of installed system capacity to the design load for heating and for cooling.

Chilled water systems for the standard building shall be modeled using a reciprocating chiller for systems with total cooling capacities less than 175 tons, and centrifugal chillers for systems with cooling capacities of 175 tons or greater. For systems with cooling capacities of 600 tons or more the standard energy consumption shall be calculated using two centrifugal chillers, lead/lag controlled. Chilled water shall be assumed to be controlled at a constant 44 degree F temperature rise, from 44 degrees F to 56 degrees F, operating at 65 percent combined impeller and motor efficiency. Condenser water pumps shall be sized using a 10 degree F temperature rise, operating at 60 percent combined impeller and motor efficiency. The cooling tower shall be an open circuit, centrifugal blower type sized for the larger of 85 degrees F leaving water temperature or 10 degrees F approach to design wetbulb temperature. The tower shall be controlled to provide a 65 degrees F leaving water temperature whenever weather conditions permit, floating up to design leaving water temperature at design conditions.

**3.4.4 Variable Speed:** The energy of the combined fan system per air volume at design conditions (w/cfm) of the proposed design shall be equal to that of the standard design.

Variable air volume fan systems in the standard building shall be variable speed.

**3.5 Service Water Heating:** The service water heating loads for prototype buildings are defined in terms of Btu/person-hour in Table 3-1. The values in the table refer to energy content of the heated water. The service water heating loads from Table 3-1 are default for all buildings. The same service-water-heating load assumptions shall be made in calculating proposed energy consumption as were used in calculating the standard energy consumption. The service water heating system for the standard building shall be modeled as closely as possible as if it were designed in accordance with the ASHRAE Handbook, ((~~1987~~)) 1995 HVAC Systems and Applications Volume and meeting all the requirements of Sections 1440 through 1442.

**3.6 Controls**

**3.6.1:** All occupied conditioned spaces in standard and proposed design buildings in all climates shall be simulated as being both heated and cooled.

Exceptions:
1. If a building or portion of a building is to be provided with only heating or cooling, both the standard building and the proposed design shall be simulated using the same assumptions.
2. If warehouses are not intended to be mechanically cooled, both the standard and proposed energy consumption shall be modeled assuming no mechanical cooling.

**3.6.2:** Space temperature controls for the standard building, shall be set at 70 degrees F for space heating and 75 degrees F for space cooling, with a deadband in accordance with Section 1412.2. The system shall be OFF during off-hours according to the appropriate schedule in Table 3-2, except that the heating system shall cycle ON if any space should drop below the night setback setting 55 degrees F. There shall be no similar setpoint during the cooling season.

Lesser deadband ranges may be used in calculating the proposed energy consumption.

Exceptions:

1. Setback shall not be modeled in determining either the standard or proposed energy consumption if setback is not realistic for the proposed design such as a facility being operated 24 hours/day. For instance, health facilities need not have night setback during the heating season.
2. If deadband controls are not to be installed, the proposed energy consumption shall be calculated with both heating and cooling thermostat setpoints set to the same value between 70 degrees F and 75 degrees F inclusive, assumed to be constant for the year.

**3.6.3:** When providing for outdoor air ventilation when calculating the standard energy consumption, controls shall be assumed to close the outside air intake to reduce the flow of outside air to 0.0 cfm during "setback" and "unoccupied" periods. Ventilation using inside air may still be required to maintain scheduled setback temperature. Outside air ventilation, during occupied periods, shall be as required by the Washington State Ventilation and Indoor Air Quality Code chapter 51-13 WAC.

**3.6.4:** If humidification is to be used in the proposed design, the same level of humidification and system type shall be used in the standard building.

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## TABLE 3-1
## Acceptable Occupancy Densities, Receptacle Power Densities and Service Hot Water Consumption[1]

| Building Type | Occupancy Density[2] Sq. Ft./Person (Btu/h·ft²) | Receptable Power Density[3] Watts/Sq. Ft. (Btu/h·ft²) | Service Hot Water Quantities[4] Btu/h·person |
|---|---|---|---|
| Assembly | 50 (4.60) | 0.25 (0.85) | 215 |
| Health/Institutional | 200 (1.15) | 1.00 (3.41) | 135 |
| Hotel/Motel | 250 (0.92) | 0.25 (0.85) | 1,110 |
| Light Manufacturing | 750 (0.31) | 0.20 (0.68) | 225 |
| Office | 275 (0.84) | 0.75 (2.56) | 175 |
| Parking Garage | N.A. | N.A. | N.A. |
| Restaurant | 100 (2.30) | 0.10 (0.34) | 390 |
| Retail | 300 (0.77) | 0.25 (0.85) | 135 |
| School | 75 (3.07) | 0.50 (1.71) | 215 |
| Warehouse | 15,000 (0.02) | 0.10 (0.34) | 225 |

1. The occupancy densities, receptacle power densities and service hot water consumption values are from ASHRAE Standard 90.1-1989 and addenda.
2. Values are in square feet of conditioned floor area per person. Heat generation in Btu per person per hour is 230 sensible and 190 latent. Figures in parentheses are equivalent Btu per hour per square foot.
3. Values are in Watts per square foot of conditioned floor area. Figures in parentheses are equivalent Btu per hour per square foot. These values are the minimum acceptable. If other process loads are not input (such as for computers, cooking, refrigeration, etc.), it is recommended that receptacle power densities be increased until total process energy consumption is equivalent to 25% of the total.
4. Values are in Btu per person per hour.

## TABLE 3-2A
## Assembly Occupancy[1]

| Hour of Day (time) | Schedule for Occupancy Percent of Maximum Load | | | Schedule for Lighting Receptacle Percent of Maximum Load | | | Schedule for HVAC System | | | Schedule for Service Hot Water Percent of Maximum Load | | | Schedule for Elevator Percent of Maximum Load | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Wk | Sat | Sun | Wk | Sat | Sun | Wk | Sat | Sun | Wk | Sat | Sun | Wk | Sat | Sun |
| 1 (12-1am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 (1-2am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 (2-3am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 (3-4am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 (4-5am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 (5-6am) | 0 | 0 | 0 | 5 | 5 | 5 | on | off | off | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 (6-7am) | 0 | 0 | 0 | 40 | 5 | 5 | on | on | on | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 (7-8am) | 0 | 0 | 0 | 40 | 30 | 30 | on | on | on | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 (8-9am) | 20 | 20 | 10 | 40 | 30 | 30 | on | on | on | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 (9-10am) | 20 | 20 | 10 | 75 | 50 | 30 | on | on | on | 5 | 5 | 5 | 0 | 0 | 0 |
| 11 (10-11am) | 20 | 20 | 10 | 75 | 50 | 30 | on | on | on | 5 | 5 | 5 | 0 | 0 | 0 |
| 12 (11-12pm) | 80 | 60 | 10 | 75 | 50 | 30 | on | on | on | 35 | 20 | 10 | 0 | 0 | 0 |
| 13 (12-1pm) | 80 | 60 | 10 | 75 | 50 | 65 | on | on | on | 5 | 0 | 0 | 0 | 0 | 0 |
| 14 (1-2pm) | 80 | 60 | 70 | 75 | 50 | 65 | on | on | on | 5 | 0 | 0 | 0 | 0 | 0 |
| 15 (2-3pm) | 80 | 60 | 70 | 75 | 50 | 65 | on | on | on | 5 | 0 | 0 | 0 | 0 | 0 |
| 16 (3-4pm) | 80 | 60 | 70 | 75 | 50 | 65 | on | on | on | 5 | 0 | 0 | 0 | 0 | 0 |
| 17 (4-5pm) | 80 | 60 | 70 | 75 | 50 | 65 | on | on | on | 5 | 0 | 0 | 0 | 0 | 0 |
| 18 (5-6pm) | 80 | 60 | 70 | 75 | 50 | 65 | on | on | on | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 (6-7pm) | 20 | 60 | 70 | 75 | 50 | 65 | on | on | on | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 (7-8pm) | 20 | 60 | 70 | 75 | 50 | 65 | on | on | on | 0 | 65 | 65 | 0 | 0 | 0 |
| 21 (8-9pm) | 20 | 60 | 70 | 75 | 50 | 65 | on | on | on | 0 | 30 | 30 | 0 | 0 | 0 |
| 22 (9-10pm) | 20 | 80 | 70 | 75 | 50 | 65 | on | on | on | 0 | 0 | 0 | 0 | 0 | 0 |
| 23 (10-11pm) | 10 | 10 | 20 | 25 | 50 | 5 | on | on | on | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 (11-12am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 0 | 0 | 0 | 0 | 0 | 0 |
| Total/Day | 710 | 750 | 700 | 1155 | 800 | 845 | 1800 | 1700 | 1700 | 70 | 125 | 115 | 0 | 0 | 0 |
| Total/Week | | 50.50 | hours | | 74.20 | hours | | 124 | hours | | 5.9 | hours | | 0 | hours |
| Total/Year | | 2633 | hours | | 3869 | hours | | 6465 | hours | | 308 | hours | | 0 | hours |

Wk = Weekday

1. Schedules for occupancy, lighting, receptacle, HVAC system and service hot water are from ASHRAE Standard 90.1-1989 and addendums, except that 5% emergency lighting has been added for all off hours. Elevator schedules, except for restaurants, are from the U.S. Department of Energy Standard Evaluation Techniques except changed to 0% when occupancy is 0%. THESE VALUES MAY BE USED ONLY IF ACTUAL SCHEDULES ARE NOT KNOWN.

PROPOSED

## TABLE 3-2B
## Health Occupancy[1]

| Hour of Day (time) | Schedule for Occupancy Percent of Maximum Load | | | Schedule for Lighting Receptacle Percent of Maximum Load | | | Schedule for HVAC System | | | Schedule for Service Hot Water Percent of Maximum Load | | | Schedule for Elevator Percent of Maximum Load | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Wk | Sat | Sun | Wk | Sat | Sun | Wk | Sat | Sun | Wk | Sat | Sun | Wk | Sat | Sun |
| 1 (12-1am) | 0 | 0 | 0 | 10 | 10 | 5 | on | on | on | 1 | 1 | 1 | 0 | 0 | 0 |
| 2 (1-2am) | 0 | 0 | 0 | 10 | 10 | 5 | on | on | on | 1 | 1 | 1 | 0 | 0 | 0 |
| 3 (2-3am) | 0 | 0 | 0 | 10 | 10 | 5 | on | on | on | 1 | 1 | 1 | 0 | 0 | 0 |
| 4 (3-4am) | 0 | 0 | 0 | 10 | 10 | 5 | on | on | on | 1 | 1 | 1 | 0 | 0 | 0 |
| 5 (4-5am) | 0 | 0 | 0 | 10 | 10 | 5 | on | on | on | 1 | 1 | 1 | 0 | 0 | 0 |
| 6 (5-6am) | 0 | 0 | 0 | 10 | 10 | 5 | on | on | on | 1 | 1 | 1 | 0 | 0 | 0 |
| 7 (6-7am) | 0 | 0 | 0 | 10 | 10 | 5 | on | on | on | 1 | 1 | 1 | 0 | 0 | 0 |
| 8 (7-8am) | 10 | 10 | 0 | 50 | 20 | 5 | on | on | on | 17 | 1 | 1 | 2 | 2 | 0 |
| 9 (8-9am) | 50 | 30 | 5 | 90 | 40 | 10 | on | on | on | 58 | 20 | 1 | 75 | 46 | 2 |
| 10 (9-10am) | 80 | 40 | 5 | 90 | 40 | 10 | on | on | on | 66 | 28 | 1 | 100 | 70 | 2 |
| 11 (10-11am) | 80 | 40 | 5 | 90 | 40 | 10 | on | on | on | 78 | 30 | 1 | 100 | 70 | 2 |
| 12 (11-12pm) | 80 | 40 | 5 | 90 | 40 | 10 | on | on | on | 82 | 30 | 1 | 100 | 70 | 2 |
| 13 (12-1pm) | 80 | 40 | 5 | 90 | 40 | 10 | on | on | on | 71 | 24 | 1 | 75 | 51 | 2 |
| 14 (1-2pm) | 80 | 40 | 5 | 90 | 40 | 10 | on | on | on | 82 | 24 | 1 | 100 | 51 | 2 |
| 15 (2-3pm) | 80 | 40 | 5 | 90 | 40 | 10 | on | on | on | 78 | 23 | 1 | 100 | 51 | 2 |
| 16 (3-4pm) | 80 | 40 | 5 | 90 | 40 | 10 | on | on | on | 74 | 23 | 1 | 100 | 51 | 2 |
| 17 (4-5pm) | 80 | 40 | 0 | 30 | 40 | 5 | on | on | on | 63 | 23 | 1 | 100 | 51 | 0 |
| 18 (5-6pm) | 50 | 10 | 0 | 30 | 40 | 5 | on | on | on | 41 | 10 | 1 | 100 | 25 | 0 |
| 19 (6-7pm) | 30 | 10 | 0 | 30 | 10 | 5 | on | on | on | 18 | 1 | 1 | 52 | 2 | 0 |
| 20 (7-8pm) | 30 | 0 | 0 | 30 | 10 | 5 | on | on | on | 18 | 1 | 1 | 52 | 0 | 0 |
| 21 (8-9pm) | 20 | 0 | 0 | 30 | 10 | 5 | on | on | on | 18 | 1 | 1 | 52 | 0 | 0 |
| 22 (9-10pm) | 20 | 0 | 0 | 30 | 10 | 5 | on | on | on | 10 | 1 | 1 | 28 | 0 | 0 |
| 23 (10-11pm) | 0 | 0 | 0 | 30 | 10 | 5 | on | on | on | 1 | 1 | 1 | 0 | 0 | 0 |
| 24 (11-12am) | 0 | 0 | 0 | 10 | 10 | 5 | on | on | on | 1 | 1 | 1 | 0 | 0 | 0 |
| Total/Day | 850 | 380 | 40 | 1060 | 550 | 160 | 2400 | 2400 | 2400 | 783 | 249 | 24 | 1136 | 540 | 16 |
| Total/Week | | 46.70 | hours | | 60.10 | hours | | 168 | hours | | 41.88 | hours | | 62.36 | hours |
| Total/Year | | 2435 | hours | | 3134 | hours | | 8760 | hours | | 2148 | hours | | 3251 | hours |

Wk = Weekday

1. Schedules for occupancy, lighting, receptacle, HVAC system and service hot water are from ASHRAE Standard 90.1-1989 and addendums, except that 5% emergency lighting has been added for all off hours. Elevator schedules, except for restaurants, are from the U.S. Department of Energy Standard Evaluation Techniques except changed to 0% when occupancy is 0%. THESE VALUES MAY BE USED ONLY IF ACTUAL SCHEDULES ARE NOT KNOWN.

PROPOSED

## TABLE 3-2C
## Hotel/Motel Occupancy[1]

| Hour of Day (time) | Schedule for Occupancy Percent of Maximum Load | | | Schedule for Lighting Receptacle Percent of Maximum Load | | | Schedule for HVAC System | | | Schedule for Service Hot Water Percent of Maximum Load | | | Schedule for Elevator Percent of Maximum Load | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Wk | Sat | Sun | Wk | Sat | Sun | Wk | Sat | Sun | Wk | Sat | Sun | Wk | Sat | Sun |
| 1 (12-1am) | 90 | 90 | 70 | 20 | 20 | 30 | on | on | on | 20 | 20 | 25 | 40 | 44 | 55 |
| 2 (1-2am) | 90 | 90 | 70 | 15 | 20 | 30 | on | on | on | 15 | 15 | 20 | 33 | 35 | 55 |
| 3 (2-3am) | 90 | 90 | 70 | 10 | 10 | 20 | on | on | on | 15 | 15 | 20 | 33 | 35 | 43 |
| 4 (3-4am) | 90 | 90 | 70 | 10 | 10 | 20 | on | on | on | 15 | 15 | 20 | 33 | 35 | 43 |
| 5 (4-5am) | 90 | 90 | 70 | 10 | 10 | 20 | on | on | on | 20 | 20 | 20 | 33 | 35 | 43 |
| 6 (5-6am) | 90 | 90 | 70 | 20 | 10 | 20 | on | on | on | 25 | 25 | 30 | 33 | 35 | 43 |
| 7 (6-7am) | 70 | 70 | 70 | 40 | 30 | 30 | on | on | on | 50 | 40 | 50 | 42 | 40 | 52 |
| 8 (7-8am) | 40 | 50 | 70 | 50 | 30 | 40 | on | on | on | 60 | 50 | 50 | 42 | 32 | 52 |
| 9 (8-9am) | 40 | 50 | 50 | 40 | 40 | 40 | on | on | on | 55 | 50 | 50 | 52 | 45 | 65 |
| 10 (9-10am) | 20 | 30 | 50 | 40 | 40 | 30 | on | on | on | 45 | 50 | 55 | 52 | 45 | 65 |
| 11 (10-11am) | 20 | 30 | 50 | 25 | 30 | 30 | on | on | on | 40 | 45 | 50 | 40 | 42 | 53 |
| 12 (11-12pm) | 20 | 30 | 30 | 25 | 25 | 30 | on | on | on | 45 | 50 | 50 | 51 | 60 | 60 |
| 13 (12-1pm) | 20 | 30 | 30 | 25 | 25 | 30 | on | on | on | 40 | 50 | 40 | 51 | 65 | 53 |
| 14 (1-2pm) | 20 | 30 | 20 | 25 | 25 | 20 | on | on | on | 35 | 45 | 40 | 51 | 65 | 51 |
| 15 (2-3pm) | 20 | 30 | 20 | 25 | 25 | 20 | on | on | on | 30 | 40 | 30 | 51 | 65 | 50 |
| 16 (3-4pm) | 30 | 30 | 20 | 25 | 25 | 20 | on | on | on | 30 | 40 | 30 | 51 | 65 | 44 |
| 17 (4-5pm) | 50 | 30 | 30 | 25 | 25 | 20 | on | on | on | 30 | 35 | 30 | 63 | 65 | 64 |
| 18 (5-6pm) | 50 | 50 | 40 | 25 | 25 | 20 | on | on | on | 40 | 40 | 40 | 80 | 75 | 62 |
| 19 (6-7pm) | 50 | 60 | 40 | 60 | 60 | 50 | on | on | on | 55 | 55 | 50 | 86 | 80 | 65 |
| 20 (7-8pm) | 70 | 60 | 60 | 80 | 70 | 70 | on | on | on | 60 | 55 | 50 | 70 | 80 | 63 |
| 21 (8-9pm) | 70 | 60 | 60 | 90 | 70 | 80 | on | on | on | 50 | 50 | 40 | 70 | 75 | 63 |
| 22 (9-10pm) | 80 | 70 | 80 | 80 | 70 | 60 | on | on | on | 55 | 55 | 50 | 70 | 75 | 63 |
| 23 (10-11pm) | 90 | 70 | 80 | 60 | 60 | 50 | on | on | on | 45 | 40 | 40 | 45 | 55 | 40 |
| 24 (11-12am) | 90 | 70 | 80 | 30 | 30 | 30 | on | on | on | 25 | 30 | 20 | 45 | 55 | 40 |
| Total/Day | 1390 | 1390 | 1300 | 855 | 785 | 810 | 2400 | 2400 | 2400 | 915 | 930 | 900 | 1217 | 1303 | 1287 |
| Total/Week | | 96.40 | hours | | 58.70 | hours | | 168.0 | hours | | 64.05 | hours | | 86.75 | hours |
| Total/Year | | 5026 | hours | | 3061 | hours | | 8760 | hours | | 3340 | hours | | 4523 | hours |

Wk = Weekday

1. Schedules for occupancy, lighting, receptacle, HVAC system and service hot water are from ASHRAE Standard 90.1-1989 and addendums, except that 5% emergency lighting has been added for all off hours. Elevator schedules, except for restaurants, are from the U.S. Department of Energy Standard Evaluation Techniques except changed to 0% when occupancy is 0%. THESE VALUES MAY BE USED ONLY IF ACTUAL SCHEDULES ARE NOT KNOWN.

PROPOSED

## TABLE 3-2D
## Light Manufacuring Occupancy[1]

| Hour of Day (time) | Schedule for Occupancy Percent of Maximum Load | | | Schedule for Lighting Receptacle Percent of Maximum Load | | | Schedule for HVAC System | | | Schedule for Service Hot Water Percent of Maximum Load | | | Schedule for Elevator Percent of Maximum Load | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Wk | Sat | Sun | Wk | Sat | Sun | Wk | Sat | Sun | Wk | Sat | Sun | Wk | Sat | Sun |
| 1 (12-1am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 5 | 5 | 4 | 0 | 0 | 0 |
| 2 (1-2am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 5 | 5 | 4 | 0 | 0 | 0 |
| 3 (2-3am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 5 | 5 | 4 | 0 | 0 | 0 |
| 4 (3-4am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 5 | 5 | 4 | 0 | 0 | 0 |
| 5 (4-5am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 5 | 5 | 4 | 0 | 0 | 0 |
| 6 (5-6am) | 0 | 0 | 0 | 10 | 5 | 5 | off | off | off | 8 | 8 | 7 | 0 | 0 | 0 |
| 7 (6-7am) | 10 | 10 | 5 | 10 | 10 | 5 | on | on | off | 7 | 7 | 4 | 0 | 0 | 0 |
| 8 (7-8am) | 20 | 10 | 5 | 30 | 10 | 5 | on | on | off | 19 | 11 | 4 | 35 | 16 | 0 |
| 9 (8-9am) | 95 | 30 | 5 | 90 | 30 | 5 | on | on | off | 35 | 15 | 4 | 69 | 14 | 0 |
| 10 (9-10am) | 95 | 30 | 5 | 90 | 30 | 5 | on | on | off | 38 | 21 | 4 | 43 | 21 | 0 |
| 11 (10-11am) | 95 | 30 | 5 | 90 | 30 | 5 | on | on | off | 39 | 19 | 4 | 37 | 18 | 0 |
| 12 (11-12pm) | 95 | 30 | 5 | 90 | 30 | 5 | on | on | off | 47 | 23 | 6 | 43 | 25 | 0 |
| 13 (12-1pm) | 50 | 10 | 5 | 80 | 15 | 5 | on | on | off | 57 | 20 | 6 | 58 | 21 | 0 |
| 14 (1-2pm) | 95 | 10 | 5 | 90 | 15 | 5 | on | on | off | 54 | 19 | 9 | 48 | 13 | 0 |
| 15 (2-3pm) | 95 | 10 | 5 | 90 | 15 | 5 | on | on | off | 34 | 15 | 6 | 37 | 8 | 0 |
| 16 (3-4pm) | 95 | 10 | 5 | 90 | 15 | 5 | on | on | off | 33 | 12 | 4 | 37 | 4 | 0 |
| 17 (4-5pm) | 95 | 10 | 5 | 90 | 15 | 5 | on | on | off | 44 | 14 | 4 | 46 | 5 | 0 |
| 18 (5-6pm) | 30 | 5 | 5 | 50 | 5 | 5 | on | on | off | 26 | 7 | 4 | 62 | 6 | 0 |
| 19 (6-7pm) | 10 | 5 | 0 | 30 | 5 | 5 | on | off | off | 21 | 7 | 4 | 20 | 0 | 0 |
| 20 (7-8pm) | 10 | 0 | 0 | 30 | 5 | 5 | on | off | off | 15 | 7 | 4 | 12 | 0 | 0 |
| 21 (8-9pm) | 10 | 0 | 0 | 20 | 5 | 5 | on | off | off | 17 | 7 | 4 | 4 | 0 | 0 |
| 22 (9-10pm) | 10 | 0 | 0 | 20 | 5 | 5 | on | off | off | 8 | 9 | 7 | 4 | 0 | 0 |
| 23 (10-11pm) | 5 | 0 | 0 | 10 | 5 | 5 | off | off | off | 5 | 5 | 4 | 0 | 0 | 0 |
| 24 (11-12am) | 5 | 0 | 0 | 5 | 5 | 5 | off | off | off | 5 | 5 | 4 | 0 | 0 | 0 |
| Total/Day | 920 | 200 | 60 | 1040 | 280 | 120 | 1600 | 1200 | 0 | 537 | 256 | 113 | 555 | 151 | 0 |
| Total/Week | | 48.60 | hours | | 56.00 | hours | | 92.00 | hours | | 30.54 | hours | | 29.26 | hours |
| Total/Year | | 2534 | hours | | 2920 | hours | | 4797 | hours | | 1592 | hours | | 1526 | hours |

Wk = Weekday

1. Schedules for occupancy, lighting, receptacle, HVAC system and service hot water are from ASHRAE Standard 90.1-1989 and addendums, except that 5% emergency lighting has been added for all off hours. Elevator schedules, except for restaurants, are from the U.S. Department of Energy Standard Evaluation Techniques except changed to 0% when occupancy is 0%. THESE VALUES MAY BE USED ONLY IF ACTUAL SCHEDULES ARE NOT KNOWN.

PROPOSED

## TABLE 3-2E
## Office Occupancy[1]

| Hour of Day (time) | Schedule for Occupancy Percent of Maximum Load | | | Schedule for Lighting Receptacle Percent of Maximum Load | | | Schedule for HVAC System | | | Schedule for Service Hot Water Percent of Maximum Load | | | Schedule for Elevator Percent of Maximum Load | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Wk | Sat | Sun | Wk | Sat | Sun | Wk | Sat | Sun | Wk | Sat | Sun | Wk | Sat | Sun |
| 1 (12-1am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 5 | 5 | 4 | 0 | 0 | 0 |
| 2 (1-2am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 5 | 5 | 4 | 0 | 0 | 0 |
| 3 (2-3am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 5 | 5 | 4 | 0 | 0 | 0 |
| 4 (3-4am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 5 | 5 | 4 | 0 | 0 | 0 |
| 5 (4-5am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 5 | 5 | 4 | 0 | 0 | 0 |
| 6 (5-6am) | 0 | 0 | 0 | 10 | 5 | 5 | off | off | off | 8 | 8 | 7 | 0 | 0 | 0 |
| 7 (6-7am) | 10 | 10 | 5 | 10 | 10 | 5 | on | on | off | 7 | 7 | 4 | 0 | 0 | 0 |
| 8 (7-8am) | 20 | 10 | 5 | 30 | 10 | 5 | on | on | off | 19 | 11 | 4 | 35 | 16 | 0 |
| 9 (8-9am) | 95 | 30 | 5 | 90 | 30 | 5 | on | on | off | 35 | 15 | 4 | 69 | 14 | 0 |
| 10 (9-10am) | 95 | 30 | 5 | 90 | 30 | 5 | on | on | off | 38 | 21 | 4 | 43 | 21 | 0 |
| 11 (10-11am) | 95 | 30 | 5 | 90 | 30 | 5 | on | on | off | 39 | 19 | 4 | 37 | 18 | 0 |
| 12 (11-12pm) | 95 | 30 | 5 | 90 | 30 | 5 | on | on | off | 47 | 23 | 6 | 43 | 25 | 0 |
| 13 (12-1pm) | 50 | 10 | 5 | 80 | 15 | 5 | on | on | off | 57 | 20 | 6 | 58 | 21 | 0 |
| 14 (1-2pm) | 95 | 10 | 5 | 90 | 15 | 5 | on | on | off | 54 | 19 | 9 | 48 | 13 | 0 |
| 15 (2-3pm) | 95 | 10 | 5 | 90 | 15 | 5 | on | on | off | 34 | 15 | 6 | 37 | 8 | 0 |
| 16 (3-4pm) | 95 | 10 | 5 | 90 | 15 | 5 | on | on | off | 33 | 12 | 4 | 37 | 4 | 0 |
| 17 (4-5pm) | 95 | 10 | 5 | 90 | 15 | 5 | on | on | off | 44 | 14 | 4 | 46 | 5 | 0 |
| 18 (5-6pm) | 30 | 5 | 5 | 50 | 5 | 5 | on | on | off | 26 | 7 | 4 | 62 | 6 | 0 |
| 19 (6-7pm) | 10 | 5 | 0 | 30 | 5 | 5 | on | off | off | 21 | 7 | 4 | 20 | 0 | 0 |
| 20 (7-8pm) | 10 | 0 | 0 | 30 | 5 | 5 | on | off | off | 15 | 7 | 4 | 12 | 0 | 0 |
| 21 (8-9pm) | 10 | 0 | 0 | 20 | 5 | 5 | on | off | off | 17 | 7 | 4 | 4 | 0 | 0 |
| 22 (9-10pm) | 10 | 0 | 0 | 20 | 5 | 5 | on | off | off | 8 | 9 | 7 | 4 | 0 | 0 |
| 23 (10-11pm) | 5 | 0 | 0 | 10 | 5 | 5 | off | off | off | 5 | 5 | 4 | 0 | 0 | 0 |
| 24 (11-12am) | 5 | 0 | 0 | 5 | 5 | 5 | off | off | off | 5 | 5 | 4 | 0 | 0 | 0 |
| Total/Day | 920 | 200 | 60 | 1040 | 280 | 120 | 1600 | 1200 | 0 | 537 | 256 | 113 | 555 | 151 | 0 |
| Total/Week | | 48.60 hours | | | 56.00 hours | | | 92.00 hours | | | 30.54 hours | | | 29.26 hours | |
| Total/Year | | 2534 hours | | | 2920 hours | | | 4797 hours | | | 1592 hours | | | 1526 hours | |

Wk = Weekday

1. Schedules for occupancy, lighting, receptacle, HVAC system and service hot water are from ASHRAE Standard 90.1-1989 and addendums, except that 5% emergency lighting has been added for all off hours. Elevator schedules, except for restaurants, are from the U.S. Department of Energy Standard Evaluation Techniques except changed to 0% when occupancy is 0%. THESE VALUES MAY BE USED ONLY IF ACTUAL SCHEDULES ARE NOT KNOWN.

PROPOSED

## TABLE 3-2F
## Parking Garage Occupancy[1]

| Hour of Day (time) | Schedule for Occupancy Percent of Maximum Load | | | Schedule for Lighting Receptacle Percent of Maximum Load | | | Schedule for HVAC System | | | Schedule for Service Hot Water Percent of Maximum Load | | | Schedule for Elevator Percent of Maximum Load | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Wk | Sat | Sun | Wk | Sat | Sun | Wk | Sat | Sun | Wk | Sat | Sun | Wk | Sat | Sun |
| 1 (12-1am) | | | | 100 | 100 | 100 | | | | | | | | | |
| 2 (1-2am) | | | | 100 | 100 | 100 | | | | | | | | | |
| 3 (2-3am) | | | | 100 | 100 | 100 | | | | | | | | | |
| 4 (3-4am) | | | | 100 | 100 | 100 | | | | | | | | | |
| 5 (4-5am) | | | | 100 | 100 | 100 | | | | | | | | | |
| 6 (5-6am) | | | | 100 | 100 | 100 | | | | | | | | | |
| 7 (6-7am) | | | | 100 | 100 | 100 | | | | | | | | | |
| 8 (7-8am) | | | | 100 | 100 | 100 | | | | | | | | | |
| 9 (8-9am) | | | | 100 | 100 | 100 | | | | | | | | | |
| 10 (9-10am) | | | | 100 | 100 | 100 | | | | | | | | | |
| 11 (10-11am) | | | | 100 | 100 | 100 | | | | | | | | | |
| 12 (11-12pm) | N/A | | | 100 | 100 | 100 | Based on likely use | | | N/A | | | Included with other occupancies | | |
| 13 (12-1pm) | | | | 100 | 100 | 100 | | | | | | | | | |
| 14 (1-2pm) | | | | 100 | 100 | 100 | | | | | | | | | |
| 15 (2-3pm) | | | | 100 | 100 | 100 | | | | | | | | | |
| 16 (3-4pm) | | | | 100 | 100 | 100 | | | | | | | | | |
| 17 (4-5pm) | | | | 100 | 100 | 100 | | | | | | | | | |
| 18 (5-6pm) | | | | 100 | 100 | 100 | | | | | | | | | |
| 19 (6-7pm) | | | | 100 | 100 | 100 | | | | | | | | | |
| 20 (7-8pm) | | | | 100 | 100 | 100 | | | | | | | | | |
| 21 (8-9pm) | | | | 100 | 100 | 100 | | | | | | | | | |
| 22 (9-10pm) | | | | 100 | 100 | 100 | | | | | | | | | |
| 23 (10-11pm) | | | | 100 | 100 | 100 | | | | | | | | | |
| 24 (11-12am) | | | | 100 | 100 | 100 | | | | | | | | | |
| Total/Day | | | | 2400 | 2400 | 2400 | | | | | | | | | |
| Total/Week | | | | | 168 hours | | | | | | | | | | |
| Total/Year | | | | | 8760 hours | | | | | | | | | | |

Wk = Weekday

1. Schedules for occupancy, lighting, receptacle, HVAC system and service hot water are from ASHRAE Standard 90.1-1989 and addendums, except that 5% emergency lighting has been added for all off hours. Elevator schedules, except for restaurants, are from the U.S. Department of Energy Standard Evaluation Techniques except changed to 0% when occupancy is 0%. THESE VALUES MAY BE USED ONLY IF ACTUAL SCHEDULES ARE NOT KNOWN.

PROPOSED

## TABLE 3-2G
## Restaurant Occupancy[1]

| Hour of Day (time) | Schedule for Occupancy Percent of Maximum Load | | | Schedule for Lighting Receptacle Percent of Maximum Load | | | Schedule for HVAC System | | | Schedule for Service Hot Water Percent of Maximum Load | | | Schedule for Elevator Percent of Maximum Load | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Wk | Sat | Sun | Wk | Sat | Sun | Wk | Sat | Sun | Wk | Sat | Sun | Wk | Sat | Sun |
| 1 (12-1am) | 15 | 30 | 20 | 15 | 20 | 20 | on | on | on | 20 | 20 | 25 | 0 | 0 | 0 |
| 2 (1-2am) | 15 | 25 | 20 | 15 | 15 | 15 | on | on | on | 15 | 15 | 20 | 0 | 0 | 0 |
| 3 (2-3am) | 5 | 5 | 5 | 15 | 15 | 15 | on | on | on | 15 | 15 | 20 | 0 | 0 | 0 |
| 4 (3-4am) | 0 | 0 | 0 | 15 | 15 | 15 | off | off | off | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 (4-5am) | 0 | 0 | 0 | 15 | 15 | 15 | off | off | off | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 (5-6am) | 0 | 0 | 0 | 20 | 15 | 15 | off | off | off | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 (6-7am) | 0 | 0 | 0 | 40 | 30 | 30 | off | off | off | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 (7-8am) | 5 | 0 | 0 | 40 | 30 | 30 | on | off | off | 60 | 0 | 0 | 0 | 0 | 0 |
| 9 (8-9am) | 5 | 0 | 0 | 60 | 60 | 50 | on | off | off | 55 | 0 | 0 | 0 | 0 | 0 |
| 10 (9-10am) | 5 | 5 | 0 | 60 | 60 | 50 | on | on | off | 45 | 50 | 0 | 0 | 0 | 0 |
| 11 (10-11am) | 20 | 20 | 10 | 90 | 80 | 70 | on | on | on | 40 | 45 | 50 | 0 | 0 | 0 |
| 12 (11-12pm) | 50 | 45 | 20 | 90 | 80 | 70 | on | on | on | 45 | 50 | 50 | 0 | 0 | 0 |
| 13 (12-1pm) | 80 | 50 | 25 | 90 | 80 | 70 | on | on | on | 40 | 50 | 40 | 0 | 0 | 0 |
| 14 (1-2pm) | 70 | 50 | 25 | 90 | 80 | 70 | on | on | on | 35 | 45 | 40 | 0 | 0 | 0 |
| 15 (2-3pm) | 40 | 35 | 15 | 90 | 80 | 70 | on | on | on | 30 | 40 | 30 | 0 | 0 | 0 |
| 16 (3-4pm) | 20 | 30 | 20 | 90 | 80 | 70 | on | on | on | 30 | 40 | 30 | 0 | 0 | 0 |
| 17 (4-5pm) | 25 | 30 | 25 | 90 | 80 | 60 | on | on | on | 30 | 35 | 30 | 0 | 0 | 0 |
| 18 (5-6pm) | 50 | 30 | 35 | 90 | 90 | 60 | on | on | on | 40 | 40 | 40 | 0 | 0 | 0 |
| 19 (6-7pm) | 80 | 70 | 55 | 90 | 90 | 60 | on | on | on | 55 | 55 | 50 | 0 | 0 | 0 |
| 20 (7-8pm) | 80 | 90 | 65 | 90 | 90 | 60 | on | on | on | 60 | 55 | 50 | 0 | 0 | 0 |
| 21 (8-9pm) | 80 | 70 | 70 | 90 | 90 | 60 | on | on | on | 50 | 50 | 40 | 0 | 0 | 0 |
| 22 (9-10pm) | 50 | 65 | 35 | 90 | 90 | 60 | on | on | on | 55 | 55 | 50 | 0 | 0 | 0 |
| 23 (10-11pm) | 35 | 55 | 20 | 50 | 50 | 50 | on | on | on | 45 | 40 | 40 | 0 | 0 | 0 |
| 24 (11-12am) | 20 | 35 | 20 | 30 | 30 | 30 | on | on | on | 25 | 30 | 20 | 0 | 0 | 0 |
| Total/Day | 750 | 740 | 485 | 1455 | 1365 | 1115 | 2000 | 1800 | 1700 | 790 | 730 | 625 | 0 | 0 | 0 |
| Total/Week | | 49.75 | hours | | 97.55 | hours | | 135 | hours | | 53.05 | hours | | 0 | hours |
| Total/Year | | 2594 | hours | | 5086 | hours | | 7039 | hours | | 2766 | hours | | 0 | hours |

Wk = Weekday

1. Schedules for occupancy, lighting, receptacle, HVAC system and service hot water are from ASHRAE Standard 90.1-1989 and addendums, except that 5% emergency lighting has been added for all off hours. Elevator schedules, except for restaurants, are from the U.S. Department of Energy Standard Evaluation Techniques except changed to 0% when occupancy is 0%. THESE VALUES MAY BE USED ONLY IF ACTUAL SCHEDULES ARE NOT KNOWN.

PROPOSED

## TABLE 3-2H
## Retail Occupancy[1]

| Hour of Day (time) | Schedule for Occupancy Percent of Maximum Load | | | Schedule for Lighting Receptacle Percent of Maximum Load | | | Schedule for HVAC System | | | Schedule for Service Hot Water Percent of Maximum Load | | | Schedule for Elevator Percent of Maximum Load | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Wk | Sat | Sun | Wk | Sat | Sun | Wk | Sat | Sun | Wk | Sat | Sun | Wk | Sat | Sun |
| 1 (12-1am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 4 | 11 | 7 | 0 | 0 | 0 |
| 2 (1-2am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 5 | 10 | 7 | 0 | 0 | 0 |
| 3 (2-3am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 5 | 8 | 7 | 0 | 0 | 0 |
| 4 (3-4am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 4 | 6 | 6 | 0 | 0 | 0 |
| 5 (4-5am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 4 | 6 | 6 | 0 | 0 | 0 |
| 6 (5-6am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 4 | 6 | 6 | 0 | 0 | 0 |
| 7 (6-7am) | 0 | 0 | 0 | 5 | 5 | 5 | on | on | off | 4 | 7 | 7 | 0 | 0 | 0 |
| 8 (7-8am) | 10 | 10 | 0 | 20 | 10 | 5 | on | on | off | 15 | 20 | 10 | 12 | 9 | 0 |
| 9 (8-9am) | 20 | 20 | 0 | 50 | 30 | 10 | on | on | on | 23 | 24 | 12 | 22 | 21 | 0 |
| 10 (9-10am) | 50 | 50 | 10 | 90 | 60 | 10 | on | on | on | 32 | 27 | 14 | 64 | 56 | 11 |
| 11 (10-11am) | 50 | 60 | 20 | 90 | 90 | 40 | on | on | on | 41 | 42 | 29 | 74 | 66 | 13 |
| 12 (11-12pm) | 70 | 80 | 20 | 90 | 90 | 40 | on | on | on | 57 | 54 | 31 | 68 | 68 | 35 |
| 13 (12-1pm) | 70 | 80 | 40 | 90 | 90 | 60 | on | on | on | 62 | 59 | 36 | 68 | 68 | 37 |
| 14 (1-2pm) | 70 | 80 | 40 | 90 | 90 | 60 | on | on | on | 61 | 60 | 36 | 71 | 69 | 37 |
| 15 (2-3pm) | 70 | 80 | 40 | 90 | 90 | 60 | on | on | on | 50 | 49 | 34 | 72 | 70 | 39 |
| 16 (3-4pm) | 80 | 80 | 40 | 90 | 90 | 60 | on | on | on | 45 | 48 | 35 | 72 | 69 | 41 |
| 17 (4-5pm) | 70 | 80 | 40 | 90 | 90 | 60 | on | on | on | 46 | 47 | 37 | 73 | 66 | 38 |
| 18 (5-6pm) | 50 | 60 | 20 | 90 | 90 | 40 | on | on | off | 47 | 46 | 34 | 68 | 58 | 34 |
| 19 (6-7pm) | 50 | 20 | 10 | 60 | 50 | 20 | on | on | off | 42 | 44 | 25 | 68 | 47 | 3 |
| 20 (7-8pm) | 30 | 20 | 0 | 60 | 30 | 5 | on | on | off | 34 | 36 | 27 | 58 | 43 | 0 |
| 21 (8-9pm) | 30 | 20 | 0 | 50 | 30 | 5 | on | on | off | 33 | 29 | 21 | 54 | 43 | 0 |
| 22 (9-10pm) | 0 | 10 | 0 | 20 | 10 | 5 | off | on | off | 23 | 22 | 16 | 0 | 8 | 0 |
| 23 (10-11pm) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 13 | 16 | 10 | 0 | 0 | 0 |
| 24 (11-12am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 8 | 13 | 6 | 0 | 0 | 0 |
| Total/Day | 720 | 750 | 280 | 1115 | 985 | 525 | 1500 | 1600 | 900 | 662 | 690 | 459 | 844 | 761 | 288 |
| Total/Week | | 46.30 | hours | | 70.85 | hours | | 100 | hours | | 44.59 | hours | | 52.69 | hours |
| Total/Year | | 2414 | hours | | 3694 | hours | | 5214 | hours | | 2325 | hours | | 2747 | hours |

Wk = Weekday

1. Schedules for occupancy, lighting, receptacle, HVAC system and service hot water are from ASHRAE Standard 90.1-1989 and addendums, except that 5% emergency lighting has been added for all off hours. Elevator schedules, except for restaurants, are from the U.S. Department of Energy Standard Evaluation Techniques except changed to 0% when occupancy is 0%. THESE VALUES MAY BE USED ONLY IF ACTUAL SCHEDULES ARE NOT KNOWN.

PROPOSED

## TABLE 3-2I
## School Occupancy[1]

| Hour of Day (time) | Schedule for Occupancy Percent of Maximum Load | | | Schedule for Lighting Receptacle Percent of Maximum Load | | | Schedule for HVAC System | | | Schedule for Service Hot Water Percent of Maximum Load | | | Schedule for Elevator Percent of Maximum Load | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Wk | Sat | Sun | Wk | Sat | Sun | Wk | Sat | Sun | Wk | Sat | Sun | Wk | Sat | Sun |
| 1 (12-1am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 5 | 3 | 3 | 0 | 0 | 0 |
| 2 (1-2am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 5 | 3 | 3 | 0 | 0 | 0 |
| 3 (2-3am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 5 | 3 | 3 | 0 | 0 | 0 |
| 4 (3-4am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 5 | 3 | 3 | 0 | 0 | 0 |
| 5 (4-5am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 5 | 3 | 3 | 0 | 0 | 0 |
| 6 (5-6am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 5 | 3 | 3 | 0 | 0 | 0 |
| 7 (6-7am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 5 | 3 | 3 | 0 | 0 | 0 |
| 8 (7-8am) | 5 | 0 | 0 | 30 | 5 | 5 | on | off | off | 10 | 3 | 3 | 0 | 0 | 0 |
| 9 (8-9am) | 75 | 10 | 0 | 85 | 15 | 5 | on | on | off | 34 | 3 | 5 | 30 | 0 | 0 |
| 10 (9-10am) | 90 | 10 | 0 | 95 | 15 | 5 | on | on | off | 60 | 5 | 5 | 30 | 0 | 0 |
| 11 (10-11am) | 90 | 10 | 0 | 95 | 15 | 5 | on | on | off | 63 | 5 | 5 | 30 | 0 | 0 |
| 12 (11-12pm) | 80 | 10 | 0 | 95 | 15 | 5 | on | on | off | 72 | 5 | 5 | 30 | 0 | 0 |
| 13 (12-1pm) | 80 | 10 | 0 | 80 | 15 | 5 | on | on | off | 79 | 5 | 5 | 30 | 0 | 0 |
| 14 (1-2pm) | 80 | 0 | 0 | 80 | 5 | 5 | on | off | off | 83 | 3 | 5 | 30 | 0 | 0 |
| 15 (2-3pm) | 80 | 0 | 0 | 80 | 5 | 5 | on | off | off | 61 | 3 | 3 | 30 | 0 | 0 |
| 16 (3-4pm) | 45 | 0 | 0 | 70 | 5 | 5 | on | off | off | 65 | 3 | 3 | 15 | 0 | 0 |
| 17 (4-5pm) | 15 | 0 | 0 | 50 | 5 | 5 | on | off | off | 10 | 3 | 3 | 0 | 0 | 0 |
| 18 (5-6pm) | 5 | 0 | 0 | 50 | 5 | 5 | on | off | off | 10 | 3 | 3 | 0 | 0 | 0 |
| 19 (6-7pm) | 15 | 0 | 0 | 35 | 5 | 5 | on | off | off | 19 | 3 | 3 | 0 | 0 | 0 |
| 20 (7-8pm) | 20 | 0 | 0 | 35 | 5 | 5 | on | off | off | 25 | 3 | 3 | 0 | 0 | 0 |
| 21 (8-9pm) | 20 | 0 | 0 | 35 | 5 | 5 | on | off | off | 22 | 3 | 3 | 0 | 0 | 0 |
| 22 (9-10pm) | 10 | 0 | 0 | 30 | 5 | 5 | on | off | off | 22 | 3 | 3 | 0 | 0 | 0 |
| 23 (10-11pm) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 12 | 3 | 3 | 0 | 0 | 0 |
| 24 (11-12am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 9 | 3 | 3 | 0 | 0 | 0 |
| Total/Day | 710 | 50 | 0 | 990 | 170 | 120 | 1500 | 500 | 0 | 691 | 80 | 84 | 285 | 0 | 0 |
| Total/Week | | 36.00 hours | | | 52.40 hours | | | 80.00 hours | | | 36.19 hours | | | 14.25 hours | |
| Total/Year | | 1877 hours | | | 2732 hours | | | 4171 hours | | | 1887 hours | | | 743 hours | |

Wk = Weekday

1. Schedules for occupancy, lighting, receptacle, HVAC system and service hot water are from ASHRAE Standard 90.1-1989 and addendums, except that 5% emergency lighting has been added for all off hours. Elevator schedules, except for restaurants, are from the U.S. Department of Energy Standard Evaluation Techniques except changed to 0% when occupancy is 0%. THESE VALUES MAY BE USED ONLY IF ACTUAL SCHEDULES ARE NOT KNOWN.

PROPOSED

## TABLE 3-2J
## Warehouse Occupancy[1]

| Hour of Day (time) | Schedule for Occupancy Percent of Maximum Load | | | Schedule for Lighting Receptacle Percent of Maximum Load | | | Schedule for HVAC System | | | Schedule for Service Hot Water Percent of Maximum Load | | | Schedule for Elevator Percent of Maximum Load | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Wk | Sat | Sun | Wk | Sat | Sun | Wk | Sat | Sun | Wk | Sat | Sun | Wk | Sat | Sun |
| 1 (12-1am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 2 | 2 | 2 | 0 | 0 | 0 |
| 2 (1-2am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 2 | 2 | 2 | 0 | 0 | 0 |
| 3 (2-3am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 2 | 2 | 2 | 0 | 0 | 0 |
| 4 (3-4am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 2 | 2 | 2 | 0 | 0 | 0 |
| 5 (4-5am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 5 | 2 | 2 | 0 | 0 | 0 |
| 6 (5-6am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 7 | 2 | 2 | 0 | 0 | 0 |
| 7 (6-7am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 7 | 2 | 2 | 0 | 0 | 0 |
| 8 (7-8am) | 15 | 0 | 0 | 40 | 5 | 5 | on | off | off | 10 | 2 | 2 | 0 | 0 | 0 |
| 9 (8-9am) | 70 | 20 | 0 | 70 | 8 | 5 | on | on | off | 30 | 6 | 2 | 0 | 0 | 0 |
| 10 (9-10am) | 90 | 20 | 0 | 90 | 24 | 5 | on | on | off | 36 | 12 | 2 | 0 | 0 | 0 |
| 11 (10-11am) | 90 | 20 | 0 | 90 | 24 | 5 | on | on | off | 36 | 12 | 2 | 30 | 0 | 0 |
| 12 (11-12pm) | 90 | 20 | 0 | 90 | 24 | 5 | on | on | off | 46 | 17 | 2 | 0 | 0 | 0 |
| 13 (12-1pm) | 50 | 10 | 0 | 80 | 5 | 5 | on | on | off | 57 | 4 | 4 | 0 | 0 | 0 |
| 14 (1-2pm) | 85 | 10 | 0 | 90 | 5 | 5 | on | on | off | 43 | 4 | 4 | 0 | 0 | 0 |
| 15 (2-3pm) | 85 | 10 | 0 | 90 | 5 | 5 | on | on | off | 38 | 2 | 2 | 0 | 0 | 0 |
| 16 (3-4pm) | 85 | 10 | 0 | 90 | 5 | 5 | on | on | off | 40 | 2 | 2 | 40 | 0 | 0 |
| 17 (4-5pm) | 20 | 0 | 0 | 90 | 5 | 5 | on | off | off | 30 | 2 | 2 | 0 | 0 | 0 |
| 18 (5-6pm) | 0 | 0 | 0 | 30 | 5 | 5 | off | off | off | 18 | 2 | 2 | 0 | 0 | 0 |
| 19 (6-7pm) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 3 | 2 | 2 | 0 | 0 | 0 |
| 20 (7-8pm) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 3 | 2 | 2 | 0 | 0 | 0 |
| 21 (8-9pm) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 3 | 2 | 2 | 0 | 0 | 0 |
| 22 (9-10pm) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 3 | 2 | 2 | 0 | 0 | 0 |
| 23 (10-11pm) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 3 | 2 | 2 | 0 | 0 | 0 |
| 24 (11-12am) | 0 | 0 | 0 | 5 | 5 | 5 | off | off | off | 3 | 2 | 2 | 0 | 0 | 0 |
| Total/Day | 680 | 120 | 0 | 915 | 180 | 120 | 1000 | 800 | 0 | 429 | 91 | 52 | 70 | 0 | 0 |
| Total/Week | | 35.20 | hours | | 48.75 | hours | | 58.00 | hours | | 22.88 | hours | | 3.50 | hours |
| Total/Year | | 1835 | hours | | 2542 | hours | | 3024 | hours | | 1193 | hours | | 182 | hours |

Wk = Weekday

1. Schedules for occupancy, lighting, receptacle, HVAC system and service hot water are from ASHRAE Standard 90.1-1989 and addendums, except that 5% emergency lighting has been added for all off hours. Elevator schedules, except for restaurants, are from the U.S. Department of Energy Standard Evaluation Techniques except changed to 0% when occupancy is 0%. THESE VALUES MAY BE USED ONLY IF ACTUAL SCHEDULES ARE NOT KNOWN.

PROPOSED

## TABLE 3-3
## HVAC Systems of Prototype Buildings[3]

| Use | System # | Remarks |
|---|---|---|
| 1. Assembly | | |
| a. Churches (any size) | 1 | |
| b. $\leq$ 50,000 ft$^2$ or $\leq$ 3 floors | 1 or 3 | Note 2 |
| c. > 50,000 ft$^2$ or > 3 floors | 3 | |
| 2. Health | | |
| a. Nursing Home (any size) | 2 | |
| b. $\leq$ 15,000 ft$^2$ | 1 | |
| c. > 15,000 ft$^2$ and $\leq$ 50,000 ft$^2$ | 4 | Note 3 |
| d. > 50,000 ft$^2$ | 5 | Note 3,4 |
| 3. Hotel/Motel | | |
| a. $\leq$ 3 Stories | 2 | Note 6 |
| b. > 3 Stories | 6 | Note 7 |
| 4. Light Manufacturing | 1 or 3 | |
| 5. Office | | |
| a. $\leq$ 20,000 ft$^2$ | 1 | |
| b. > 20,000 ft$^2$ and either $\leq$ 3 floors or $\leq$ 75,000 ft$^2$ | 4 | |
| c. > 75,000 ft$^2$ or > 3 floors | 5 | |
| 6. Restaurant | 1 or 3 | Note 2 |
| 7. Retail | | |
| a. $\leq$ 50,000 ft$^2$ | 1 or 3 | Note 2 |
| b. > 50,000 ft$^2$ | 4 or 5 | Note 2 |
| 8. Schools | | |
| a. $\leq$ 75,000 ft$^2$ or $\leq$ 3 floors | 1 | |
| b. > 75,000 ft$^2$ or > 3 floors | 3 | |
| 9. Warehouse | | Note 5 |

**Footnote to TABLE 3-3:** The systems and energy types presented in this table are not intended as requirements or recommendations for the proposed design. Floor areas in the table are the total conditioned floor areas for the listed use in the building. The number of floors indicated in the table is the total number of occupied floors for the listed use.

PROPOSED

TABLE 3-3 (cont.)
HVAC System Descriptions for Prototype Buildings[1]

| HVAC Component | System #1 | System #2 |
|---|---|---|
| System Description | Packaged rooftop single zone, one unit per zone. | Packaged terminal air conditioner with space heater or heat pump, heating or cooling unit per zone. |
| Fan System Design Supply Circulation Rate | Note 10 | Note 11 |
| Supply Fan Control | Constant volume. | Fan cycles with call for heating or cooling. |
| Return Fan Control | N.A. | NA |
| Cooling System | Direct expansion air cooled | Direct expansion air cooled. |
| Heating System | Furnace, heat pump, or electric resistance. | Heat pump with electric resistance auxiliary or air conditioner with space heater. |
| Remarks | Drybulb economizer per Section 1433, heat recovery if required by Section 1436. | No economizer, if not required by Section 1433. |

TABLE 3-3 (cont.)
HVAC System Descriptions for Prototype Buildings[1]

| HVAC Component | System #3 | System #4 |
|---|---|---|
| System Description | Air handler per zone with central plant. | Packaged rooftop VAV with perimeter reheat and fan-powered terminal units. |
| Fan System Design Supply Circulation Rate | Note 10 | Note 10 |
| Supply Fan Control | Constant volume. | VAV with forward curved centrifugal fan and variable inlet fans. |
| Return Fan Control | Constant volume. | VAV with forward curved centrifugal fan and discharge dampers. |
| Cooling System | Chilled water (Note 12) | Direct expansion air cooled. |
| Heating System | Hot water (Note 13) | Hot water (Note 13) or electric resistance. |
| Remarks | Drybulb economizer per Section 1433, heat recovery if required by Section 1436. | Drybulb economizer per Section 1433. Minimum VAV setting per Section 1435 Exception 1, Supply air reset by zone of greatest cooling demand, heat recovery if required by Section 1436. |

## TABLE 3-3 (cont.)
## HVAC System Descriptions for Prototype Buildings[1]

| HVAC Component | System #5 | System #6 |
|---|---|---|
| System Description | Built-up central VAV with perimeter reheat and fan-powered terminal units | Four-pipe fan coil per zone with central plant. |
| Fan System Design Supply Circulation Rate | Note 10 | Note 10 |
| Supply Fan Control | VAV with air-foil centrifugal fan and AC frequency variable speed drive. | Fan cycles with call for heating or cooling. |
| Return Fan Control | VAV with air-foil centrifugal fan and AC frequency variable speed drive. | NA |
| Cooling System | Chilled water (Note 12) | Chilled water (Note 12) |
| Heating System | Hot water (Note 13) or electric resistance. | Hot water (Note 13) or electric resistance. |
| Remarks | Drybulb economizer per Section 1433. Minimum VAV setting per Section 1435 Exception 1, Supply air rest by zone of greatest cooling demand, heat recovery if required by Section 1436. | No economizer, if not required by Section 1433. |

PROPOSED

**Numbered Footnotes for TABLE 3-3**
**HVAC System Descriptions for Prototype Buildings**

1. The systems and energy types presented in this Table are not intended as requirements or recommendations for the proposed design.
2. For occupancies such as restaurants, assembly and retail that are part of a mixed use building which, according to Table 3-3, includes a central chilled water plant (systems 3,5, or 6), chilled water system type 3 or 5 shall be used as indicated in the table.
3. Constant volume may be used in zones where pressurization relationships must be maintained by code. Where constant volume is used, the system shall have heat recovery if required by Section 1436. VAV shall be used in all other areas, in accordance with Sections 1432 through 1438.
4. Provide run-around heat recovery systems for all fan systems with a minimum outside air intake greater than 70%. Recovery effectiveness shall be 0.50.
5. If a warehouse is not intended to be mechanically cooled, both the standard and proposed designs shall be calculated assuming no mechanical cooling.
6. The system listed is for guest rooms only. Areas such as public areas and back-of-house areas shall be served by system 4. Other areas such as offices and retail shall be served by systems listed in Table 3-3 for these occupancy types.
7. The system listed is for guest rooms only. Areas such as public areas and back-of-house areas shall be served by system 5. Other areas such as offices and retail shall be served by systems listed in Table 3-3 for these occupancy types.
8. Reserved.
9. Reserved.
10. Design supply air circulation rate shall be based on a supply-air-to-room air temperature difference of $20^{o}$ F. A higher supply air temperature may be used if required to maintain a minimum circulation rate of 4.5 air changes per hour or 15 cfm per person to each zone served by the system, at design conditions. If return fans are specified, they shall be sized for the supply fan capacity less the required minimum ventilation with outside air, or 75% of the supply fan capacity, whichever is larger. Except where noted, supply and return fans shall be operated continuously during occupied hours.
11. Fan energy when included in the efficiency rating of the unit as defined in Section 1411, need not be modeled explicitly for this system. The fan shall cycle with calls for heating or cooling.
12. Chilled water systems shall be modeled using a reciprocating chiller for systems with total cooling capacities less than 175 tons, and centrifugal chillers for systems with cooling capacities of 175 tons or greater. For systems with cooling capacities of 600 tons or more, the standard design energy consumption shall be calculated using two centrifugal chillers, lead/lag controlled. Chilled water shall be assumed to be controlled at a constant $44^{o}$ F. Chiller water pumps shall be sized using a $12^{o}$ F temperature rise, from $44^{o}$ F to $56^{o}$ F, operating at 65% combined impeller and motor efficiency. Condenser water pumps shall be sized using a $10^{o}$ F temperature rise, operating at 60% combined impeller and motor efficiency. The cooling tower shall be an open circuit, centrifugal blower type sized for the larger of $85^{o}$ F leaving water temperature or $10^{o}$ F approach to design wetbulb temperature. The tower shall be controlled to provide a $65^{o}$ F leaving water temperature whenever weather conditions permit, floating up to design leaving water temperatures at design conditions. Chilled water supply temperature shall be reset in accordance with Section 1432.2.2.
13. Hot water system shall include a natural draft fossil fuel or electric boiler. The hot water pump shall be sized based on a $30^{o}$ F temperature drop, from $180^{o}$ F to $150^{o}$ F, operating at a combined impeller and motor efficiency of 60%. Hot water supply temperature shall be reset in accordance with Section 1432.2.2.

AMENDATORY SECTION (Amending WSR 93-21-052, filed 10/18/93, effective 4/1/94)

**WAC 51-11-99904 Section 4—Suggested software for systems analysis approach.**

**4.1 Programs Acceptable for Projects for Full-Year Hourly Analysis**

| Program Name | Source |
|---|---|
| ADM-DOE | ADM Associates<br>((~~3299~~)) 3239 Ramos Circle<br>Sacramento, CA 95827<br>916-363-8383 |
| ((~~Micro-Axcess 10.1, PC~~ | ~~Edison Electric Institute<br>PO Box 1235<br>Roswell, GA 30077<br>404-993-2406~~)) |
| Blast 3.0 (Level 193) | Blast Support Office<br>University of Illinois<br>Dept. of Mechanical and Industrial Engineering<br>1206 W. Green Room 30, MEB<br>Urbana, ((~~IL~~)) IL 61801<br>1-800-842-5278 |
| ((~~DOE 2.1~~ | ~~Energy Science and Technology Software Center<br>PO Box 1220<br>Oakridge, TN 37831-1020<br>615-576-2606~~)) |
| ESAS | Ross Meriweather<br>Consulting, Engineering<br>3315 Outrider<br>San Antonio, TX 78247-4405<br>((~~512-490-7081~~))<br>210-490-7081 |
| ESP-II | Automated Procedures for Engineering Consultants, Inc.<br>((~~Miami Valley Tower, Suite 2100~~))<br>40 W. 4th ((~~St~~)) Centre, Suite 2100<br>Dayton, OH 45402<br>((~~513-228-2602~~))<br>937-228-2602 |
| ((~~HAP 2.02~~ | ~~Carrier Air Conditioning<br>655 S. Orcas, Suite 10<br>Seattle, WA 98108<br>206-767-6340~~ |
| ~~MICRO-DOE~~ | ~~Aerosoft International, Inc.<br>9745 E. Hampden Ave, Suite 230<br>Denver, CO 80231<br>303-368-9225~~)) |
| ((~~ULTRA 600 Version 11.9~~)) | |
| Trace 600 Version 16.08 | The Trane Co.<br>3600 Pammel Creek Rd.<br>Lacrosse, WI 54601<br>608-787-3926 |

**4.2 Programs only Acceptable for Commercial Buildings 25,000 Square Feet or Less**

| Program Name | Source |
|---|---|
| ADM.2 | ADM Associates<br>((~~3299~~)) 3239 Ramos Circle<br>Sacramento, CA 95827<br>916-363-8383 |
| ((~~ASEAM~~ | ~~Advanced Sciences Inc.<br>2000 N. 15th St., Suite 407<br>Arlington, VA 22201-2627<br>703-243-4900~~)) |
| Building Energy Analysis and Easy DOE | Elite Software<br>PO Drawer 1194<br>Bryan, TX 77806<br>409-846-2340 |
| ESE | Sea Gate<br>((~~5001 W. 80th~~))<br>5100 W. 82nd St., Suite 204<br>Bloomington, MN 55437<br>612-844-8000 |
| ((~~Trakload 4.0~~))<br>((~~Load Shaper~~))<br>Market Manager<br>Metrix | SRC Systems<br>((~~1300 Clay St., Suite 850<br>Oakland, CA 94612<br>510-839-2700~~))<br>2855 Telegraph Ave., Suite 410<br>Berkeley, CA 94705<br>510-848-8400 |
| XENCAP 4.5 | XENERGY<br>492 9th Street, Suite 220<br>Oakland, CA 94607<br>510-891-0446 |

REPEALER

The following sections of the Washington Administrative Code are repealed:

| | |
|---|---|
| WAC 51-11-0606 | Reserved. |
| WAC 51-11-0607 | Reserved. |
| WAC 51-11-0608 | Reserved. |
| WAC 51-11-1010 | Section 1009 Mass. |

## WSR 97-16-111
### PROPOSED RULES
### BUILDING CODE COUNCIL
[Filed August 6, 1997, 10:28 a.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 97-05-065.

Title of Rule: Repeal of chapter 51-30 WAC, adoption and amendment of the 1994 Edition of the Uniform Building Code; and adoption of chapter 51-40 WAC, adoption and



PROPOSED

amendment of the 1997 Edition of the Uniform Building Code.

Purpose: To consider whether to adopt, or amend and adopt, the 1997 Edition of the Uniform Building Code (in three volumes) published by the International Conference of Building Officials, and repeal of the 1994 edition of this code.

Statutory Authority for Adoption: RCW 19.27.031 and 19.27.074.

Statute Being Implemented: Chapters 19.27 and 34.05 RCW.

Summary: The proposed rules include adoption of the 1997 Edition of the Uniform Building code (in three volumes) with amendments, and the repeal of the 1994 edition of this code.

Reasons Supporting Proposal: RCW 19.27.031, 19.27.074.

Name of Agency Personnel Responsible for Drafting and Implementation: Al Rhoades, P.O. Box 48300, Olympia, WA 98504-8300, (360) 586-8999; and Enforcement: Local jurisdictions.

Name of Proponent: Washington State Building Code Council, governmental.

Agency Comments or Recommendations, if any, as to Statutory Language, Implementation, Enforcement, and Fiscal Matters: The council seeks comments on the issues and options proposed in the rules shown below.

Rule is not necessitated by federal law, federal or state court decision.

Explanation of Rule, its Purpose, and Anticipated Effects: The proposed rule will adopt by reference and amend the 1997 Edition of the Uniform Building Code (UBC) published in three volumes by the International Conference of Building Officials (ICBO). The purpose is to replace the 1994 UBC (chapter 51-30 WAC), which will be repealed, and assign the 1997 UBC a new WAC number (chapter 51-40 WAC). The 1997 UBC will be amended to provide greater safety and flexibility than the published version for application in Washington state.

**Regulatory Review:** In compliance with Executive Order 97-02, Regulatory improvement, the following criteria for regulatory review will be considered at the time of final adoption of the rule.

1. **Need.** This rule is necessary to comply with the requirements of RCW 19.27.074. The council must regularly review updated versions of the Uniform Building Code, and amend and adopt as deemed appropriate by the council. An updated, 1997 version of the Uniform Building Code has been published. The purpose and objective of this review, as given in RCW 19.27.020, is to promote the health, safety and welfare of the occupants or users of buildings; to require minimum construction standards for the state of Washington; to permit the use of modern technical methods; to eliminate restrictive, obsolete, conflicting, duplicating and unnecessary regulations; and to provide standards to make buildings accessible to and usable by physically disabled persons. The technical advisory groups appointed by the council have identified rules that are obsolete, duplicative or ambiguous, and have proposed amendments and revisions.

2. **Effectiveness and Efficiency.** The mission of the council is to adopt building codes for uniform application throughout the state. In the course of the regular rule review, the council examined regulatory alternatives and new technologies. The council has identified where alternatives can be used effectively and efficiently. The council efficiently achieves uniform state building codes by serving as the central administrative agency for state-wide adoption of building codes.

3. **Clarity.** The council is revising their filing procedure for state amendments to the national uniform codes. To enhance clarity, only those subsections with a state amendment will be filed under the main section number. The balance of the main section will remain as written in the national uniform code, as adopted by reference, unless otherwise noted. This reformatting change reorganizes and shortens the WACs, and necessitates new WAC number assignments.

4. **Intent and Statutory Authority.** The proposed rule is consistent with the legislative intent of the statute chapter 19.27 RCW. The statute gives the council sufficient authority to maintain the state building code, and to amend and adopt new editions of the Uniform Building Code. The Uniform Building Code is published every three years.

5. **Coordination.** The council rule-making process has included participation by national, state, and local building, fire, mechanical and plumbing officials, as well as state agency representatives for the Departments of Social and Health Services, Health, Labor and Industries, and the state Fire Marshal. The council actively seeks participation from other state agencies to assure that duplication and inconsistency is eliminated.

6. **Cost.** The council appointed technical advisory groups and an Economic and Regulatory Assessment Committee to examine the costs and benefits associated with the revisions to the building codes.

7. **Fairness.** The state amendments to the Uniform Building Code proposed by the council are intended to mitigate disproportionate impact on the regulated community. The council is made up of representatives from the regulated community, as well as public and regulatory officials. In addition, the council enlisted the assistance of technical advisory groups, made up of the individuals, organizations and businesses impacted by the building codes, to review code changes and proposals.

Proposal Changes the Following Existing Rules: Most of the amendments to the 1994 UBC have been brought forward and included with the adoption of the 1997 UBC. The few amendments not included are due primarily to changes between the 1994 and 1997 codes, which have incorporated language contained in the previous state amendments. Appropriate editorial changes have been made where needed to provide correct section number references and to reflect the new "means of egress" building exiting system terminology. The amendments added with the adoption of the 1997 UBC are as follows:

**WAC 51-40-007 Exceptions**, "temporary growing structures" are defined and their regulation is exempted from the UBC.

**WAC 51-40-303, 51-40-304, 51-40-305, 51-40-307, 51-40-308, 51-40-310, and 51-40-311**, the .5 subsection of each of these sections has an added reference to Chapters 12 and 29 for light, ventilation and sanitation requirements.

**WAC 51-40-313**, Section 313.2.1.3 has been amended to make it clear that an occupancy separation is not needed

between a Group LC, Boarding Home Occupancy and an Group R, Division 1 Occupancy. For Section 313.4.2 an exception has been added to allow waiting and resting areas in Group LC Occupancies to be open to the corridor under certain conditions.

**WAC 51-40-405**, in Section 405.3.3.2, *Option 1* maintains the 1997 UBC language requiring automatic roof vents to be "of an approved type:" *Option 2* would require automatic roof vents to be "labeled by an approved agency."

**WAC 51-40-904**, in Section 904.1.2 an exception is added which removes the requirement for a fire-extinguishing system sprinkler at the top of a noncombustible elevator hoistways whose cars meet the requirements of ASME A17.1, Safety Code for Elevators and Escalators. For Section 904.2.4.1, the existing amendment requiring automatic fire-extinguishing systems in newly constructed school buildings has language added to clarify that substitutions as well as increases are allowed by Sections 505, 506 and 508.

**Section 1003.3.4.4**, two options are being proposed for this section. *Option 1* maintains the existing amendment, requiring landings for ramps steeper than 1:15. *Option 2* adopts the 1997 UBC language unamended and requires landings for ramps steeper than 1:20.

**Section 1003.4.5**, two options are being proposed for this section. *Option 1* maintains the existing amendment, requiring handrails for ramps steeper than 1:15. *Option 2* adopts the 1997 UBC language unamended and requires handrails for ramps steeper than 1:20.

**Section 1007.5.9.1**, amend section by deleting the term "and constant" from Item 3, Visual Supervision.

**WAC 51-40-1100**, Chapter 11, replacing UBC Chapter 11, is retained and moved from chapter 51-30 WAC to chapter 51-40 WAC, with the following proposed changes:

- **Section 1105.4.4**, alter the exception language to bring it in greater compliance with the Americans with Disabilities Act.
- **Section 1106.3.2**, two options are being proposed for this section. *Option 1* changes the language to require that all operable parts of environmental and other controls be within the ranges specified in the section, and refers the user to Chapter 10 for the placement of panic hardware. *Option 2* maintains the existing code language.
- **Section 1106.10.7**, this section has been deleted. The ADA does not have a requirement for vision panels. This change will not affect certification.
- **Section 1106.11.3.1**, two options are presented for this section. *Option 1* allows for an alternate approach width to toilet stalls when a latch side approach is available. *Option 2* maintains the existing code language.
- **Section 1106.27.1, Exception 8**, editorial language changes are being proposed to this section.

**WAC 51-40-1506**, an exception is added to Section 1506.3 which allows building storm drain overflows to be connected to the vertical riser for the roof drain.

**WAC 51-40-2900 and 51-40-2929**, Chapter 29, Plumbing Systems, has two options, each of which is a rewrite of the chapter. Also, Table 29-A, Minimum Plumbing Fixtures, has been revised to provide more equitable requirements.

**WAC 51-40-31200**, Standard 31-2, Standard Test Method for Particulate Emissions From Fireplaces, in Section 31.201 the definition of "Masonry Heater" has been revised to be the same as that found in the newly approved ASTM E-1602, which defines masonry heaters and specifies how they should be built.

A small business economic impact statement has been prepared under chapter 19.85 RCW.

PROPOSED

Small Business Economic Impact Statement

**Purpose:** The purpose of this analysis is to comply with the requirements of chapter 19.85 RCW, to examine whether these proposed rules will have a disproportionate impact on small businesses.

**Introduction:** The state Building Code Council (council) is proposing to adopt the 1997 Edition of the Uniform Building Code (chapter 51-40 WAC), published by the International Conference of Building Officials. Sanitary Facilities, WAC 51-40-406.7, has been identified by the council's Economic and Regulatory Assessment Committee (ERAC) as having a potential disproportionate cost impact to small business.

The council appointed Technical Advisory Groups (TAGs) to do a comprehensive review and comparison of the 1994 Uniform Building Code and the 1997 Uniform Building Code. The TAGs held meetings over a three year period. All national and state-wide code changes were examined. The TAGs' findings were reviewed by the ERAC. Based on this review, the council found that all changes proposed other than the measure specified in this report are editorial in nature and clarifications of nationally recognized standards, which have minimal economic impact.

The council members and participants are a representative sample of individuals involved in the building construction industry. The makeup of the participants were: Architects, home builders, building officials, contractors, fire officials, energy professionals, manufacturers, engineers, plumbers, state and local officials, inspectors, industry associations and organizations, companies and business, electricians, and the general public.

**Summary of Proposed Rule:** WAC 52-40-406.7 (Sanitary Facilities), this code change would require all projection rooms to have a lavatory and a water closet, for the purpose of healthy, sanitary facilities. Currently, WAC 52-30-406.7 [52.40.406.] requires a lavatory in every projection room; only in assembly occupancies does the code require a water closet. The new code would require both fixture in all projection rooms.

**Industry Analysis:** The four-digit Standard Industrial Classification (SIC) codes for the industries potentially impacted are listed below:

PROPOSED

| SIC # | NAME |
|---|---|
| 1521 | Single-family housing construction |
| 1522 | Residential construction |
| 1541 | Industrial buildings and warehouses |
| 1542 | Nonresidential construction |
| 1711 | Plumbing, heating, air-conditioning |
| 1731 | Electrical work |
| 1761 | Roofing, siding, and sheet metal work |

Within each four-digit SIC, data from December 31, 1996, (the most recent) were analyzed to determine the number of small and large businesses, and the number of employees per business. Industry data at the four-digit level, provided by the Employment Security Department, were broad in scope and anonymous. Due to confidentiality laws in the state, the council was not able to analyze businesses on a "per business" or "per employee" basis as established in chapter 19.85 RCW, Regulatory Fairness Act. Therefore an analysis was done based solely on the number of employees per employers within each four-digit SIC.

**Example:** SIC 1521 (Single-family housing construction) has a total of 5,410 employers and 15,490 employees. Of those 5,410 employers, 5,398 of them were small businesses as defined in chapter 19.85 RCW (fifty employees or less) and twelve were large businesses (fifty-one or more employees). A survey was prepared that described these proposed changes and asked businesses to estimate what they believed the cost impact of these changes would be on their business and how they arrived at that figure. The survey also asked businesses how many workers they employed. The council sent surveys to ten percent of businesses within these identified industries to assess the economic impact of the proposals.

The council is able to provide the following detailed information regarding the potentially impacted businesses.

**Number of businesses potentially impacted 10,529**
**Number of employees potentially impacted 63,258**
**Average number of employees/business 6**
***Source: Employment Security Dec. 31, 1996 data.***

**Cost of Compliance:** To determine the costs of reporting and compliance requirements for the identified code change proposals, the council used the results of the surveys along with the committee's economic evaluation as an informational resource. However, of the 1171 surveys sent out only four percent were returned. The returned surveys break down as follows:

**Number of small businesses responding (50 or less employees) 25 (57%)**
**Average number of employees 7**
**Estimated average cost of compliance per employee $1,550**

**Number of large businesses responding (51 or more employees) 2 (5%)**
**Average number of employees 69**
**Estimated average cost of compliance per employee No costs were provided by large businesses**

*Note: Average cost of compliance for large businesses is high due to inadequate sample size. The committee estimates that the cost of compliance falls between $100 - $2000.*

**Compliance Cost I: Reporting and compliance requirements:** There are no reporting and/or compliance requirement costs involved with this proposal.

**Compliance Cost II: Associated costs:**

| | Description | Approximate cost per square foot of construction | Approximate cost for a 40 square foot facility (See note below) |
|---|---|---|---|
| **Materials and Labor:** | lavatories, water closet, tile, door, ventilation, tools, supplies, etc. | $175.00 | $7,000.00 |
| *Note: To meet the Barrier-Free Requirements, minimum square footage required for a restroom facility is approximately 36-40 square foot. Approximate cost per square foot was provided by the State Building Code Council committees.* | | | |
| **Training** | No costs in training, employees usually come with the skills needed to comply with this rule. | | |

**Compliance Cost III: Lost sales or revenue:** The council felt that the costs described in "Compliance Cost II" are ultimately passed on to the purchaser of the service. Therefore, this proposal does not have an effect on the business' sales or revenues.

Providing lavatories and water closets in projection rooms with assembly occupancies is currently required by state regulations. Therefore, the new language opens the requirement to all facilities that have projection rooms. This would provide a potential for an increase in sales and revenue to the contractor, because now buildings with projection rooms not in an assembly area would have to comply with this requirement.

**Compliance Cost IV: Possible disproportionate effect on small businesses:** The Regulatory Fairness Act requires, when possible, a comparison of the compliance costs for small and large businesses required to comply with the proposed rule.

The results of the survey were limited and did provide some insight as to whether the proposed rules have a disproportionate economic impact on small businesses. However, the survey results as well as the committee's opinion both concur that all assembly occupancy projection rooms comply with this requirement currently and it is those projection rooms that are not in assembly occupancies that would have to comply. Obtaining information on the number of nonassembly occupancy projection rooms was not possible. Due to lack of survey data for nonassembly occupancy projection rooms, costs could not be compared but are believed to be of minimal impact.

However, as provided in the table above, the approximate cost of installing a sanitary facility at its most minimal requirements would be in the range of $3,000 to $7,000 (approximately $175 per square foot at forty square feet). These costs would apply to all installations of sanitary facilities.

The survey results were analyzed and it was concluded that a comparison of small business cost to large business cost is not possible. Excerpts from the survey results are shown below:

| | Large | Small |
|---|---|---|
| Number of businesses | 2 | 25 |
| Number of employees | 138 | 169 |
| Average number of employees/business | 69 | 7 |
| Average cost/business | None was provided. | $6,200.00 |
| Average cost/employee | $ | $221.00 |

**Involvement of Small Businesses:** The council has included small businesses in the drafting of this language and the preparation of the small business economic impact study (SBEIS). Small businesses were represented on the technical advisory groups and council committees. Ten percent of each of the identified SIC industries were solicited for information regarding the potential economic impact of the proposed rules.

**Mitigation:** Through a formal and established method of negotiated rule-making, the council and the affected industries have considered and mitigated costs associated with the proposed rules. The council solicited feedback from industry. Industry representation has been involved at all public meetings.

The council and its committees are of the opinion that many of the potentially impacted businesses will experience minimal or no extra cost of compliance. Language was drafted so that industry would have adequate time to comply with those sections of the rule that may impose an economic impact on business. Sections or wording of the proposed rules was omitted in an effort to minimize the costs. Again, business representation was an integral part of the review and development of this negotiated rule-making process.

Since the proposed rules have been negotiated into their current form with input from the council and industry, the council is of the opinion that adequate mitigation efforts have been put forth.

**Conclusion:** Based on the results of the survey and the council's economic evaluation, the council recognized that the proposed rule may impose minimal economic impact on businesses in the building construction industry. However, the council also realizes its obligation to ensure the health, safety and welfare of the occupants or users of buildings and structures and the general public through the provisions of the building codes throughout the state, as stated in the council's legislative mandate.

Again, the council appointed Technical Advisory Groups (TAGs) to do a comprehensive review and comparison of the 1994 Uniform Mechanical Code and the 1997 Uniform Mechanical Code. The TAGs held meetings over a three year period. All national and state-wide code changes were examined. The TAG findings were reviewed by ERAC. Based on this review, the council found that all changes proposed other than the measures specified in this report are editorial in nature and clarifications on nationally recognized standards which have minimal to no economic impact.

In accordance with the Regulatory Fairness Act, the above analysis demonstrates that the proposed rule would not place a disproportionate economic impact on small business when compared to large businesses. Based on the data received from the surveys and the council committee's evaluations of potentially-impacted businesses, this analysis has determined that the development of nonassembly occupancy projection rooms are so few that no significant impact would be imposed to the industry.

A copy of the statement may be obtained by writing to Tim Nogler, Managing Director, Washington State Building Code Council, P.O. Box 48300, Olympia, WA 98504-8300, phone (360) 586-0486, or FAX (360) 586-5880.

Section 201, chapter 403, Laws of 1995, does not apply to this rule adoption. The state Building Code Council is not listed in this section as one of the agencies required to comply with this regulation.

Hearing Location: On Friday, September 12, 1997, at 9:00 a.m., at the Radisson Hotel, Flight Lounge, 17001 Pacific Highway South, SeaTac, WA; and on Friday, October 10, 1997, at 9:00 a.m., at the Spokane City Hall, City Council Chambers, West 808 Spokane Falls Boulevard, Spokane, WA.

Assistance for Persons with Disabilities: Contact Krista Braaksma by September 1, 1997, TDD (360) 753-2200, or (360) 753-5927.

Submit Written Comments to: Mike McEnaney, Chair, State Building Code Council, P.O. Box 48300, Olympia, WA 98504-8300, FAX (360) 586-5880, by October 8, 1997.

Date of Intended Adoption: November 14, 1997.

August 6, 1997
Mike McEnaney
Chair

## Chapter 51-40 WAC
## STATE BUILDING CODE ADOPTION AND AMENDMENT OF THE 1997 EDITION OF THE UNIFORM BUILDING CODE

NEW SECTION

**WAC 51-40-001 Authority.** These rules are adopted under the authority of chapter 19.27 RCW.

NEW SECTION

**WAC 51-40-002 Purpose.** The purpose of these rules is to implement the provisions of chapter 19.27 RCW, which provides that the State Building Code council shall maintain the State Building Code in a status which is consistent with the purpose as set forth in RCW 19.27.020. In maintaining the codes the council shall regularly review updated versions of the codes adopted under the act, and other pertinent information, and shall amend the codes as deemed appropriate by the council.

NEW SECTION

**WAC 51-40-003 Uniform Building Code.** The 1997 edition of the Uniform Building Code as published by the International Conference of Building Officials and available from the International Conference of Building Officials, 5360 Workman Mill Road, Whittier, California 90601 is hereby adopted by reference with the following additions, deletions, and exceptions.

NEW SECTION

**WAC 51-40-004 Conflicts with Washington State Ventilation and Indoor Air Quality Code.** In the case of conflict between the ventilation requirements of Chapter 12 of this code and the ventilation requirements of chapter 51-13 WAC, the Washington State Ventilation and Indoor Air Quality Code, the provisions of the Ventilation and Indoor Air Quality Code shall govern.

NEW SECTION

**WAC 51-40-005 Uniform Building Code requirements for barrier-free accessibility.** Chapter 11 and other Uniform Building Code requirements for barrier-free access are adopted pursuant to chapters 70.92 and 19.27 RCW.

Pursuant to RCW 19.27.040, Chapter 11 and requirements affecting barrier-free access in Sections 1003.3.1.1, 1003.3.1.2, 1003.3.1.5, 1003.3.1.6, 1003.3.3.3, 1003.3.3.5, 1003.3.3.6, 1003.3.3.13, 1003.3.4.4, 1003.3.4.5, shall not be amended by local governments.

NEW SECTION

**WAC 51-40-007 Exceptions.** The exceptions and amendments to the Uniform Building Code contained in the provisions of chapter 19.27 RCW shall apply in case of conflict with any of the provisions of these rules.

Table 10-D, Section 1607.6 and Section 3003 of the 1997 Uniform Building Code are not adopted.

The provisions of this code do not apply to temporary growing structures used solely for the commercial production

of horticultural plants including ornamental plants, flowers, vegetables, and fruits. "Temporary growing structure" means a structure that has the sides and roof covered with polyethylene, polyvinyl, or similar flexible synthetic material and is used to provide plants with either frost protection or increased heat retention. A temporary growing structure is not considered a building for purposes of this code.

NEW SECTION

**WAC 51-40-008 Implementation.** The Uniform Building Code adopted under chapter 51-40 WAC shall become effective in all counties and cities of this state on July 1, 1998.

NEW SECTION

**WAC 51-40-009 Recyclable materials and solid waste storage.** For the purposes of this section, the following definition shall apply:

**RECYCLED MATERIALS** means those solid wastes that are separated for recycling or reuse, such as papers, metals and glass.

All local jurisdictions shall require that space be provided for the storage of recycled materials and solid waste for all new buildings.

EXCEPTION: Group R, Division 3 and Group U Occupancies.

The storage area shall be designed to meet the needs of the occupancy, efficiency of pickup, and shall be available to occupants and haulers.

NEW SECTION

**WAC 51-40-0200 Chapter 2—Definitions and abbreviations.**

**SECTION 204 - C.**

**CHILD DAY CARE**, shall, for the purposes of these regulations, mean the care of children during any period of a 24 hour day.

**CHILD DAY CARE HOME, FAMILY** is a child day care facility, licensed by the state, located in the family abode of the person or persons under whose direct care and supervision the child is placed, for the care of twelve or fewer children, including children who reside at the home.

**SECTION 207 - F.**

**FAMILY ABODE** means a single dwelling unit and accessory buildings occupied for living purposes by a family which provides permanent provisions for living, sleeping, eating, cooking, and sanitation.

**FLOOR AREA** is the area included within the surrounding exterior walls of a building or portion thereof, exclusive of vent shafts, courts, and gridirons. The floor area of a building, or portion thereof, not provided with surrounding exterior wall shall be the usable area under the horizontal projection of the roof or floor above.

**SECTION 217 - P.**

**PORTABLE SCHOOL CLASSROOM** is a structure, transportable in one or more sections, which requires a chassis to be transported, and is designed to be used as an educational space with or without a permanent foundation. The structure shall be trailerable and capable of being demounted and relocated to other locations as needs arise.

**SECTION 220 - S.**

**STRUCTURAL OBSERVATION** means the visual observation of the structural system, for general conformance to the approved plans and specifications. Structural observation does not include or waive the responsibility for the inspections required by Sections 108 and 1702 or other sections of the code.

**SURGICAL AREA** is the preoperating, operating, recovery and similar rooms within an outpatient health-care center where the patients are incapable of unassisted self-preservation.

NEW SECTION

**WAC 51-40-0302 Section 302—Mixed use or occupancy.**

**302.1 General.** When a building is used for more than one occupancy purpose, each part of the building comprising a distinct "occupancy", as described in Section 301 shall be separated from any other occupancy as specified in Section 302.4.

EXCEPTIONS:

1. When an approved spray booth constructed in accordance with the Fire Code is installed, such booth need not be separated from Group B, F, H, M or S Occupancies.
2. The following occupancies need not be separated from the uses to which they are accessory:
2.1 Assembly rooms having a floor area of not over 750 square feet (69 $m^2$).
2.2 Administrative and clerical offices and similar rooms which do not exceed 25 percent of the floor area of the major use when not related to Group H, Division 2 and Group H, Division 3 Occupancies.
2.3 Gift shops, administrative offices and similar rooms in Group R, Division 1 Occupancies not exceeding 10 percent of the floor area of the major use.
2.4 The kitchen serving the dining area of which it is a part.
2.5 Customer waiting rooms not exceeding 450 square feet (41.8 $m^2$) when not related to Group H Occupancies and when such waiting rooms have an exit directly to the exterior.
2.6 Offices, mercantile, food preparation establishments for off-site consumption, personal care salons or similar uses in Group R dwelling units which are conducted primarily by the occupants of a dwelling unit, which are secondary to the use of the unit for dwelling purposes, and which do not exceed 500 square feet (46.4 $m^2$).
3. An occupancy separation need not be provided between a Group R, Division 3 Occupancy and a carport having no enclosed uses above, provided the carport is entirely open on two or more sides.
4. A Group S, Division 3 Occupancy used exclusively for the parking or storage of private or pleasure-type motor vehicles need not be separated from a Group S, Division 4 Occupancy open parking garage as defined in Section 311.1.

When a building houses more than one occupancy, each portion of the building shall conform to the requirements for the occupancy housed therein.

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An occupancy shall not be located above the story or height set forth in Table 5-B, except as provided in Section 506. When a mixed occupancy building contains a Group H, Division 6 Occupancy the portion containing the Group H, Division 6 Occupancy shall not exceed three stories or 55 feet (16 764 mm) in height.

NEW SECTION

**WAC 51-40-0303 Section 303—Requirements for Group A occupancies.**

**303.5 Light, Ventilation and Sanitation.** In Group A Occupancies, light, ventilation and sanitation shall be as specified in Chapters 12 and 29.

NEW SECTION

**WAC 51-40-0304 Section 304—Requirements for Group B occupancies.**

**304.2.2.1 Laboratories and vocational shops.** Laboratories or groups of laboratories under the same management and vocational shops in buildings used for educational purposes, and similar areas containing hazardous materials, shall be separated from each other and other portions of the building by not less than a one-hour fire-resistive occupancy separation. Laboratories or groups of laboratories may include accessory support areas such as offices. When the quantities of hazardous materials in such uses do not exceed those listed in Table 3-D or 3-E, the requirements of Sections 307.5 and 307.8 shall apply. When the quantities of hazardous materials in such uses exceed those allowed by Table 3-D or 3-E, the use shall be classified as the appropriate Group H Occupancy.

Laboratories having an occupant load of 10 or more shall have at least two exits from the room and all portions of the room shall be within 75 feet (22 860 mm) of an exit.

**304.5 Light, Ventilation and Sanitation.** In Group B Occupancies, light, ventilation and sanitation shall be as specified in Chapters 12 and 29.

**304.5.1** is not adopted.

**304.5.2** is not adopted.

NEW SECTION

**WAC 51-40-0305 Section 305—Requirements for Group E occupancies.**

**305.1 Group E Occupancies Defined.** Group E Occupancies shall be:

**Division 1.** Any building used for educational purposes through the 12th grade by 50 or more persons for more than 12 hours per week or four hours in any one day.

**Division 2.** Any building used for educational purposes through the 12th grade by less than 50 persons for more than 12 hours per week or four hours in any one day.

**Division 3.** Any building or portion thereof used for day care purposes for more than six persons.

EXCEPTION: Family child day care homes shall be considered Group R, Division 3 Occupancies.

For occupancy separations, see Table 3-B.

**305.2.3 Special provisions.** Rooms in Division 1 and 2 Occupancies used for kindergarten, first- or second-grade pupils, and Division 3 Occupancies shall not be located above or below the first story.

EXCEPTIONS:

1. Basements or stories having floor levels located within 4 feet (1219 mm), measured vertically, from adjacent ground level at the point of exit discharge, provided the basement or story has exterior exit doors at that level.
2. In buildings equipped with an automatic sprinkler system throughout, rooms used for kindergarten, first- and second-grade children or for day-care purposes may be located on the second story, provided there are at least two exit doors into separate means of egress systems as defined in Section 1007.3.
3. Division 3 Occupancies may be located above the first story in buildings of Type I construction and in Types II-F.R., II One-hour and III One-hour construction, subject to the limitation of Section 506 when:

3.1 Division 3 Occupancies containing more than 12 children per story shall not be located above the fourth floor; and

3.2 The entire story in which the day-care facility is located is equipped with an approved manual fire alarm and smoke-detection system. (See the Fire Code.) Actuation of an initiating device shall sound an audible alarm throughout the entire story. When a building fire alarm system is required by other provisions of this code or the Fire Code, the alarm system shall be connected to the building alarm system.

An approved alarm signal shall sound at an approved location in the day-care occupancy to indicate a fire alarm or sprinkler flow condition in other portions of the building; and

3.3 The day-care facility, if more than 1,000 square feet (92.9 $m^2$) in area, is divided into at least two compartments of approximately the same size by a smoke barrier with door openings protected by smoke- and draft-control assemblies having a fire-protection rating of not less than 20 minutes. Smoke barriers shall have a fire-resistive rating of not less than one hour. In addition to the requirements of Section 302, occupancy separations between Division 3 Occupancies and other occupancies shall be constructed as smoke barriers. Door openings in the smoke barrier shall be tightfitting with gaskets installed as required by Section 1005, and shall be automatic closing by actuation of the automatic sprinklers, fire alarm or smoke-detection system. Openings for ducts and other heating, ventilating and air-conditioning openings shall be equipped with a minimum Class I, 250°F (121°C) smoke damper as defined and tested in accordance with approved recognized standards. See Chapter 35, Part IV. The damper shall close upon detection of smoke by an approved smoke detector located within the duct, or upon the activation of the fire alarm system; and

3.4 Each compartment formed by the smoke barrier has not less than two exits or exit-access doors, one of which is permitted to pass through the adjoining compartment; and

3.5 At least one exit or exit-access door from the Division 3 Occupancy shall be into a separate means of egress as defined in Section 1007.3; and

3.6 The building is equipped with an automatic sprinkler system throughout.

Stages and platforms shall be constructed in accordance with Chapter 4. For attic space partitions and draft stops, see Section 708.

**305.5 Light, Ventilation and Sanitation.** In Group E Occupancies, light, ventilation and sanitation shall be as specified in Chapters 12 and 29.

NEW SECTION

**WAC 51-40-0307 Section 307—Requirements for Group H occupancies.**

**307.5 Light, Ventilation and Sanitation.** In Group H Occupancies, light, ventilation and sanitation shall be as specified in Chapters 12 and 29.

**307.5.1** is not adopted.

**307.5.2** is not adopted.

**307.5.3** is not adopted.

**307.5.4** is not adopted.

NEW SECTION

**WAC 51-40-0308 Section 308—Requirements for Group I occupancies.**

**308.5 Light, Ventilation and Sanitation.** In Group I Occupancies, light, ventilation and sanitation shall be as specified in Chapters 12 and 29.

**308.5.1** is not adopted.

**308.5.2** is not adopted.

NEW SECTION

**WAC 51-40-0310 Section 310—Requirements for Group R occupancies.**

**310.1 Group R Occupancies Defined.** Group R Occupancies shall be:

**Division 1.** Hotels and apartment houses.

Congregate residences (each accommodating more than 10 persons).

**Division 2.** Not used.

**Division 3.** Dwellings, family child day care homes and lodging houses.

Congregate residences (each accommodating 10 persons or less).

Foster Family Care Homes licensed by the Washington State Department of Social and Health Services shall be permitted, as an accessory use to a dwelling unit, for six or fewer children including those of the resident family.

For occupancy separations, see Table 3-B.

A complete code for construction of detached one- and two-family dwellings is in Appendix Chapter 3, Division III, of this code. When adopted, as set forth in Section 101.3, it will take precedence over the other requirements set forth in this code.

**310.2.2 Special provisions.** Walls and floors separating dwelling units in the same building, or guest rooms in Group R, Division 1 hotel occupancies, shall not be of less than one-hour fire-resistive construction.

Group R, Division 1 Occupancies more than two stories in height or having more than 3,000 square feet (279 m²) of floor area above the first story shall not be of less than one-hour fire-resistive construction throughout, except as provided in Section 601.5.2.2.

Storage or laundry rooms that are within Group R, Division 1 Occupancies that are used in common by tenants shall be separated from the rest of the building by not less than one-hour fire-resistive occupancy separation. The separation between individual storage lockers may be nonrated in rooms of 500 square feet (46.4 m²) or less in area and in sprinklered rooms of any size.

For Group R, Division 1 Occupancies with a Group S, Division 3 parking garage in the basement or first story, see Section 311.2.2.

For attic space partitions and draft stops, see Section 708.

**310.5 Light, Ventilation and Sanitation.** In Group R Occupancies, light, ventilation and sanitation shall be as specified in Chapters 12 and 29.

**310.9.1.6. Location within family child day care homes.** In family child day care homes operable detectors shall be located in all sleeping and napping areas. When the family child day care home has more than one story, and in family child day care homes with basements, an operable detector shall be installed on each story and in the basement. In family child day care homes where a story or basement is split into two or more levels, the smoke detector shall be installed in the upper level, except that when the lower level contains a sleeping or napping area, an operable detector shall be located on each level. When sleeping rooms are on an upper level, the detector shall be placed at the ceiling of the upper level in close proximity to the stairway. In family child day care homes where the ceiling height of a room open to the hallway serving the bedrooms exceeds that of the hallway by 24 inches or more, smoke detectors shall be installed in the hallway and the adjacent room. Detectors shall sound an alarm audible in all areas of the building.

**310.13 Family Child Day Care Homes.** For family child day care homes with more than six children, each floor level used for family child day care purposes shall be served by two remote means of egress. Exterior exit doors shall be operable from the inside without the use of keys or any special knowledge or effort.

Basements located more than four feet below grade level shall not be used for family child day care homes unless one of following conditions exist:

1. Exit stairways from the basement open directly to the exterior of the building without entering the first floor; or

2. One of the two required means of egress discharges directly to the exterior from the basement level, and a self closing door is installed at the top or bottom of the interior stair leading to the floor above; or

3. One of the two required means of egress is an operable window or door, approved for emergency escape or rescue, that opens directly to a public street, public alley, yard or exit court; or

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4. A residential sprinkler system is provided throughout the entire building in accordance with National Fire Protection Association Standard 13d.

Floors located more than 4 feet above grade level shall not be occupied by children in family day care homes.

EXCEPTIONS:

1. Use of toilet facilities while under supervision of an adult staff person.
2. Family child day care homes may be allowed on the second story if one of the following conditions exists:
2.1 Exit stairways from the second story open directly to the exterior of the building without entering the first floor; or
2.2 One of the two required means of egress discharges directly to the exterior from the second story level, and a self closing door is installed at the top or bottom of the interior stair leading to the floor below; or
2.3 A residential sprinkler system is provided throughout the entire building in accordance with National Fire Protection Association Standard 13d.

Every sleeping or napping room in a family child day care home shall have at least one operable window for emergency rescue.

EXCEPTION: Sleeping or napping rooms having doors leading to two separate means of egress, or a door leading directly to the exterior of the building.

Rooms or spaces containing a commercial-type cooking kitchen, boiler, maintenance shop, janitor closet, laundry, woodworking shop, flammable or combustible storage, or painting operation shall be separated from the family child day care area by at least one-hour fire-resistive construction.

EXCEPTION: A fire-resistive separation shall not be required where the food preparation kitchen contains only a domestic cooking range, and the preparation of food does not result in the production of smoke or grease laden vapors.

NEW SECTION

**WAC 51-40-0311 Section 311—Requirements for Group S occupancies.**

**311.5 Light, Ventilation and Sanitation.** In Group S Occupancies, light, ventilation and sanitation shall be as specified in Chapters 12 and 29.

**311.5.1** is not adopted.

**311.5.2** is not adopted.

NEW SECTION

**WAC 51-40-0313 Section 313—Requirements for Group LC occupancies.**

**313.1 Group LC Occupancies Defined.** Group LC Occupancies shall include buildings, structures, or portions thereof, used for the business of providing licensed care to clients in one of the following categories regulated by either the Washington Department of Health or the Department of Social and Health Services:

1. Adult family home.
2. Adult residential rehabilitation facility.
3. Alcoholism intensive inpatient treatment service.
4. Alcoholism detoxification service.
5. Alcoholism long term treatment service.
6. Alcoholism recovery house service.
7. Boarding home.
8. Group care facility.
9. Group care facility for severely and multiple handicapped children.
10. Residential treatment facility for psychiatrically impaired children and youth.

EXCEPTION: Where the care provided at an alcoholism detoxification service is acute care similar to that provided in a hospital, the facility shall be classified as a Group I, Division 1.1 hospital.

**313.2 Construction, Height and Allowable Area.**

**313.2.1 General.** Buildings or parts of buildings classed in Group LC because of the use or character of the occupancy shall be limited to the types of construction set forth in this section.

**313.2.1.1 Type of construction.** Except as provided herein, LC Occupancy buildings may be of any construction type allowed in this code and shall not exceed the limits specified in Sections 504, 505 and 506.

Group LC Occupancies which are licensed for more than six clients and which are more than two stories in height or which have more than 3,000 square feet (279 $m^2$) above the first story shall not be less than one-hour fire-resistive construction throughout.

EXCEPTION: Buildings which are licensed for not more than 16 clients may be of Type V-N construction provided:
1. The entire building has an interior wall and ceiling covering consisting of 1/2 inch gypsum wall board or an approved equal installed in accordance with Section 2511; and,
2. An approved smoke-detection system, supervised by an approved central, proprietary or remote station service, is installed throughout the entire structure and is interconnected with any required sprinkler system.

For attic space partitions and draft stops, see Section 708.

**313.2.1.2 Area and height.** Buildings classified as Group LC Occupancy shall not exceed, in area or height, the limitations set forth in Table 5-B for Group R, Division 1 Occupancies.

EXCEPTION: LC Occupancies licensed for six or fewer clients may be of unlimited area provided they are limited to 3 stories or less.

**313.2.1.3 Mixed Occupancies.** Group LC Occupancies shall be separated from Group H occupancies by a four-hour fire-resistive occupancy separation and shall be separated from all other occupancies by a one-hour fire-resistive assembly.

EXCEPTIONS:

1. An occupancy separation need not be provided between a Group LC Occupancy licensed for 16 or fewer clients and a carport having no enclosed use above, provided the carport is entirely open on two or more sides.
2. In a Group LC Occupancy licensed for 16 or fewer clients, the one-hour occupancy separation between a Group LC Occupancy and a Group U, Division 1 Occupancy, may be limited to the installation of materials approved for one- hour fire-resistive construction on the

garage side and a self-closing, tight-fitting solid-wood door 1 3/8 inches (35 mm) in thickness, or a self-closing tight-fitting door having a fire-protection rating of not less than 20 minutes when tested in accordance with Part II of UBC Standard 7-2, which is a part of this code, is permitted in lieu of a one-hour fire assembly. Fire dampers need not be installed in air ducts passing through the wall, floor or ceiling separating a Group LC Occupancy from a Group U Occupancy, provided such ducts within the Group U Occupancy are constructed of steel having a thickness not less than 0.019 inch (0.48 mm) (No. 26 galvanized sheet gage) and having no openings into the Group U Occupancy.

3. An occupancy separation need not be provided between a Group LC, Boarding Home Occupancy and a Group R, Division 1 Occupancy.

**313.3 Location on Property.** For fire-resistive protection of exterior walls and openings, as determined by location on property, see Section 503 and Chapter 6. For the purpose of this determination, LC Occupancies licensed for six or fewer clients shall comply with provisions for Group R, Division 3 Occupancies; and all other LC Occupancies shall comply with provisions for Group R, Division 1 Occupancies.

**313.4 Access, Means of Egress, and Emergency Escape.**

**313.4.1 Evacuation capability.** Evacuation capability is the ability of the clients of a licensed care facility to respond to an emergency situation and either evacuate a building or move to a point of safety. Clients shall be classified in one of the following levels:

I - persons physically and mentally capable of walking or traversing a normal path to safety, including the ascent and descent of stairs, and capable of self-preservation, without the physical assistance of another person.

II - persons physically and mentally capable of traversing a normal path to safety with the use of mobility aids, but unable to ascend or descend stairs without the physical assistance of another person.

III - persons physically or mentally unable to walk or traverse a normal path to safety without the physical assistance of another person.

**313.4.2 Means of egress.** Means of egress shall be provided as specified in Chapter 10. For the purpose of determining egress requirements, Group LC Occupancies shall be considered to have an occupant load factor of 300. At least two means of egress shall be required when the number of occupants (clients and staff) is 10 or more. For all other requirements of Chapter 10, Group LC Occupancies licensed for six or fewer clients shall comply with provisions for Group R, Division 3 Occupancies; and all other Group LC Occupancies shall comply with provisions for Group R, Division 1 Occupancies.

EXCEPTIONS:

1. Means of egress illumination required by Section 1003.2.9.1 need not be provided in any Group LC Occupancy licensed for six or fewer clients.

2. In LC Occupancies with an approved automatic fire sprinkler system and approved automatic fire alarm system, waiting and resting areas may be open to the corridor provided:

2.1 Each rest area does not exceed 150 square feet, excluding the corridor width; and

2.2 Walls defining the space shall continue the construction of the corridor's wall; and

2.3 The floor on which the rest area or areas are located is divided into at least two compartments by smoke barrier walls of not less than one-hour fire-resistive construction meeting the requirements of Section 308.2.2.1 and Section 905.2.3; and

2.4 Combustible furnishings located within the rest area are flame resistant as defined by Uniform Fire Code Section 207; and

2.5 Emergency means of egress lighting is provided as required by Section 1003.2.9.1 to illuminate the area.

**313.4.3 Accessibility.** In new construction, Group LC Occupancies regardless of the number of clients shall comply with accessibility standards for Group R, Division 1 apartment buildings or congregate residences as specified in Chapter 11.

Where a Group LC Occupancy is being established by change of occupancy in an existing building, the building shall be altered to comply with apartment building or congregate residence provisions of Chapter 11 if any client is a person with disability. The alterations shall provide the minimum necessary access appropriate for the disabilities of clients. Any alteration, whether to accommodate a client with disability or for another purpose, shall comply with Part III of Chapter 11.

**313.4.4 Emergency escape.**

**313.4.4.1 Location of sleeping rooms.** In every licensed care facility, all sleeping rooms occupied by clients with an evacuation capability of II or III shall be located on a grade level floor which provides not less than two means of egress which do not require clients to use stairs, elevator, or platform lift to exit the facility.

EXCEPTIONS:

1. In a Group LC Occupancy licensed to provide care to two or fewer clients with an evacuation capability of II or III and six or fewer total clients, only one means of egress which does not require clients to use stairs, elevator or platform lift to exit the facility need be provided.

2. Sleeping rooms for clients with an evacuation capability of II or III may be located on floors other than at grade level, provided the facility is divided into at least two compartments by smoke barriers of not less than one-hour fire-resistance meeting the requirements of Sections 308.2.2.1 and 905.2.3.

**313.4.4.2 Escape windows and doors.** Every sleeping room below the fourth story (including basements) shall have at least one operable window or door approved for emergency escape or rescue which shall open directly into a public street, public alley, yard or exit court. The emergency window shall be operable from the inside to provide a full, clear opening without the use of separate tools.

EXCEPTION: The window or door may open into an atrium complying with Section 402 provided the window or door opens onto an exit balcony and the sleeping room has an exit door which does not open into the atrium.

Escape or rescue windows shall have a minimum net clear openable area of 5.7 square feet (0.53 $m^2$). The minimum net clear openable height dimension shall be 24 inches (610 mm). The minimum net clear openable width dimension shall be 20 inches (508 mm). When windows are provided as a means of escape or rescue, they shall have a

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finished sill height not more than 44 inches (1118 mm) above the floor.

Escape and rescue windows with a finished sill height below the adjacent ground elevation shall have a window well. Window wells at escape and rescue windows shall comply with the following:

1. The clear horizontal dimension shall allow the window to be fully opened and provide a minimum accessible net clear opening of 9 square feet (0.84 $m^2$), with a minimum dimension of 36 inches (914 mm).

2. Window wells with a vertical depth of more than 44 inches (1118 mm) shall be equipped with an approved permanently affixed ladder or stairs that are accessible with the window in the fully open position. The ladder or stairs shall not encroach into the required dimensions of the window well by more than 6 inches (152 mm).

Bars, grilles, grates or similar devices may be installed on emergency escape windows, doors or window wells, provided:

1. The devices are equipped with approved release mechanisms which are operable from the inside without the use of a key or special knowledge or effort; and

2. The building is equipped with smoke detectors installed in accordance with Section 313.8.

**313.5 Light, Ventilation and Sanitation.**

**313.5.1 General.** For the purpose of determining the light and ventilation for Group LC Occupancies required by this section, any room may be considered as a portion of an adjoining room when one half of the area of the common wall is open and unobstructed and provides an opening of not less than one tenth of the floor area of the interior room or 25 square feet (2.3 $m^2$), whichever is greater.

Exterior openings for natural light or ventilation required by this section shall open directly onto a public way or a yard or court as set for in Section 313.5.4.

EXCEPTIONS:

1. Required exterior openings may open into a roofed porch where the porch:
   1.1 Abuts a public way, yard or court; and
   1.2 Has a ceiling height of not less than 7 feet (2134 mm); and
   1.3 Has a longer side at least 65 percent open and unobstructed.
2. Skylights.

**313.5.2 Light.** Sleeping rooms and habitable rooms within the licensed care facility shall be provided with natural light by means of exterior glazed openings with an area not less than one tenth of the floor area of such rooms with a minimum of 10 square feet (0.93 $m^2$).

EXCEPTION: Kitchens may be provided with artificial light.

**313.5.3 Ventilation.** Group LC Occupancies shall comply with provisions for Group R Occupancies as provided in the Washington State Ventilation and Indoor Air Quality Code (WAC 51-13).

**313.5.4 Yards and Courts.**

**313.5.4.1 General.** This section shall apply to yards and courts adjacent to exterior openings that provide required light or ventilation. Such yards and courts shall be on the same property as the building.

**313.5.4.2 Yards.** Yards shall not be less than 3 feet (914 mm) in width for one-story and two-story buildings. For buildings more than two stories in height, the minimum width of the yard shall be increased at the rate of 1 foot (305 mm) for each additional story. For buildings exceeding 14 stories in height, the required width of the yard shall be computed on the basis of 14 stories.

**313.5.4.3 Courts.** Courts shall not be less than 3 feet (914 mm) in width. Courts having windows opening on opposite sides shall not be less than 6 feet (1829 mm) in width. Courts bounded on three or more sides by the walls of the building shall not be less than 10 feet (3048 mm) in length unless bounded on one end by a public way or yard. For buildings more than two stories in height, the court shall be increased 1 foot (305 mm) in width and 2 feet (610 mm) in length for each additional story. For buildings exceeding 14 stories in height, the required dimensions shall be computed on the basis of 14 stories.

Adequate access shall be provided to the bottom of all courts for cleaning purposes. Every court more than two stories in height shall be provided with a horizontal air intake at the bottom not less than 10 square feet (0.93 $m^2$) in area and leading to the exterior of the building unless abutting a yard or a public way. The construction of the air intake shall be as required for the court walls of the building but in no case less than one-hour fire resistive.

**313.5.4.4 Eaves.** Eaves over required windows shall extend no closer than 30 inches (762 mm) from the side and rear property lines. See also Sections 503.2 and 705.

**313.5.5 Sanitation.**

**313.5.5.1 General.** Sanitation facilities shall comply with Chapter 29 and the provisions of this section. Any room in which a water closet is located shall be separated from food preparation or storage rooms by a self-closing tight-fitting door.

**313.5.5.2 Group LC Occupancies with six or fewer clients.** Group LC Occupancies licensed for six or fewer clients shall be provided with not less than one water closet, one lavatory and one bathtub or shower.

**313.5.5.3 Group LC Occupancies with more than six clients.** Group LC Occupancies licensed for more than six clients shall provide not less than one water closet for each 10 male clients, or fractional part thereof, and not less than one water closet for each 8 female clients, or fractional part thereof.

In addition, not less than one lavatory shall be provided for each 12 male clients, or fractional part thereof, and not less than one lavatory for each 12 female clients, or fractional part thereof. Where the number of clients of either sex exceeds 12, one lavatory shall be added for each additional 20 males, or fractional part thereof, and one lavatory shall be added for each additional 15 females, or fractional part thereof.

In addition, not less than one bathtub or shower shall be provided for every eight clients, or fractional part thereof.

Where there are female clients, one additional bathtub or shower shall be provided for each 30 female clients, or fractional part thereof. Where the number of total clients exceeds 150, one bathtub or shower shall be provided for each 20 clients, or fractional part thereof, over 150 clients.

**313.6 Room Dimensions.**

**313.6.1 Ceiling Heights.** Habitable space shall have a ceiling height of not less than 7 feet 6 inches (2286 mm) except as otherwise permitted in this section. Kitchens, halls, bathrooms and toilet compartments may have a ceiling height of not less than 7 feet (2134 mm) measured to the lowest projection from the ceiling. Where exposed beam ceiling members are spaced at less than 48 inches (1219 mm) on center, ceiling height shall be measured to the bottom of those members. Where exposed beam ceilings members are spaced at 48 inches (1219 mm) or more on center, ceiling height shall be measured to the bottom of the deck supported by these members, provided that the bottom of the members is not less than 7 feet (2134 mm) above the floor.

If any room in a building has a sloping ceiling, the prescribed ceiling height for the room is required in only one half of the area thereof. No portion of the room measuring less than 5 feet (1524 mm) from the finished floor to the finished ceiling shall be included in any computation of the minimum area thereof.

If any room has a furred ceiling, the prescribed ceiling height is required in two thirds the area thereof, but in no case shall the height of the furred ceiling be less than 7 feet (2134 mm).

**313.6.2 Floor area.** Group LC Occupancies shall have at least one room which shall have not less than 120 square feet (11.2 $m^2$) of floor area. Other habitable rooms except kitchens shall have an area of not less than 70 square feet (6.5 $m^2$).

**313.6.3 Width.** Habitable rooms other than kitchens shall not be less than 7 feet (2134 mm) in any dimension.

**313.7 Shaft and Exit Enclosures.** Exits shall be enclosed as specified in Chapter 10.

Elevator shafts, vent shafts, dumbwaiter shafts, clothes chutes and other vertical openings shall be enclosed and the enclosure shall be as specified in Section 711.

**313.8 Smoke Detectors and Sprinkler Systems.**

**313.8.1 Smoke detectors.**

**313.8.1.1 General.** Rooms within licensed care facilities that are used for sleeping purposes shall be provided with smoke detectors. Detectors shall be installed in accordance with the approved manufacturer's instructions.

**313.8.1.2 Additions, alterations or repairs.** When the valuation of an addition, alteration or repair to a Group LC Occupancy exceeds $1,000 and a permit is required, or when one or more sleeping rooms is added or created in an existing Group LC Occupancy, smoke detectors shall be installed in accordance with Sections 313.8.1.3 and 313.8.1.4 of this section.

EXCEPTION: Repairs to the exterior surfaces are exempt from the requirements of this section.

**313.8.1.3 Power source.** In new construction, required smoke detectors shall receive their primary power from the building wiring when such wiring is served from a commercial source and shall be equipped with a battery backup. The detector shall emit a signal when the batteries are low. Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection. Smoke detectors may be solely battery operated when installed in existing buildings; or in buildings without commercial power; or in buildings which undergo alterations, repairs or additions regulated by Section 313.8.1.2.

**313.8.1.4 Location.** A detector shall be installed in each sleeping room and at a point centrally located in the corridor or area giving access to each separate sleeping area. When the licensed care facility has more than one story or in facilities with basements, a detector shall be installed on each story and in the basement. Where a story or basement is split into two or more levels, the smoke detector shall be installed on the upper level, except that when the lower level contains a sleeping area, a detector shall be installed on each level. When sleeping rooms are on an upper level, the detector shall be placed at the ceiling of the upper level in close proximity to the stairway. Where the ceiling height of a room open to a hallway serving the bedrooms exceeds that of the hallway by 24 inches (610 mm) or more, smoke detectors shall be installed in the hallway and in the adjacent room. Detectors shall sound an alarm audible in all sleeping areas of the licensed care facility in which they are located.

**313.8.2 Sprinkler and standpipe systems.**

**313.8.2.1 Sprinkler Systems.** An automatic sprinkler system shall be installed throughout every licensed care facility three or more stories in height or licensed for more than 16 clients. Licensed care facilities with 16 or fewer clients, licensed to provide care for more than two clients who have an evacuation capability of II or III, shall be provided with an automatic sprinkler system throughout the facility.

EXCEPTION: An automatic sprinkler system need not be installed in any licensed care facility licensed for six or fewer clients regardless of the level of evacuation capability.

Where a sprinkler system is required, a system complying with UBC Standard 9-1 shall be installed.

EXCEPTIONS:

1. An automatic sprinkler system complying with UBC Standard 9-3 may be installed in buildings of four stories or less.
2. Where a Group LC Occupancy is being established by change of occupancy in an existing building not protected by a sprinkler system as is required above for buildings of new construction, an automatic sprinkler system complying with NFPA Standard 13d may be installed provided the care facility is licensed for not more than 16 clients.

Residential or quick-response heads shall be used in all sprinkler systems.

**313.8.2.2 Standpipe systems.** Standpipe systems shall be provided where required by Section 904.5.

**313.9 Fire Alarm Systems.** Group LC Occupancies licensed for more than 16 clients shall be provided with an

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approved manual and automatic fire alarm system. The local alarm shall provide an alarm signal with a sound pressure level of 15 dBA above the average ambient sound level in every occupied space within the building. The minimum sound pressure level shall be 70 dBA. The maximum sound pressure level shall not exceed 110 dBA at the minimum hearing distance from the audible appliance.

**313.10 Heating.** Licensed care facilities shall be provided with heating facilities capable of maintaining a room temperature of 70°F (21°C) at a point 3 feet (914 mm) above the floor in all habitable rooms.

**313.11 Special Hazards.** Chimneys and heating apparatus shall conform to the requirements of Chapter 31 and the Mechanical Code.

In Group LC Occupancies licensed for more than six clients, the storage, use and handling of flammable and combustible liquids shall be in accordance with the Fire Code. In such facilities, doors leading into rooms in which Class I flammable liquids are stored or used shall be protected by a fire assembly having a one-hour fire-protection rating. Such fire assembly shall be self-closing and shall be posted with a sign on each side of the door in 1-inch (25.4 mm) block letters stating: FIRE DOOR—KEEP CLOSED.

In Group LC Occupancies licensed for more than 16 clients, rooms containing a boiler, central heating plant or hot-water supply boiler shall be separated from the rest of the building by not less than a one-hour occupancy separation.

NEW SECTION

**WAC 51-40-0403 Section 403—Special provisions for Group B office buildings and Group R, Division 1 Occupancies.**

**403.6.1 General.** A central control station room for fire department operations shall be provided. The location, size and arrangement of the central control station shall be approved by the authority having jurisdiction. The central control station room shall be separated from the remainder of the building by not less than a one-hour fire-resistive occupancy separation. It shall contain the following as a minimum:

1. The voice alarm and public address system panels.
2. The fire department communications panel.
3. Fire-detection and alarm systems annunciator panels.
4. Annunciator visually indicating the location of the elevators and whether they are operational.
5. Status indicators and controls for air-handling systems.
6. Controls for unlocking all stairway doors simultaneously.
7. Sprinkler valve and water-flow detector display panels.
8. Emergency and standby power status indicators.
9. A telephone for fire department use with controlled access to the public telephone system.
10. Fire pump status indicators.
11. Schematic building plans indicating the typical floor plan and detailing the building core, means of egress, fire-protection systems, fire fighting equipment and fire department access.
12. Work table.

NEW SECTION

**WAC 51-40-0405 Section 405—Stages and platforms.**

***Option 1 - Maintain 1997 UBC language as printed:***

**405.3.3.2 Roof vents.** Two or more vents shall be located near the center of and above the highest part of the stage area. They shall be raised above the roof and provide a net free vent area equal to 5 percent of the stage area. Vents shall be constructed to open automatically by approved heat-activated devices. Supplemental means shall be provided for manual operation of the ventilator from the stage floor. Vents shall be of an approved type.

***Option 2:***

**405.3.3.2 Roof vents.** Two or more vents shall be located near the center of and above the highest part of the stage area. They shall be raised above the roof and provide a net free vent area equal to 5 percent of the stage area. Vents shall be constructed to open automatically by approved heat-activated devices. Supplemental means shall be provided for manual operation of the ventilator from the stage floor. Vents shall be labeled by an approved agency.

NEW SECTION

**WAC 51-40-0510 Section 510—Heating.**

**510.1 Definitions.** For the purposes of this section only, the following definitions apply.

**DESIGNATED AREAS** are those areas designated by a county to be an urban growth area in Chapter 36.70A RCW and those areas designated by the U.S. Environmental Protection Agency as being in nonattainment for particulate matter.

**SUBSTANTIALLY REMODELED** means any alteration or restoration of a building exceeding 60 percent of the appraised value of such building within a 12 month period. For the purpose of this chapter, the appraised value is the value as defined in Section 223 of the Uniform Building Code.

**510.2 Primary Heating Source.** Primary heating sources in all new and substantially remodeled buildings in designated areas, shall not be dependent upon wood stoves.

**510.3 Solid Fuel Burning Devices.** No used solid fuel burning device shall be installed in new or existing buildings unless such device is United States Environmental Protection Agency certified or a pellet stove either certified or exempt from certification by the United States Environmental Protection Agency.

EXCEPTION: Antique wood cook stoves and heaters manufactured prior to 1940.

NEW SECTION

**WAC 51-40-0804 Section 804—Maximum allowable flame spread.**

**804.1 General.** The maximum flame-spread class of finish materials used on interior walls and ceilings shall not exceed that set forth in Table 8-B.

EXCEPTIONS:

1. Except in Group I Occupancies and in enclosed vertical exits, Class III may be used in other means of egress and rooms as wainscoting extending not more than 48 inches (1219 mm) above the floor and for tack and bulletin boards covering not more than 5 percent of the gross wall area of the room.
2. In other than Group I, Division 1.1, 1.2 or 2 suites complying with Section 1007.5, when a sprinkler system complying with UBC Standard 9-1 or 9-3 is provided, the flame-spread classification rating may be reduced one classification, but in no case shall materials having a classification greater than Class III be used.
3. The exposed faces of Type IV-H.T., structural members and Type IV-H.T., decking and planking, where otherwise permissible under this code, are excluded from flame-spread requirements.

NEW SECTION

**WAC 51-40-0902 Section 902—Standards of quality.**

Fire-extinguishing systems, including automatic sprinkler systems, Class I, Class II and Class III standpipe systems, special automatic extinguishing systems, basement pipe inlets, smoke-control systems, and smoke and heat vents shall be approved and shall be subject to such periodic tests as may be required.

The standards listed below labeled a "UBC Standard" are also listed in Chapter 35, Part II, and are part of this code. The other standards listed below are recognized standards (see Sections 3503 and 3504).

**1. Fire-extinguishing system.**

1.1 UBC Standard 9-1, Installation of Sprinkler Systems

1.2 UBC Standard 9-3, Installation of Sprinkler Systems in Group R Occupancies Four Stories or Less

1.3 NFPA Standard 13d, as published by the National Fire Protection Association, 1994 edition

**2. Standpipe systems.**

UBC Standard 9-2, Standpipe Systems

**3. Smoke control.**

3.1 UBC Standard 7-2, Fire Test of Door Assemblies

3.2 UL 555, Fire Dampers

3.3 UL 555C, Ceiling Dampers

3.4 UL 555S, Leakage Rated Dampers for Use in Smoke Control Systems

3.5 UL 33, Heat Response Links for Fire Protection Service

3.6 UL 353, Limit Controls

**4. Smoke and heat vents.**

UBC Standard 15-7, Automatic Smoke and Heat Vents

NEW SECTION

**WAC 51-40-0904 Section 904—Fire-extinguishing systems.**

**904.1.2 Standards.** Fire-extinguishing systems shall comply with UBC Standards 9-1 and 9-2.

EXCEPTIONS:

1. Automatic fire-extinguishing systems not covered by UBC Standard 9-1 or 9-2 shall be approved and installed in accordance with approved standards.
2. Automatic sprinkler systems may be connected to the domestic water-supply main when approved by the building official, provided the domestic water supply is of adequate pressure, capacity and sizing for the combined domestic and sprinkler requirements. In such case, the sprinkler system connection shall be made between the public water main or meter and the building shutoff valve, and there shall not be intervening valves or connections. The fire department connection may be omitted when approved by the fire department.
3. Automatic sprinkler systems in Group R Occupancies four stories or less may be in accordance with UBC Standard 9-3.
4. Sprinklers are not required at the top of noncombustible hoistways of passenger elevators whose car enclosure materials meet the requirements of ASME A17.1, Safety Code for Elevators and Escalators.

**904.2.2 All occupancies except Group R, Division 3 and Group U Occupancies.** Except for Group R, Division 3 and Group U Occupancies, an automatic sprinkler system shall be installed:

1. In every story or basement of all buildings when the floor area exceeds 1,500 square feet (139.4 $m^2$) and there is not provided at least 20 square feet (1.86 $m^2$) of opening entirely above the adjoining ground level in each 50 lineal feet (15 240 mm) or fraction thereof of exterior wall in the story or basement on at least one side of the building. Openings shall have a minimum dimension of not less than 30 inches (762 mm). Such openings shall be accessible to the fire department from the exterior and shall not be obstructed in a manner that fire fighting or rescue cannot be accomplished from the exterior.

When openings in a story are provided on only one side and the opposite wall of such story is more than 75 feet (22 860 mm) from such openings, the story shall be provided with an approved automatic sprinkler system, or openings as specified above shall be provided on at least two sides of an exterior wall of the story.

If any portion of a basement is located more than 75 feet (22 860 mm) from openings required in this section, the basement shall be provided with an approved automatic sprinkler system.

2. At the top of rubbish and linen chutes and in their terminal rooms. Chutes extending through three or more floors shall have additional sprinkler heads installed within such chutes at alternate floors. Sprinkler heads shall be accessible for servicing.

3. In rooms where nitrate film is stored or handled.

4. In protected combustible fiber storage vaults as defined in the Fire Code.

PROPOSED

5. Throughout all buildings with a floor used for human occupancy that is located 75 feet (22 860 mm) or more above the lowest level of fire department vehicle access.

EXCEPTIONS:

1. Airport control towers.
2. Open parking structures.
3. Group F, Division 2 Occupancies.

**904.2.4.1 General (Group E Occupancies).** An automatic fire-extinguishing system shall be installed in all newly constructed buildings classified as Group E, Division 1 Occupancy. A minimum water supply meeting the requirements of UBC Standard 9-1 shall be required. The chief of the fire department may reduce fire flow requirements for buildings protected by an approved automatic sprinkler system.

For the purpose of this section, additions exceeding 60 percent of the value of such building or structure, or alterations and repairs to any portion of a building or structure within a twelve-month period that exceeds 100 percent of the value of such building or structure shall be considered new construction. In the case of additions, area separation walls shall define separate buildings.

EXCEPTION: Portable school classrooms, provided:
1. Aggregate area of clusters of portable school classrooms does not exceed 5,000 square feet (1465 m²); and
2. Clusters of portable school classrooms shall be separated as required in Chapter 5.

When not required by other provisions of this chapter, a fire-extinguishing system installed in accordance with UBC Standard 9-1 may be used for increases and substitutions allowed in Sections 505, 506, and 508.

NEW SECTION

**WAC 51-40-1000 Chapter 10—Means of egress.**

NEW SECTION

**WAC 51-40-1002 Definitions.**

**Smoke-Protected Assembly Seating** is an assembly area wherein the roof is not less than 15 feet (4500 mm) above the highest cross aisle or seat row, and having smoke-actuated venting facilities within that part of the roof sufficient to maintain the level of smoke at least 6 feet (1830 mm) above the highest seat or walking level.

NEW SECTION

**WAC 51-40-1003 General egress requirements.**

**1003.3.1.1 General (Doors).** For the purposes of Section 1003.3.1, the term "exit door" shall mean all of those doors or doorways along the path of exit travel anywhere in a means of egress system.

Exit doors serving the means of egress system shall comply with the requirements of Section 1003.3.1. Where additional doors are installed for egress purposes, they shall conform to all requirements of this section. Buildings or structures used for human occupancy shall have at least one exterior exit door that meets the requirements of Section 1003.3.1.3. Section 1003.3.1.5 shall apply to all exit doors within an accessible route, regardless of occupant load.

Exit doors shall be readily distinguishable from the adjacent construction and shall be easily recognizable as exit doors. Mirrors or similar reflecting materials shall not be used on exit doors, and exit doors shall not be concealed by curtains, drapes, decorations and similar materials.

**1003.3.1.2 Special Doors.** Revolving, sliding and overhead doors serving an occupant load of 10 or more shall not be used as required exit doors. Where revolving or overhead doors or turnstiles are used, an adjacent accessible gate or door shall be provided where an accessible route is required by Chapter 11.

EXCEPTIONS:

1. Approved revolving doors having leaves that will collapse under opposing pressures may be used, provided
1.1 Such doors have a minimum width of 6 feet 6 inches (1981 mm).
1.2 At least one conforming exit door is located adjacent to each revolving door.
1.3 The revolving door shall not be considered to provide any required width when computing means of egress width in accordance with Section 1003.2.3.
2. Horizontal sliding doors complying with UBC Standard 7-8 may be used
2.1 In elevator lobby separations.
2.2 In other than Groups A and H Occupancies, where smoke barriers are required.
2.3 In other than Group H Occupancies, where serving an occupant load of less than 50.

Power-operated doors complying with UBC Standard 10-1 may be used for egress purposes. Such doors, where swinging, shall have two guide rails installed on the swing side projecting out from the face of the door jambs for a distance not less than the widest door leaf. Guide rails shall not be less than 30 inches (762 mm) in height with solid or mesh panels to prevent penetration into door swing and shall be capable of resisting a horizontal load at top of rail of not less than 50 pounds per lineal foot (730 N/m).

EXCEPTIONS:

1. Walls or other types of separators may be used in lieu of the above guide rail, provided all the criteria are met.
2. Guide rails in industrial or commercial occupancies not accessible to the public may comply with the exception to Section 509.3.
3. Doors swinging toward flow of traffic shall not be permitted unless actuating devices start to function at least 8 feet 11 inches (2718 mm) beyond the door in an open position and guide rails extend 6 feet 5 inches (1956 mm) beyond the door in an open position.

Clearances for guide rails shall be as follows:

1. Six inches (152 mm) maximum between rails and leading edge of door at the closest point in its arc of travel.

2. Six inches (152 mm) maximum between rails and the door in an open position.

3. Two inches (51 mm) minimum between rail at hinge side and door in an open position.

4. Two inches (51 mm) maximum between freestanding rails and jamb or other adjacent surface.

**1003.3.1.5 Swing and Opening Force.** Exit doors serving an occupant load of 10 or more shall be of the pivoted or side-hinged swinging type. Exit doors shall swing in the direction of the path of exit travel where the area served has an occupant load of 50 or more. The door shall swing to the

fully open position when an opening force not to exceed 30 pounds (133.45 N) is applied to the latch side. Within an accessible route, such force shall not exceed 8.5 pounds (37.8 N) at exterior doors; and shall not exceed 5 pounds (22.24 N) at sliding and folding doors and interior swinging doors. At exterior doors where environmental conditions require greater closing pressure, power-operated doors shall be used within the accessible route. For other door-opening forces, see Chapter 11 and Section 905.3. See Section 3207 for doors swinging over public property.

EXCEPTIONS:

1. Group I, Division 3 Occupancy used as a place of detention.
2. In other than accessible dwelling units, doors within or serving an individual dwelling unit.
3. Special door conforming with Section 1003.3.1.2.
4. The opening force at required fire doors within an accessible route may be not greater than 30 pounds (133.45 N).

A double-acting door shall be provided with a view panel of not less than 200 square inches (0.129 $m^2$).

**1003.3.1.6 Floor Level at Doors.** Regardless of the occupant load served, there shall be a floor or a landing on each side of a door. Where access for persons with disabilities is required by Chapter 11, the floor or landing shall not be more than 1/2 inch (13 mm) lower than the threshold of the doorway. Where such access is not required, the threshold shall not exceed 1 inch (25 mm). Landings shall be level except that exterior landings, may have a slope not to exceed 1/4 unit vertical in 12 units horizontal (2% slope).

EXCEPTIONS:

1. In Group R, Division 3, and Group U Occupancies and within individual units of Group R, Division 1 Occupancies:
1.1. A door may open at the top of an interior flight of stairs, provided the door does not swing over the top step.
1.2. A door may open at a landing which is not more than 8 inches (203 mm) lower than the floor level, provided the door does not swing over the landing.
1.3. Screen doors and storm doors may swing over stairs, steps or landings.
2. Doors serving building equipment rooms which are not normally occupied.
3. At exterior sliding doors within accessible dwelling units, the floor or landing may be no more than 3/4 inch (19 mm) lower than the threshold of the doorway, including the sliding door tracks, provided that an additional accessible entrance door is provided into the dwelling unit.

**1003.3.1.10 Special Egress-control Devices.** When approved by the building official, exit doors in Group B; Group F; Group I, Divisions 1.1, 1.2 and 2; Group M, Group LC Occupancies, and Group S Occupancies may be equipped with approved listed special egress-control devices, provided the building is protected throughout by an approved automatic sprinkler system and an approved automatic smoke-detection system. Such devices shall conform to all of the following:

1. The egress-control device shall automatically deactivate upon activation of either the sprinkler system or the smoke-detection system.

2. The egress-control device shall automatically deactivate upon loss of electrical power to any one of the following:

2.1 The egress-control device itself.

2.2 The smoke-detection system.

2.3 Means of egress illumination as required by Section 1003.2.9.

3. The egress-control device shall be capable of being deactivated by a signal from a switch located in an approved location.

4. An irreversible process which will deactivate the egress-control device shall be initiated whenever a manual force of not more than 15 pounds (66.72 N) is applied for two seconds to the panic bar or other door-latching hardware. The egress-control device shall deactivate within an approved time period not to exceed a total of 15 seconds. The time delay established for each egress-control device shall not be field adjustable.

5. Actuation of the panic bar or other door-latching hardware shall activate an audible signal at the door.

6. The unlatching shall not require more than one operation.

A sign shall be provided on the door located above and within 12 inches (305 mm) of the panic bar or other door-latching hardware reading:

**KEEP PUSHING. THE DOOR WILL OPEN IN .... SECONDS. ALARM WILL SOUND.**

Sign letter shall be at least 1 inch (25 mm) in height and shall have a stroke of not less than 1/8 inch (3.2 mm).

Regardless of the means of deactivation, relocking of the egress-control device shall be by manual means only at the door.

EXCEPTION: Subject to the approval of the building official, special units for the care of dementia patients in nursing homes which are identified and approved by the state agency licensing such units, may use special egress-control devices where a panic bar is not part of the egress-control mechanism.

**1003.3.3.1 General (Stairways).**

Every stairway having two or more risers serving any building or portion thereof shall conform to the requirements of Section 1003.3.3. For the purposes of Section 1003.3.3, the term "stairway" shall include stairs, landings, handrails and guardrails as applicable. When aisles in assembly rooms have steps, they shall conform with the requirements in Section 1004.3.2. For the purpose of this chapter, the term "step" shall mean those portions of the means of egress achieving a change in elevation by means of a single riser. Individual steps shall comply with the detailed requirements of this chapter which specify applicability to steps.

EXCEPTIONS:

1. Stairs or ladders used only to attend equipment or window wells are exempt from the requirements of this section.
2. Stairs or ladders within an individual dwelling unit used to gain access to areas of 200 square feet (18.6 $m^2$) or less, and not containing the primary bathroom or kitchen, are exempt from the requirements of this section.

Stairways located in a building required to be accessible shall also comply with Chapter 11.



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PROPOSED

**1003.3.3.3 Rise and Run.** The rise of steps and stairs shall not be less than 4 inches (102 mm) nor more than 7-½ inches (190 mm). The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm). Except as permitted in Sections 1003.3.3.8.1, 1003.3.3.8.2 and 1003.3.3.8.3, the run shall not be less than 10 inches (254 mm), as measured horizontally between the vertical planes of the furthermost projections of adjacent treads or nosings. Stair treads shall be of uniform size and shape except the largest tread run within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm).

EXCEPTIONS:

1. Private steps and stairways serving an occupant load of less than 10 and stairways to unoccupied roofs may be constructed with an 8-inch-maximum (203 mm) rise and a 9-inch-minimum (229 mm) run.
2. Where the bottom or top riser adjoins a sloping public way, walk or driveway having an established grade and serving as a landing, the bottom or top riser may be reduced along the slope.

Where Exception 2 to Section 1103.2.2 is used in a building design, the run of stair treads shall not be less than 11 inches (279 mm), as measured horizontally between the vertical planes of the furthermost projections of adjacent tread. The largest tread run within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm).

**1003.3.3.6 Handrails.** Stairways shall have handrails on each side, and every stairway required to be more than 88 inches (2235 mm) in width shall be provided with not less than one intermediate handrail for each 88 inches (2235 mm) of required width. Intermediate handrails shall be spaced approximately equally across the entire width of the stairway.

EXCEPTIONS:

1. Stairways less than 44 inches (1118 mm) in width or stairways serving one individual dwelling unit in Group R, Division 1 or 3 Occupancies or a Group R, Division 3 congregate residence may have one handrail. This exception shall not be used concurrently with the second exception to the first paragraph of Section 1103.2.2.
2. Private stairways 30 inches (762 mm) or less in height may have handrails on one side only. This exception shall not be used concurrently with the second exception to the first paragraph of Section 1103.2.2.
3. Stairways having less than four risers and serving one individual dwelling unit in Group R, Division 1 or 3, or a Group R, Division 3 congregate residence or Group U Occupancies need not have handrails.

The top of handrails and handrail extensions shall be placed not less than 34 inches (864 mm) or more than 38 inches (965 mm) above landings and the nosing of treads. Handrails shall be continuous the full length of the stairs and, except for private stairways, at least one handrail shall extend in the direction of the stair run not less than 12 inches (305 mm) beyond the top riser nor less than a length equal to one tread depth plus 12 inches (305 mm) beyond the bottom riser. Ends shall be returned or shall terminate in newel posts or safety terminals.

EXCEPTIONS:

1. Private stairways do not require handrail extensions.
2. Handrails may have starting newel posts within the first tread on stairways in Group R, Division 3 Occupancies and within individual dwelling units of Group R, Division 1 Occupancies.

The handgrip portion of handrails shall not be less than 1 1/4 inches (32 mm) nor more than 2 inches (51 mm) in cross-sectional dimension or the shape shall provide an equivalent gripping surface. The handgrip portion of handrails shall have a smooth surface with no sharp corners. Handrails projecting from a wall shall have a space of not less than 1 1/2 inches (38 mm) between the wall and the handrail.

**1003.3.3.13 Stairway Identification.** Stairway identification signs shall be located at each floor level in all enclosed stairways in buildings four or more stories in height. The sign shall identify the stairway, indicate whether or not there is roof access, the floor level, and the upper and lower terminus of the stairway. The sign shall be located approximately 5 feet (1524 mm) above the landing floor in a position that is readily visible when the door is in either the open or closed position. Signs shall comply with requirements of U.B.C. Standard 10-2. Each door to a floor level also shall have a tactile sign, including raised letters and Braille, identifying the floor level and shall comply with Part II of Chapter 11.

*Option 1 Maintain existing state amendment:*

**1003.3.4.4 Landings (Ramps).** Ramps having slopes steeper than 1 unit vertical in 15 units horizontal (6.7% slope) shall have landings at the top and bottom, and at least one intermediate landing shall be provided for each 5 feet (1524 mm) of vertical rise measured between the horizontal planes of adjacent landings. Landing shall have a dimension measured in the direction of ramp run of not less than 5 feet (1524 mm). Landings shall provide maneuvering clearances at doors as required in Chapter 11.

*Option 2 Maintain 1997 UBC language as printed:*

**1003.3.4.4 Landings (Ramps).** Ramps having slopes steeper than 1 unit vertical in 20 units horizontal (5% slope) shall have landings at the top and bottom, and at least one intermediate landing shall be provided for each 5 feet (1524 mm) of vertical rise measured between the horizontal planes of adjacent landings. Landings shall have a dimension measured in the direction of ramp run of not less than 5 feet (1524 mm). Landings shall provide maneuvering clearances at doors as required in Chapter 11.

*Option 1 Maintain existing state amendment:*

**1003.3.4.5 Handrails (Ramps).** Ramps having slopes steeper than 1 unit vertical in 15 units horizontal (6.7% slope) shall have handrails as required for stairways, except that intermediate handrails shall not be required. At least one handrail shall extend in the direction of ramp run not less than 12 inches (305 mm) horizontally beyond the top and bottom of the ramp runs. Ramped aisles serving fixed seating shall have handrails as required in Section 1004.3.2.

*Option 2 Maintain 1997 UBC language as printed:*

**1003.3.4.5 Handrails (Ramps).** Ramps having slopes steeper than 1 unit vertical in 20 units horizontal (5.0% slope) shall have handrails as required for stairways, except that intermediate handrails shall not be required. At least

one handrail shall extend in the direction of ramp run not less than 12 inches (305 mm) horizontally beyond the top and bottom of the ramp runs. Ramped aisles serving fixed seating shall have handrails as required in Section 1004.3.2.

NEW SECTION

**WAC 51-40-1004 The exit access.**

**1004.3.2.3.1 Width.** The clear width of aisles shall be based on the number of fixed seats served by the aisle. The required width of aisles serving fixed seats shall not be used for any other purpose.

The clear width of an aisle in inches shall not be less than the occupant load served by the aisle multiplied by 0.3 for aisles with slopes greater than 1 unit vertical to 8 units horizontal (12.5% slope) and not less than 0.2 for aisles with a slope of 1 unit vertical to 8 units horizontal (12.5% slope) or less. In addition, when the rise of steps in aisles exceeds 7 inches (178 mm), the aisle clear width shall be increased by 1¼ inches (32 mm) for each 100 occupants or fraction thereof served for each ¼ inch (6.35 mm) of riser height above 7 inches (178 mm).

EXCEPTION: For buildings with smoke-protected assembly seating and for which an approved life-safety evaluation is conducted, the minimum clear width of aisles and other means of egress may be in accordance with Table 10-D. For Table 10-D, the number of seats specified must be within a single assembly area, and interpolation shall be permitted between the specified values shown. If Table 10-D is used the minimum clear widths shown shall be modified in accordance with the following:
1. Where risers exceed 7 inches (178 mm) in height, multiply the stairway width in the tables by factor *A*, where:

$$A = 1 + \frac{(\text{riser height} - 7.0 \text{ inches})}{5} \qquad (4\text{-}1)$$

For SI:

$$A = 1 + \frac{(\text{riser height} - 178 \text{ mm})}{127}$$

Where risers do not exceed 7 inches (178 mm) in height, $A = 1$.
2. Stairways not having a handrail within a 30-inch (762 mm) horizontal distance shall be 25 percent wider than otherwise calculated, i.e., multiply by $B = 1.25$. For all other stairs, $B = 1$.
3. Ramps steeper than 1 unit vertical in 10 units horizontal (10% slope) where used in ascent shall have their width increased by 10 percent, i.e., multiply by $C = 1.10$. For ramps not steeper than 1 unit vertical in 10 units horizontal (10% slope), $C = 1$. Where fixed seats are arranged in rows, the clear width of aisles shall not be less than set forth above or less than the following minimum widths:
3.1 Forty-eight inches (1219 mm) for stairways having seating on both sides.
3.2 Thirty-six inches (914 mm) for stairways having seating on one side.
3.3 Twenty-three inches (584 mm) between a stairway handrail and seating where the aisles are subdivided by the handrail.
3.4 Forty-two inches (1067 mm) for level or ramped aisles having seating on both sides.
3.5 Thirty-six inches (914 mm) for level or ramped aisles having seating on one side.
3.6 Twenty-three inches (584 mm) between a stairway handrail and seating where an aisle does not serve more than five rows on one side.

Where exit access is possible in two directions, the width of such aisles shall be uniform throughout their length. Where aisles converge to form a single path of exit travel, the aisle width shall not be less than the combined required width of the converging aisles.

**1004.3.2.5.2 Where required.** Aisles with a slope steeper than 1 unit vertical in 8 units horizontal (12.5% slope) shall consist of a series of risers and treads extending across the entire width of the aisle, except as provided in Section 1004.3.2.6.

The height of risers shall not be more than 8 inches (203 mm) nor less than 4 inches (102 mm) and the tread run shall not be less than 11 inches (279 mm). The riser height shall be uniform within each flight and the tread run shall be uniform throughout the aisle. Variations in run or height between adjacent treads or risers shall not exceed 3/16 inch (4.8 mm).

EXCEPTION: Where the slope of aisle steps and the adjoining seating area is the same, the riser heights may be increased to a maximum of 9 inches (229 mm) and may be nonuniform, but only to the extent necessitated by changes in the slope of the adjoining seating area to maintain adequate sight lines. Variations may exceed 3/16 inch (4.8 mm) between adjacent risers, provided the exact location of such variations is identified with a marking stripe on each tread at the nosing or leading edge adjacent to the nonuniform riser. The marking stripe shall be distinctively different from the contrasting marking stripe.

A contrasting marking stripe or other approved marking shall be provided on each tread at the nosing or leading edge such that the location of each tread is readily apparent when viewed in descent. Such stripe shall be a minimum of 1 inch (25 mm) wide and a maximum of 2 inches (51 mm) wide.

EXCEPTION: The marking stripe may be omitted where tread surfaces are such that the location of each tread is readily apparent when viewed in descent.

**1004.3.2.6 Ramp Slope.** The slope of ramped aisles shall not be more than 1 unit vertical in 8 units horizontal (12.5% slope). Ramped aisles shall have a slip-resistant surface.

EXCEPTION: When provided with fixed seating, theaters may have a slope not steeper than 1 unit vertical in 5 units horizontal (20% slope).

**1004.3.4.5 Elevators.** Elevators opening into a corridor shall be provided with an elevator lobby at each floor containing such a corridor. The lobby shall completely separate the elevators from the corridor by construction conforming to Section 1004.3.4.3.1 and all openings into the

lobby wall contiguous with the corridor shall be protected as required by Section 1004.3.4.3.2.

EXCEPTIONS:

1. In office buildings, separations need not be provided from a street floor lobby, provided the entire street floor is protected with an automatic sprinkler system.
2. Elevators not required to meet the shaft enclosure requirements of Section 711.
3. When additional doors are provided in accordance with Section 3007.
4. Where elevator shafts are pressurized in accordance with Section 905, elevator lobbies need not be provided.

Elevator lobbies shall comply with Section 3002.

NEW SECTION

**WAC 51-40-1007 Means of egress requirements based on occupancy.**

**1007.5.9.1 Suites**

**General.** A group of rooms in a Group I, Division 1.1, Division 1.2 or Division 2 Occupancy may be considered a suite when it complies with the following:

1. **Size.** Suites of rooms, other than suites containing patient sleeping rooms, shall not exceed 10,000 square feet (928.5 m²) in area. Suites containing patient sleeping rooms shall not exceed 5,000 square feet (465 m²) in area.

2. **Occupancy separation.** Each suite of rooms shall be separated from the remainder of the building by not less than one-hour fire-resistive occupancy separation.

3. **Visual supervision.** Each patient sleeping room in the suite shall be located to permit direct visual supervision by the facility staff.

4. **Other exits.** Exiting for portions of the building outside of a suite shall not require passage through the suite.

NEW SECTION

**WAC 51-40-1091 Table 10-A.**

**TABLE 10-A MINIMUM EGRESS REQUIREMENTS[1]**

| USE[2] | MINIMUM OF TWO MEANS OF EGRESS ARE REQUIRED WHERE NUMBER OF OCCUPANTS IS AT LEAST | OCCUPANT LOAD FACTOR[3] (square feet) x 0.0929 for m² |
|---|---|---|
| 1. Aircraft hangars (no repair) | 10 | 500 |
| 2. Auction rooms | 30 | 7 |
| 3. Assembly areas, concentrated use (without fixed seats) Auditoriums Churches and chapels Dance floors Lobby accessory to assembly occupancy Lodge rooms Reviewing stands Stadiums | 50 | 7 |
| Waiting Area | 50 | 3 |

| | | |
|---|---|---|
| 4. Assembly areas, less-concentrated use<br>Conference rooms<br>Dining rooms<br>Drinking establishments<br>Exhibit rooms<br>Gymnasiums<br>Lounges<br>Stages | 50 | 15 |
| Gaming: keno, slot machine and live games area | 50 | 11 |
| 5. Bowling alley (assume no occupant load for bowling lanes) | 50 | (see ft. note 4) |
| 6. Children's homes and homes for the aged | 6 | 80 |
| 7. Classrooms | 50 | 20 |
| 8. Congregate residences (accommodating 10 or less persons and having an area of 3,000 square feet or less) | 10 | 300 |
| Congregate residences (accommodating more than 10 persons or having an area of more than 3,000 square feet) | 10 | 200 |
| 9. Courtrooms | 50 | 40 |
| 10. Dormitories | 10 | 50 |
| 11. Dwellings | 10 | 300 |
| 12. Exercising rooms | 50 | 50 |
| 13. Garage, parking | 30 | 200 |
| 14. Health-care facilities --<br>Sleeping rooms<br>Treatment rooms | 8<br>10 | 120<br>240 |
| 15. Hotels and apartments | 10 | 200 |
| 16. Kitchen--commercial | 30 | 200 |
| 17. Laboratories (Group B) Instructional and teaching laboratories at schools, colleges and universities | 10 | 50 |
| All other Group B laboratories | 10 | 100 |
| 18. Library --<br>Reading rooms<br>Stack areas | 50<br>30 | 50<br>100 |
| 19. Locker rooms | 30 | 50 |
| 20. Malls (see Chapter 4) | -- | -- |
| 21. Manufacturing areas | 30 | 200 |
| 22. Mechanical equipment room | 30 | 300 |
| 23. Nurseries for children (day care) | 7 | 35 |
| 24. Offices | 30 | 100 |
| 25. School shops and vocational rooms | 50 | 50 |
| 26. Skating rinks | 50 | 50 on the skating area; 15 on the deck |
| 27. Storage and stock rooms | 30 | 300 |

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| | | |
|---|---|---|
| 28. Stores--retail sales rooms<br>Basements and ground floor<br>Upper floors | <br>50<br>50 | <br>30<br>60 |
| 29. Swimming pools | 50 | 50 for the pool area;<br>15 on the deck |
| 30. Warehouses[5] | 30 | 500 |
| 31. All others | 50 | 100 |

[1] Access to, and egress from, buildings for persons with disabilities shall be provided as specified in Chapter 11.

[2] For additional provisions on number of exits from Groups H and I Occupancies and from rooms containing fuel-fired equipment or cellulose nitrate, see Sections 1018, 1019 and 1020, respectively.

[3] This table shall not be used to determine working space requirements per person.

[4] Occupant load based on five persons for each alley, including 15 feet (4572 mm) of runway.

[5] Occupant load for warehouses containing approved high rack storage systems designed for mechanical handling may be based on the floor area exclusive of the rack area rather than the gross floor area.

NEW SECTION

**WAC 51-40-1100 Chapter 11—Accessibility.**

**PART I - GENERAL**

NEW SECTION

**WAC 51-40-1101 Section 1101—Scope.**

**1101.1 General.** Buildings or portions of buildings shall be accessible to persons with disabilities as required by this chapter.

Chapter 11 has been amended to comply with the Federal Fair Housing Act (FFHA) Guidelines as published by the U.S. Department of Housing and Urban Development (March 1991) and the Americans With Disabilities Act (ADA) Guidelines as published by the U.S. Architectural and Transportation Barriers Compliance Board and Department of Justice (July 1991).

Reference is made to Appendix Chapter 11 for FFHA and ADA requirements not regulated by this chapter. See Section 101.3.

**1101.2 Design.** The design and construction of accessible building elements shall be in accordance with this chapter. For a building, structure or building element to be considered to be accessible, it shall be designed and constructed to the minimum provisions of this chapter.

**1101.3 Maintenance of Facilities.** Any building, facility, dwelling unit, or site which is constructed or altered to be accessible or adaptable under this chapter shall be maintained accessible and/or adaptable during its occupancy.

**1101.4 Alternate Methods.** The application of Section 104.2.8 to this chapter shall be limited to the extent that alternate methods of construction, designs, or technologies shall provide substantially equivalent or greater accessibility.

**1101.5 Modifications.** Where full compliance with this chapter is impractical due to unique characteristics of the terrain, the building official may grant modifications in accordance with Section 104.2.7, provided that any portion of the building or structure that can be made accessible shall be made accessible to the greatest extent practical.

NEW SECTION

**WAC 51-40-1102 Section 1102—Definitions.**

**Section 1102.** For the purpose of this chapter certain terms are defined as follows:

**ACCESSIBLE** is approachable and usable by persons with disabilities.

**ACCESS AISLE** is an accessible pedestrian space between elements, such as parking spaces, seating, and desks, that provides clearances appropriate for use of the elements.

**ACCESSIBLE EXIT** is an exit, as defined in Section 1101.2, which complies with this chapter and does not contain stairs, steps, or escalators.

**ACCESSIBLE ROUTE OF TRAVEL** is a continuous unobstructed path connecting all accessible elements and spaces in an accessible building or facility that can be negotiated by a person using a wheelchair and that is usable by persons with other disabilities.

**ALTERATION** (See Section 1110).

**ALTERATION, SUBSTANTIAL** (See Section 1110).

**AREA FOR EVACUATION ASSISTANCE** is an accessible space which is protected from fire and smoke and which facilitates egress.

**AUTOMATIC DOOR** is a door equipped with a power-operated mechanism and controls that open and close the

door automatically upon receipt of a momentary actuating signal. The switch that begins the automatic cycle may be a photoelectric device, floor mat, or manual switch (see also, Power-assisted Door).

**CLEAR** is unobstructed.

**CLEAR FLOOR SPACE** is unobstructed floor or ground space (see Section 1106.2).

**COMMON USE AREAS** are rooms, spaces or elements inside or outside a building that are made available for use by occupants of and visitors to the building.

**CROSS SLOPE** is the slope that is perpendicular to the direction of travel.

**CURB RAMP** is a short ramp cutting through or built up to a curb.

**DETECTABLE WARNING** is a standardized surface feature built in or applied to walking surfaces or other elements to warn visually impaired persons of hazards on a circulation path.

**DWELLING UNIT, TYPE A** is an accessible dwelling unit that is designed and constructed in accordance with this chapter to provide greater accessibility than a Type B dwelling unit. (Type A dwelling units constructed in accordance with this Chapter also meet the design standards for Type B dwelling units.)

**DWELLING UNIT, TYPE B** is an accessible dwelling unit that is designed and constructed in accordance with this chapter. (Type B Dwelling Unit Standards are based on the U.S. Department of Housing and Urban Development (HUD) Federal Fair Housing Act Accessibility Guidelines.)

**ELEMENT** is an architectural or mechanical component of a building, facility, space, or site, such as telephones, curb ramps, doors, drinking fountains, seating, or water closets.

**GROUND FLOOR** is any occupiable floor less than one story above or below grade with direct access to grade. A building may have more than one ground floor.

**LANDING** is a level area (except as otherwise provided), within or at the terminus of a stair or ramp.

**MARKED CROSSING** is a crosswalk or other identified path intended for pedestrian use in crossing a vehicular way.

**MULTISTORY DWELLING UNIT** is a dwelling unit with finished living space located on one floor, and the floor or floors immediately above or below it.

**PATH OF TRAVEL** (See Section 1110).

**PERSON WITH DISABILITY** is an individual who has an impairment, including a mobility, sensory, or cognitive impairment, which results in a functional limitation in access to and use of a building or facility.

**POWER-ASSISTED DOOR** is a door used for human passage, with a mechanism that helps to open the door, or relieve the opening resistance of a door, upon the activation of a switch or a continued force applied to the door itself.

**PRIMARY ENTRANCE** is a principal entrance through which most people enter the building. A building may have more than one primary entrance.

**PRIMARY ENTRANCE LEVEL** is the floor or level of the building on which the primary entrance is located.

**PRIMARY FUNCTION** is a major function for which the facility is intended.

**PUBLIC USE AREAS** are those interior or exterior rooms or spaces which are made available to the general public. Public use may be provided at a privately or publicly owned building or facility.

**RAMP** is any walking surface having a running slope exceeding 1 unit vertical in 48 units horizontal.

**SERVICE ENTRANCE** is an entrance intended primarily for delivery of goods or services.

**SINGLE-STORY DWELLING UNIT** is a dwelling unit with all finished living spaces located on one floor.

**SITE** is a parcel of land bounded by a property line or a designated portion of a public right-of-way.

**TACTILE** is an object that can be perceived using the sense of touch.

**TECHNICALLY INFEASIBLE** (See Section 1110).

**TEXT TELEPHONE** is machinery or equipment that employs interactive graphic (e.g., typed) communications through the transmission of coded signals across the standard telephone network. Text telephones include telecommunications display devices or telecommunications devices for the deaf (TDD's), or computers.

**VEHICULAR WAY** is a route intended for vehicular traffic, such as a roadway, driveway, or parking lot, located on a site.

## PART II - NEW CONSTRUCTION

NEW SECTION

**WAC 51-40-1103 Section 1103—Building accessibility.**

**Section 1103.1 Where Required.**

**1103.1.1 General.** Accessibility to temporary or permanent buildings or portions thereof shall be provided for all occupancy classifications except as modified by this chapter. See also Appendix Chapter 11.

EXCEPTIONS:

1. Floors or portions of floors not customarily occupied, including, but not limited to, elevator pits, observation galleries used primarily for security purposes, elevator penthouses, nonoccupiable spaces accessed only by ladders, catwalks, crawl spaces, narrow passageways, or freight elevators, piping and equipment catwalks and machinery, mechanical and electrical equipment rooms.

2. Temporary structures, sites and equipment directly associated with the construction process such as construction site trailers, scaffolding, bridging, or material hoists are not required to be accessible. This exception does not include walkways or pedestrian protection required by Chapter 30.

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**1103.1.2 Group A Occupancies.**

**1103.1.2.1 General.** All Group A Occupancies shall be accessible as provided in this chapter.

EXCEPTION: In the assembly areas of dining and drinking establishments or religious facilities which are located in non-elevator buildings; where the area of mezzanine seating is not more than 25 percent of the total seating, an accessible means of vertical access to the mezzanine is not required, provided that the same services are provided in an accessible space which is not restricted to use only by persons with disabilities. Comparable facilities shall be available in all seating areas.

In banquet rooms or spaces where the head table or speaker's lectern is located on a permanent raised platform, the platform shall be accessible in compliance with Section 1106. Open edges on the raised platform shall be protected by a curb with a height of not less than 2 inches (51 mm).

Stadiums, theaters, auditoriums and similar occupancies shall provide wheelchair spaces in accordance with Table No. 11-A.

Wheelchair spaces shall be accessible and shall be located in places with unobstructed sight lines. Wheelchair spaces shall be reasonably distributed throughout the seating plan and located on an accessible route of travel. At least one companion fixed seat shall be provided next to each wheelchair space. Removable seats shall be permitted in the wheelchair spaces.

In addition, one percent, but not less than one, of all fixed seats shall be aisle seats with no armrests, or shall have removable or folding armrests on the aisle side. Each such seat shall be identified by a sign complying with Section 1106.16.1.1.

An accessible route of travel shall connect wheelchair seating locations with performance areas, including stages, arena floors, dressing rooms, locker rooms, and other spaces used by performers.

**1103.1.2.2 Assistive listening devices.** Assistive listening systems complying with Section 1106.21.2 shall be installed in assembly areas where audible communications are integral to the use of the space including stadiums, theaters, auditoriums, lecture halls, and similar areas; where fixed seats are provided, as follows:

1. Areas with an occupant load of 50 or more.

2. Areas where an audio-amplification system is installed.

Receivers for assistive listening systems shall be provided at a rate of 4 percent of the total number of seats, but in no case fewer than two receivers. In other assembly areas, where permanently installed assistive listening systems are not provided, electrical outlets shall be provided at a rate of not less than 4 percent of the total occupant load.

Signage complying with Section 1106.16.1.3 shall be installed to notify patrons of the availability of the listening system.

**1103.1.3 Group B, F, M and S Occupancies.** All Group B, F, M and S Occupancies shall be accessible as provided in this chapter. Assembly spaces in Group B, F, M and S Occupancies shall comply with Section 1103.1.2.2.

**1103.1.4 Group E Occupancies.** All Group E Occupancies shall be accessible as provided in this chapter. Assembly spaces in Group E Occupancies shall comply with Section 1103.1.2.2.

**1103.1.5 Group H Occupancies.** All Group H Occupancies shall be accessible as provided in this chapter.

**1103.1.6 Group I Occupancies.** All Group I Occupancies shall be accessible in all public use, common use, and employee use areas, and shall have accessible patient rooms, cells, and treatment or examination rooms as follows:

1. In Group I, Division 1.1 patient care units within hospitals which specialize in treating conditions that affect mobility, all patient rooms in each nursing unit including associated toilet rooms and bathrooms.

2. In Group I, Division 1.1 patient care units within hospitals which do not specialize in treating conditions that affect mobility, at least 1 in every 10 patient rooms in each nursing unit, including associated toilet rooms and bathrooms.

3. In Group I, Division 1.1 and Division 2 nursing homes and long-term care facilities, at least 1 in every 2 patient rooms, including associated toilet rooms and bathrooms.

4. In Group I, Division 3 mental health occupancies, at least 1 in every 10 patient rooms, including associated toilet rooms and bathrooms.

5. In Group I, Division 3 jail, prison and similar occupancies, at least 1 in every 100 rooms or cells, including associated toilet rooms and bathrooms.

6. In Group I Occupancies, all treatment and examination rooms shall be accessible.

In Group I Division 1.1 and 2 Occupancies, at least one accessible entrance that complies with Section 1103.2 shall be under shelter. Every such entrance shall include a passenger loading zone which complies with Section 1108.2.

**1103.1.7 Group U Occupancies.** Group U, Division 1 Occupancies shall be accessible as follows:

1. Private garages and carports which contain accessible parking serving Type A dwelling units, accessible hotel and lodging rooms and congregate residences.

2. In Group U, Division 1 agricultural buildings, access need only be provided to paved work areas and areas open to the general public.

**1103.1.8 Group R Occupancies.**

**1103.1.8.1 General.** All Group R Occupancies shall be accessible as provided in this chapter. Public- and common-use areas and facilities such as recreational facilities, laundry facilities, garbage and recycling collection areas, mailbox locations, lobbies, foyers, and management offices shall be accessible.

EXCEPTION: Common- or public-use facilities accessory to buildings not required to contain either Type A or Type B dwelling units in accordance with Section 1103.1.8.2.

**1103.1.8.2 Number of dwelling units.** In all Group R, Division 1 apartment buildings the total number of Type A dwelling units shall be as required by Table No. 11-B. All other dwelling units shall be designed and constructed to the requirements for Type B units as defined in this chapter.

EXCEPTIONS:

1. Group R Occupancies containing no more than three dwelling units need not be accessible.
2. Dwelling units in Group R, Division 1 apartment buildings which are located on floors other than the ground floor where no elevator is provided within the building need not comply with standards for Type B dwelling units; provided:
2.1. Where the ground floor is not a Group R Occupancy, the first level of Group R Occupancy, including dwelling units, shall be accessible; and
2.2. The number of Type A dwelling units provided shall not be reduced below the number required by Table No. 11-B. See also Section 1105.3.1.
3. Dwelling units with two or more stories in a non-elevator building need not comply with standards for Type B dwelling units.
4. For sites where multiple, non-elevator buildings are planned for a single site and where portions of the site have grades prior to development which exceed 10 percent, the building official may approve the following modifications:
4.1. Number of Dwelling Units:
4.1.1. The number of Type B dwelling units provided may be reduced to a percentage of the ground floor units which is equal to the percentage of the entire site having grades prior to development which are 10 percent or less; but in no case shall the number of Type B dwelling units be less than 20 percent of the ground floor dwelling units on the entire site; and
4.1.2. The number of Type A dwelling units provided shall not be reduced below the number required by Table No. 11-B; and
4.2. Both Type A and B dwelling units may be located in the building or buildings located on the portion of the site where the grade prior to development has slopes of 10 percent or less; and
4.3. Common-use facilities accessory to buildings not required to contain either Type A or B dwelling units in accordance with Item 4.1.1, above, need not be accessible unless there are no other similar facilities provided on the site.
See also Appendix Chapter 11, Division I.

**1103.1.8.3 Hotels and lodging houses.** In all hotels and lodging houses, accessible guest rooms, including associated bathing, shower, and toilet facilities, shall be provided in accordance with Table 11-C. In addition, sleeping rooms or suites for persons with hearing impairments shall be provided in accordance with Table 11-D. In addition, public- and common-use areas of all hotels and lodging houses shall be accessible.

EXCEPTION: Group R, Division 3 lodging houses that are occupied by the owner or proprietor of the lodging house.

Required sleeping rooms for persons with hearing impairments shall have visible alarms complying with Section 1106.15. Such rooms shall have installed telephones complying with Section 1106.14.3, and an electrical outlet installed within 48 inches (1220 mm) of the telephone connection. Such rooms shall have devices separate from the visible alarm system which provide visible notification of incoming telephone calls and door bell actuation.

Where provided in accessible guest rooms the following facilities shall be accessible: dining areas; kitchens; kitchenettes; wet bars; patios; balconies; terraces; or similar facilities.

**1103.1.8.4 Proportional distribution.** Accessible dwelling units shall be apportioned among efficiency dwelling units, single bedroom units and multiple bedroom units, in proportion to the numbers of such units in the building. Accessible hotel guest rooms shall be apportioned among the various classes of sleeping accommodations.

**1103.1.8.5 Congregate residences.** In congregate residences with multi-bed rooms or spaces, a percentage equal to the minimum number of accessible rooms required by Table No. 11-C shall be accessible in accordance with Section 1106.26.

EXCEPTION: Congregate residences with 10 or fewer occupants need not be accessible.

**1103.1.9 Other parking facilities.** Principal use parking facilities which are not accessory to the use of any building or structure shall provide accessible spaces in accordance with Table No. 11-F.

**1103.2 Design and Construction.**

**1103.2.1 General.** When accessibility is required by this chapter, it shall be designed and constructed in accordance with this chapter.

**1103.2.2 Accessible route of travel.** When a building, or portion of a building, is required to be accessible, an accessible route of travel shall be provided to all portions of the building, to accessible building entrances, and connecting the building and the public way. The accessible route of travel to areas of primary function may serve but shall not pass through kitchens, storage rooms, toilet rooms, bathrooms, closets, or other similar spaces.

EXCEPTIONS:

1. A single accessible route shall be permitted to pass through a kitchen or storage room in an accessible dwelling unit.
2. An accessible route of travel need not be provided between floor levels, provided that:
All floor levels in the building contain less than 3,000 square feet (278.7 $m^2$) each; or
Where only two floor levels are provided, either floor is less than 3,000 square feet (278.7 $m^2$).
This exception shall not apply to:
2.1. The offices of health care providers; or,
2.2. Transportation facilities and airports; or,
2.3. Buildings owned or leased by government agencies; or
2.4. Multi-tenant Group M retail and wholesale occupancies of five tenant spaces or more.
3. For sites where natural terrain or other unusual property characteristics do not allow the provisions of an accessible route of travel from the public way to the building, the point of vehicular debarkation may be substituted for the accessible entrance to the site.
(For Group R, Division 1 occupancies, see Section 1105.3.1.)

Accessible routes of travel serving any accessible space or element shall also serve as a means of egress for emergencies or connect to an area of evacuation assistance.

Where more than one building or facility is located on a site, accessible routes of travel shall connect accessible buildings and accessible site facilities. The accessible route of travel shall be the most practical direct route connecting accessible building entrances, accessible site facilities and the accessible site entrances.

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**1103.2.3 Primary entrance access.** At least 50% of all public entrances, or a number equal to the number of exits required by Section 1004.2.3, whichever is greater, shall be accessible. One of the accessible public entrances shall be the primary entrance to a building. At least one accessible entrance must be a ground floor entrance. Public entrances do not include loading or service entrances.

EXCEPTION: In Group R, Division 1 apartment buildings only the primary entrance need be accessible, provided that the primary entrance provides an accessible route of travel to all dwelling units required to be accessible.

Where a building is designed not to have common or primary entrances, the primary entrance to each individual dwelling unit required to be accessible, and each individual tenant space, shall be accessible.

**1103.2.4 Signs.**

**1103.2.4.1 International Symbol of Access.** The following elements and spaces of accessible facilities shall be identified by the International Symbol of Access:

1. Accessible parking spaces.

2. Accessible entrance when not all entrances are accessible (inaccessible entrances shall have directional signage to indicate the route to the nearest accessible entrance).

EXCEPTION: Individual entrances into dwelling units.

3. Accessible passenger loading zone(s).

4. Accessible toilet and bathing facilities when not all are accessible.

EXCEPTION: Toilet and bathing facilities within dwelling units, patient rooms and guest rooms.

At every major junction along or leading to an exterior accessible route of travel, there shall be a sign displaying the International Symbol of Access. Signage shall indicate the direction to accessible entrance and facilities.

See also Sections 1103.1.2.1, 1104.2.5 and 1106.24.3.

**1103.2.4.2 Other signs.** Where provided, signs which identify permanent rooms and spaces shall comply with Sections 1106.16.2, 1106.16.3 and 1106.16.5. Where provided, other signs which provide direction to or information about the building or portion of a building shall comply with Sections 1106.16.3 and 1106.16.4.

EXCEPTION: Building directories and all temporary signs.

In hotels and lodging houses, a list of accessible guest rooms shall be posted permanently in a location not visible to the general public, for staff use at each reception or check-in desk.

In assembly areas, a sign notifying the general public of the availability of accessible seating and assistive listening systems shall be provided at ticket offices or similar locations.

NEW SECTION

**WAC 51-40-1104 Section 1104—Egress and areas of evacuation assistance.**

**Section 1104.1 General.** In buildings or portions of buildings required to be accessible, accessible means of egress shall be provided in the same number as required for exits by Chapter 10. When an exit required by Chapter 10 is not accessible, an area for evacuation assistance shall be provided.

EXCEPTION: Areas of evacuation assistance are not required in buildings where an approved, automatic fire-extinguishing system is installed in accordance with U.B.C. Standard No. 9-1, provided that quick-response sprinkler heads are used where allowed by the standard; and that a written fire- and life-safety emergency plan, which specifically addresses the evacuation of persons with disabilities, is approved by the building official and the fire chief.

Every area for evacuation assistance shall comply with the requirements of this code and shall adjoin an accessible route of travel which shall comply with Section 1106.

**1104.2 Areas for Evacuation Assistance.**

**1104.2.1 Location and construction.** An area for evacuation assistance shall be one of the following:

1. A portion of a landing within a smokeproof enclosure, complying with Section 1005.3.3.

2. A portion of an exterior exit balcony, located immediately adjacent to an exit stairway, when the exterior exit balcony complies with Section 1006.3.2. Openings to the interior of the building located within 20 feet (6096 mm) of the area for evacuation assistance shall be protected with fire assemblies having a three-fourths-hour fire-protection rating.

3. A portion of a one-hour fire-resistive corridor complying with Sections 1004.3.4.3, 1004.3.4.3.1 and 1004.3.4.3.2 located immediately adjacent to an exit enclosure.

4. A vestibule located immediately adjacent to an exit enclosure and constructed to the same fire-resistive standards as required by Section 1004.3.4.3, 1004.3.4.3.1 and 1004.3.4.3.2.

5. A portion of a stairway landing within an exit enclosure which is vented to the exterior and is separated from the interior of the building by not less than one-hour fire-resistive door assemblies.

6. When approved by the building official, an area or room which is separated from other portions of the building by a smoke barrier. Smoke barriers shall have a fire-resistive rating of not less than one hour and shall completely enclose the area or room. Doors in the smoke barrier shall be tight-fitting smoke- and draft-control assemblies having a fire-protection rating of not less than 20 minutes and shall be self-closing or automatic closing. The area or room shall be provided with an exit directly to an exit enclosure. When the room or area exits into an exit enclosure which is required to be of more than one-hour fire-resistive construction, the room or area shall have the same fire-resistive construction, including the same opening protection, as required for the adjacent exit enclosure.

7. An elevator lobby complying with Section 1104.4.

**1104.2.2 Size.** Each area for evacuation assistance shall provide at least two wheelchair spaces not smaller than 30 inches by 48 inches (760 mm by 1220 mm) for each space. The area for evacuation assistance shall not encroach on any required exit width. The total number of such wheelchair spaces per story shall not be less than 1 for every 200 persons of calculated occupant load served by the area for evacuation assistance.

EXCEPTION: The building official may reduce the minimum number of 30-inch (760 mm) by 48-inch (1220 mm) areas to one for each area for evacuation assistance on floors where the occupant load is less than 200.

**1104.2.3 Stairway width.** Each stairway adjacent to an area for evacuation assistance shall have a minimum clear width of 48 inches (1220 mm) between handrails.

**1104.2.4 Two-way communication.** A telephone with controlled access to a public telephone system or another method of two-way communication shall be provided between each area for evacuation assistance and the primary entrance. The telephone or other two-way communication system shall be located with the reach ranges specified in Section 1106.2.4. The fire department may approve location other than the primary entrance. The communication system shall not require voice communication.

**1104.2.5 Identification.** Each area for evacuation assistance shall be identified by a sign which states: **AREA FOR EVACUATION ASSISTANCE** and the International Symbol of Access. The sign shall be illuminated when exit sign illumination is required. The sign shall comply with Sections 1003.2.8.4 and 1003.2.8.5. In each area for evacuation assistance, instructions on the use of the area under emergency conditions shall be posted adjoining the two-way communication system.

**1104.3 Accessible Exits.** All exterior exits which are located adjacent to accessible areas and within 6 inches (152 mm) of grade shall be accessible.

**1104.4 Area for Evacuation Assistance, High-Rise Alternative.** Within a building of any height or occupancy, constructed in accordance with the requirements of Section 403, an area for evacuation assistance may be located in the elevator lobby, or adjacent to the elevator where no lobby is required, when:

1. The area for evacuation assistance complies with the requirements for size, two-way communication and identification as specified in Section 1104.2; and,

2. Elevator shafts are pressurized as required for smokeproof enclosures in Section 1005.3.3. Such pressurization system shall be activated by smoke detectors on each floor located in a manner approved by the building official. Pressurization equipment and its ductwork within the building shall be separated from other portions of the building by a minimum of two-hour fire-resistive construction.

3. The manager of the building has established and maintains a written fire- and life-safety emergency plan which, in addition to other provisions, shall specifically address the evacuation of persons with disabilities. Such plan shall be approved by the building official and the fire chief.

NEW SECTION

**WAC 51-40-1105 Section 1105—Facility accessibility.**

**Section 1105.1 General.** Where buildings are required to be accessible, building facilities shall be accessible to persons with disabilities as provided in this section. For Group R, Division 1 apartment buildings, where specific floors of a building are required to be accessible, the requirements shall apply only to the facilities located on accessible floors.

All building facilities or elements required by this section to be accessible shall be designed and constructed in accordance with Section 1106.

**1105.2 Bathing and Toilet Facilities.**

**1105.2.1 Bathing facilities.** When bathing facilities are provided, at least 2 percent, but not less than 1, bathtub or shower shall be accessible. In dwelling units where a separate bathtub and shower are provided in the same room, at least one shall be accessible.

**1105.2.2 Toilet facilities.** Toilet facilities located within accessible dwelling units, guest rooms, and congregate residences shall comply with Sections 1106.11 and 1106.27.

EXCEPTION: Within accessible dwelling units, only one toilet facility need be accessible.

In each toilet facility in other occupancies, at least one wheelchair accessible toilet stall with an accessible water closet shall be provided. In addition, when there are 6 or more water closets within a toilet facility, at least one ambulatory accessible toilet stall complying with Section 1106.11.4 shall also be installed.

Where urinals are provided, at least one urinal shall be accessible.

**1105.2.3 Lavatories, mirrors and towel fixtures.** At least one accessible lavatory shall be provided within any toilet facility. Where mirrors, towel fixtures and other toilet and bathroom accessories are provided, at least one of each shall be accessible.

**1105.2.4 Adaptable fixtures in dwelling units.** See Section 1106.27.2 for adaptable fixtures in dwelling units.

**1105.3 Elevators, Platform Lifts and Stairways.**

**1105.3.1 Elevators.**

**1105.3.1.1 Where required.** In multi-story buildings or portions thereof required to be accessible by Section 1103, at least one elevator shall serve each level, including mezzanines. Other than within an individual dwelling unit, where an elevator is provided but not required, it shall be accessible.

EXCEPTIONS:

1. In Group R, Division 1 apartment occupancies, an elevator is not required where accessible dwelling units and guest rooms are accessible by ramp or by grade level route of travel.

2. In a building of fewer than three stories, an elevator is not required where ramps, grade-level entrances or

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accessible horizontal exits from an adjacent building, are provided to each floor.

3. In multi-story parking garages, an elevator is not required where an accessible route of travel is provided from accessible parking spaces on levels with accessible horizontal connections to the primary building served.

4. In Group R, Division 1 hotels and lodging houses, less than 3 stories in height, an elevator is not required, provided that all accessible guest rooms are located on the ground floor.

**1105.3.1.2 Design.** All elevators shall be accessible.

EXCEPTIONS:

1. Private elevators serving only one dwelling unit.
2. Where more than one elevator is provided in the building, elevators used exclusively for movement of freight.

Elevators required to be accessible shall be designed and constructed to comply with Chapter 296-81 of the Washington Administrative Code.

**1105.3.2 Platform lifts.** Platform lifts may be used in lieu of an elevator under one of the following conditions subject to approval by the building official:

1. To provide an accessible route of travel to a performing area in a Group A Occupancy; or,

2. To provide unobstructed sight lines and distribution for wheelchair viewing positions in Group A Occupancies; or

3. To provide access to spaces with an occupant load of less than 5 that are not open to the public; or,

4. To provide access where existing site or other constraints make use of a ramp or elevator infeasible.

All platform lifts used in lieu of an elevator shall be capable of independent operation and shall comply with Chapter 296-81 of the Washington Administrative Code.

**1105.3.3 Stairways.** Stairways shall comply with Section 1106.9.

**1105.4 Other Building Facilities.**

**1105.4.1 Water fountains.** On any floor where water fountains are provided, at least 50 percent, but in no case less than one fountain, shall be accessible complying with Section 1106.13 and at least one fountain shall be mounted at a standard height.

**1105.4.2 Telephones.** On any floor where public telephones are provided at least one telephone shall be accessible. On any floor where 2 or more banks of multiple telephones are provided, at least one telephone in each bank shall be accessible and at least one telephone per floor shall be designed to allow forward reach complying with Section 1106.2.4.5.

Where any bank of public telephones consists of 3 or more telephones, at least one telephone in each bank shall be equipped with a shelf and electrical outlet complying with Section 1106.14.7.

All accessible telephones and at least 25 percent of all other public telephones, but in no case less than one, shall be provided with volume controls in accordance with Section 1106.14.3 and shall be dispersed among the public telephones provided in the building.

Where four or more public telephones are provided at a building site, and at least one is in an interior location, at least one interior telephone shall be a text telephone in accordance with Section 1106.14.

Where interior public pay phones are provided in transportation facilities; assembly and similar areas including stadiums and arenas; convention centers; hotels with convention facilities; or covered malls; or in or adjacent to hospital emergency, recovery, or waiting rooms; at least one interior text telephone shall be provided.

**1105.4.3 Kitchens.** Kitchens within accessible dwelling units shall be designed in accordance with Sections 1106.12 and 1106.27.

EXCEPTION: Kitchens in Type B dwelling units need not comply with Section 1106.12.1 (See Section 1106.27.1).

Kitchens, kitchenettes, or wet bars in other than dwelling units, which are provided accessory to a sleeping room, guest room, or suite, shall be designed in accordance with Section 1106. Countertops and sinks shall be no more than 34 inches (865 mm) above the finished floor. At least 50 percent of shelf space in cabinets and appliances shall be within the reach ranges of Section 1106.2.4.

**1105.4.4 Recreation facilities.** Where common- or public-use recreational facilities, swimming pools, hot tubs, spas, and similar facilities are provided, they shall be accessible. Swimming pools shall be accessible by transfer tier, hydraulic chair, ramp, or other means. Hot tubs and spas need be accessible only to the edge of the facility.

EXCEPTION: For Group R, Division 1 apartment occupancies, common- or public-use facilities accessory to buildings not required to contain either Type A or Type B dwelling units in accordance with Section 1103.1.8.2.

**1105.4.5 Fixed or built-in seating or tables.** Where fixed or built-in seating or tables are provided, at least 5 percent, but no fewer than one, shall be accessible. Accessible fixed or built-in seating or tables shall comply with Section 1106.19. In eating and drinking establishments, such seating or tables shall be distributed throughout the facility.

**1105.4.6 Storage facilities.** In other than Group R, Division 1 apartment buildings, where fixed or built-in storage facilities such as cabinets, shelves, closets, and drawers are provided in accessible spaces, at least one of each type provided shall contain storage space complying with Section 1106.18.

**1105.4.7 Customer service facilities.**

**1105.4.7.1 Dressing and fitting rooms.** Where dressing or fitting rooms are provided for use by the general public, patients, customers or employees, 5 percent, but not less than one, in each group of rooms serving distinct and different functions shall be accessible in accordance with Section 1106.24.

**1105.4.7.2 Counters and windows.** Where customer sales and service counters or windows are provided, a portion of the counter, or at least one window, shall be accessible in accordance with Section 1106.24.2.

**1105.4.7.3 Shelving and display.** Self-service shelves or display units in retail occupancies shall be located on an

accessible route of travel in accordance with Section 1103.2.2. Not all self-service shelves and display units need be located within reach ranges required by Section 1106.2.4.

**1105.4.7.4 Check-out aisles.** Accessible check-out aisles shall be installed in accordance with Table No. 11-E and Section 1106.24.3.

**1105.4.7.5 Food service lines.** Where self-service shelves are provided in dining and drinking establishments, at least 50 percent of each type shall comply with Sections 1106.2 and 1106.22.

**1105.4.8 Controls, operating mechanisms, and hardware.** Controls, operating mechanisms, and hardware, including; switches that control lighting, ventilation or electrical outlets; in accessible spaces, along accessible routes or as parts of accessible elements, shall comply with Section 1106.3.

**1105.4.9 Alarms.** Where provided, alarm systems shall include both audible and visible alarms. Visible alarm devices shall be located in all assembly areas; common-use areas, including toilet rooms and bathing facilities; hallways and lobbies; and hotel guest rooms as required by Section 1103.1.8.3.

EXCEPTIONS:

1. Alarm systems in Group I, Division 1.1 and 2 Occupancies may be modified to suit standard health care design practice.
2. Visible alarms are not required in Group R, Division 1 apartment buildings.

NEW SECTION

**WAC 51-40-1106 Section 1106—Accessible design and standards.**

**Section 1106.1 General.** Where accessibility is required by this chapter, buildings and facilities shall be designed and constructed in accordance with this section, unless otherwise specified in this chapter.

**1106.2 Space Allowance and Reach Ranges.**

**1106.2.1 Wheelchair passage width.** The minimum clear width for single wheelchair passage shall be 36 inches (915 mm). The minimum width for two wheelchairs to pass is 60 inches (1525 mm).

EXCEPTION: The minimum width for single wheelchair passage may be 32 inches (815 mm) for a maximum distance of 24 inches (610 mm).

**1106.2.2 Wheelchair turning spaces.** Wheelchair turning spaces shall be designed and constructed to satisfy one of the following requirements:

1. A turning space not less than 60 inches (1525 mm) in diameter; or,

2. A turning space at T-shaped intersections or within a room, where the minimum width is not less than 36 inches (915 mm). Each segment of the T shall be clear of obstructions not less than 24 inches (610 mm) in each direction.

Wheelchair turning space may include knee and toe clearance in accordance with Section 1106.2.4.3.

**1106.2.3 Unobstructed floor space.** A floor space, including the vertical space above such floor space, which is free of any physical obstruction including door swings, to a height of 29 inches (737 mm). Where a pair of doors occurs, the swing of the inactive leaf may be considered to be unobstructed floor space. Unobstructed floor space may include toe spaces that are a minimum of 9 inches (230 mm) in height and not more than 6 inches (152 mm) in depth.

**1106.2.4 Clear floor or ground spaces and maneuvering clearance space for wheelchairs.**

**1106.2.4.1 Size.** The minimum clear floor or ground space required to accommodate a single, stationary wheelchair occupant shall be not less than 30 inches (760 mm) by 48 inches (1220 mm).

**1106.2.4.2 Approach.** Wheelchair spaces shall be designed to allow for forward or parallel approach to an accessible feature.

**1106.2.4.3 Knee and toe clearances.** Spaces under obstructions, work surfaces or fixtures may be included in the clear floor or ground space provided that they are at least 30 inches (760 mm) in width, a minimum of 27 inches (685 mm) in height, and not greater than 25 inches (635 mm) in depth. Toe spaces under obstructions, work surfaces or fixtures which comply with the requirements for unobstructed floor space may be included in the clear floor or ground space.

**1106.2.4.4 Approach to wheelchair spaces.** One full unobstructed side of the clear floor or ground space for a wheelchair shall adjoin or overlap an accessible route of travel, or shall adjoin another wheelchair clear space. Clear space located in an alcove or otherwise confined on all or part of three sides shall be not less than 36 inches (915 mm) in width where forward approach is provided, or 60 inches (1525 mm) in width where parallel approach is provided.

**1106.2.4.5 Forward reach.** Where the clear floor space allows only forward approach to an object, the maximum forward reach allowed shall not be higher than 48 inches (1220 mm). Reach obstructions 20 inches (510 mm) or less in depth may project into the clear space provided that knee clearance is maintained in accordance with Section 1106.2.4.3. Reach obstructions greater than 20 inches (510 mm) in depth may project into the clear space provided that the reach obstruction shall not exceed 25 inches (635 mm) in depth and the maximum forward reach shall not exceed 44 inches (1118 mm) in height. The minimum low forward reach shall not be lower than 15 inches (380 mm).

**1106.2.4.6 Side reach.** Where the clear floor space allows parallel approach by a person in a wheelchair, the maximum high side reach allowed shall not be higher than 54 inches (1370 mm). Obstructions no greater than 34 inches (865 mm) in height and no more than 24 inches (610 mm) in depth may be located in the side reach area provided that when such obstructions are present, the side reach shall not exceed 46 inches (1170 mm) in height. The minimum low side reach shall not be lower than 9 inches (230 mm).

**1106.3 Controls and Hardware.**

**1106.3.1 Operation.** Handles, pulls, latches, locks, and other operating devices on doors, windows, cabinets, plumbing fixtures, and storage facilities, shall have a lever or other shape which will permit operation by wrist or arm

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pressure and which does not require tight grasping, pinching or twisting to operate. Doors shall comply with Section 1003.3.1.5.

The force to activate controls on lavatories and water fountains and flush valves on water closets and urinals shall not be greater than 5 pounds (22.2 N).

*Option 1 Modify existing state amendment to require that all operable portions of controls be located within the reach ranges and refer the document user to Chapter 10 for panic hardware requirements:*

**1106.3.2 Mounting heights.** All operable parts of environmental and other controls, dispensers, receptacles, and other operable equipment shall be within at least one of the reach ranges specified in Section 1106.2.4, and not less than 36 inches (915 mm) above the floor. Electrical and communications system receptacles on walls shall be mounted a minimum of 15 inches (380 mm) above the floor. Door hardware shall be mounted at not less than 36 inches (915 mm) and not more than 48 inches (1220 mm) above the floor. Panic hardware shall comply with Section 1003.3.1.9.

*Option 2 Maintain existing state amendment:*

**1106.3.2 Mounting heights.** The highest operable part of environmental and other controls, dispensers, receptacles, and other operable equipment shall be within at least one of the reach ranges specified in Section 1106.2.4, and not less than 36 inches (915 mm) above the floor. Electrical and communications system receptacles on walls shall be mounted a minimum of 15 inches (380 mm) above the floor. Door hardware shall be mounted at not less than 36 inches (915 mm) and not more than 48 inches (1220 mm) above the floor.

**1106.3.3 Clear floor space.** Clear floor space that allows a forward or a side approach shall be provided at all controls or hardware.

**1106.4 Accessible Route of Travel.**

**1106.4.1 Width.** The minimum clear width of an accessible route of travel shall be 36 inches (915 mm) except at doors (see Section 1106.10.2). Where an accessible route includes a 180 degree turn around an obstruction which is less than 48 inches (1220 mm) in width, the clear width of the accessible route of travel around the obstruction shall be 42 inches (1065 mm) minimum. For exterior accessible routes of travel, the minimum clear width shall be 44 inches (1118 mm).

EXCEPTION: The minimum width for single wheelchair passage may be 32 inches (815 mm) for a maximum distance of 24 inches (610 mm).

Where an accessible route of travel is less than 60 inches (1525 mm) in width, passing spaces at least 60 inches (1525 mm) by 60 inches (1525 mm) shall be located at intervals not to exceed 200 feet (61 m). A T-shaped intersection of two corridors or walks may be used as a passing space.

**1106.4.2 Height.** Accessible routes shall have a clear height of not less than 79 inches (2007 mm). Where the vertical clearance of an area adjoining an accessible route of travel is less than 79 inches (2007 mm) but more than 27 inches (685 mm), a continuous permanent barrier shall be installed to prevent traffic into such areas of reduced clearance.

**1106.4.3 Slope.** An accessible route of travel shall have a running slope not greater than 1 vertical in 12 horizontal. An accessible route of travel with a running slope greater than 1 vertical in 20 horizontal shall comply with Section 1106.8. Cross slopes of an accessible route of travel shall not exceed 1 vertical in 48 horizontal.

**1106.4.4 Changes in level.** Changes in level along an accessible route of travel shall comply with Section 1106.6. Stairs or escalators shall not be part of an accessible route of travel. Any raised area within an accessible route of travel shall be cut through to maintain a level route or shall have curb ramps at both sides and a level area not less than 48 inches (1220 mm) long connecting the ramps.

**1106.4.5 Surfaces.**

**1106.4.5.1 General.** All floor and ground surfaces in an accessible route of travel shall comply with Section 1106.7.

**1106.4.5.2 Detectable warnings.** Curb ramps shall have detectable warnings complying with Section 1106.17. Detectable warnings shall extend the full width and depth of the curb ramp.

**1106.4.6 Illumination.** Illumination shall be provided along an exterior accessible route of travel at any time the building is occupied, with an intensity of not less than one footcandle (10.76 lx) on the surface of the route.

**1106.4.7 Curb ramps.**

**1106.4.7.1 Slope.** Slopes of curb ramps shall comply with Section 1106.8. Transitions from ramps to walks, gutters, or vehicular ways shall be flush and free of abrupt changes in height. Maximum slopes of adjoining gutters and road surfaces immediately adjacent to the curb ramp or accessible route of travel shall not exceed 1 vertical in 20 horizontal.

**1106.4.7.2 Width.** Curb ramps shall be not less than 36 inches (915 mm) in width, exclusive of the required side slopes.

**1106.4.7.3 Side slopes of curb ramps.** Curb ramps located where pedestrians must walk across the ramp, or where not protected by handrails or guardrails, shall have sloped sides. The maximum side slope shall be 1 vertical in 10 horizontal. Curb ramps with returned curbs may be used where pedestrians would not normally walk across the ramp.

EXCEPTION: Where the width of the walking surface at the top of the ramp and parallel to the run of the ramp is less than 48 inches (1220 mm), the maximum side slope shall be 1 vertical in 12 horizontal.

**1106.4.7.4 Location.** Built-up curb ramps shall be located so as not to project into vehicular ways nor be located within accessible parking spaces.

**1106.4.7.5 Obstructions.** Curb ramps shall be located or protected to prevent their obstruction by parked vehicles.

**1106.4.7.6 Location at marked cross walks.** Curb ramps at marked cross walks shall be wholly contained within the markings, excluding any sloped sides.

**1106.4.7.7 Orientation.** Curb ramps shall be oriented in the same direction as pedestrian flow of crosswalks; diagonally oriented curb ramps are prohibited.

**1106.4.8 Vehicular areas.** Where an accessible route of travel crosses or adjoins a vehicular way, and where there are no curbs, railings or other elements which separate the pedestrian and vehicular areas, and which are detectable by a person who has a severe vision impairment, the boundary between the areas shall be defined by a continuous detectable warning not less than 36 inches (915 mm) wide, complying with Section 1106.17.

**1106.5 Protruding Objects.** Protruding objects shall not reduce the clear width of a route of travel or maneuvering space. Any wall- or post-mounted object with its leading edge between 27 inches (685 mm) and 79 inches (2007 mm) above the floor may project not more than 4 inches (102 mm) into a route of travel, corridor, passageway, or aisle. Any wall- or post-mounted projection greater than 4 inches (102 mm) shall extend to the floor.

**1106.6 Changes in Level.** Accessible routes of travel and accessible spaces within buildings shall have continuous common floor or ramp surfaces. Abrupt change in height greater than 1/4 inch (6 mm) shall be beveled to 1 vertical in 2 horizontal. Changes in level greater than 1/2 inch (13 mm) shall be accomplished by means of a ramp meeting the requirements of Section 1106.8, a curb ramp meeting the requirements of Section 1106.4.7, or an elevator or platform lift meeting the requirements of Section 1105.3. For Type B dwelling units, see also Section 1106.27.

**1106.7 Floor Coverings and Surface Treatments.**

**1106.7.1 General.** All surfaces shall be firm and stable.

**1106.7.2 Carpeting.** Carpeting and floor mats in accessible areas shall be securely fastened to the underlying surface, and shall provide a firm, stable, continuous, and relatively smooth surface.

**1106.7.3 Slip-resistant surfaces.** Showers; locker rooms; swimming pool, spa, and hot tub decks; toilet rooms; and other areas subject to wet conditions shall have slip-resistant floors.

Exterior accessible routes of travel shall have slip-resistant surfaces.

**1106.7.4 Grates.** Within an accessible route of travel, grates shall have openings not more than 1/2 inch (13 mm) in one direction. Where grates have elongated openings, they shall be placed so that the long dimension is perpendicular to the dominant direction of travel. The maximum vertical surface change shall be 1/8 inch (3 mm).

**1106.7.5 Expansion and construction joints.** Expansion and construction joints in exterior routes of travel shall have a width of not more than 1/2 inch (13 mm), shall be filled with a firm, compressible, elastic material, and shall be substantially level with the surface of the accessible route of travel.

**1106.8 Ramps.**

**1106.8.1 General.** Ramps required to be accessible shall comply with Section 1003.3.4 and the provisions of this section. No ramp shall change direction between landings, except ramps with an inside radius of 30 feet (9144 mm) or greater.

**1106.8.2 Slope and rise.** The maximum slope of a ramp shall be 1 vertical in 12 horizontal. The maximum rise for any run shall be 30 inches (760 mm).

**1106.8.3 Width.** The minimum width of a ramp shall be not less than 36 inches (915 mm) for interior ramps and 44 inches (1118 mm) for exterior ramps.

**1106.8.4 Landings.** Ramps within the accessible route of travel shall have landings at the top and bottom, and at least one intermediate landing shall be provided for each 30 inches (760 mm) of rise. Landings shall be level and have a minimum dimension measured in the direction of ramp run of not less than 60 inches (1525 mm). Where the ramp changes direction at a landing, the landing shall be not less than 60 inches (1525 mm) by 60 inches (1525 mm). The width of any landing shall be not less than the width of the ramp.

**1106.8.5 Handrails.** Ramps having slopes steeper than 1 vertical to 20 horizontal shall have handrails as required for stairways, except that intermediate handrails as required in Section 1003.3.3.6 are not required. Handrails shall be continuous provided that they shall not be required at any point of access along the ramp, nor at any curb ramp. Handrails shall extend at least 12 inches (305 mm) beyond the top and bottom of any ramp run.

EXCEPTION: Ramps having a rise less than or equal to 6 inches (152 mm), or a run less than or equal to 72 inches (1830 mm), need not have handrails.

**1106.8.6 Exterior ramps.** Exposed ramps and their approaches shall be constructed to prevent the accumulation of water on walking surfaces.

**1106.8.7 Edge protection.** Any portion of the edge of a ramp with a slope greater than 1 vertical in 20 horizontal, or landing which is more than 1/2 inch (13 mm) above the adjacent grade or floor, shall be provided with edge protection in accordance with the following:

1. **Walls and Curbs.** When used, walls or curbs shall be not less than 2 inches (51 mm) in height above the surface of the accessible route of travel.

2. **Railings.** When used, railings shall comply with Section 1106.8.5 and also shall have one of the following features:

2.1. An intermediate rail mounted 17 to 19 inches (430 to 485 mm) above the ramp or landing surface, or

2.2. A guardrail complying with Section 509.

**1106.9 Stairways.**

**1106.9.1 General.** Stairways required to be accessible shall comply with Section 1003.3.3 and provisions of this section.

**1106.9.2 Open risers.** Open risers shall not be permitted.

EXCEPTION: Stairways in Group R, Division 1 apartment buildings may have open risers.

**1106.9.3 Nosings.** Stair nosings shall be flush, slip-resistant, and rounded to a radius of 1/2 inch (13 mm) maximum.

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Risers shall be sloped, or the underside of the nosing shall have an angle of not less than 60 degrees from the horizontal. Nosings shall project no more than 1-1/2 inches (38 mm).

**1106.9.4 Exterior stairways.** Exposed stairways and their approaches shall be constructed to prevent the accumulation of water on walking surfaces.

**1106.10 Doors.**

**1106.10.1 General.** Doors required to be accessible shall comply with Section 1003.3.1 and with provisions of this section. For the purpose of this section, gates shall be considered to be doors. An accessible gate or door shall be provided adjacent to any turnstile or revolving door. Where doorways have two independently operated door leaves, then at least one leaf shall comply with this section.

**1106.10.2 Clear width.** Doors shall be capable of being opened so that the clear width of the opening is not less than 32 inches (815 mm).

EXCEPTION: Doors not requiring full user passage, such as shallow closets, may have a clear opening of not less than 20 inches (510 mm).

**1106.10.3 Maneuvering clearances at doors.** Except as provided in Section 1106.27, all doors shall have minimum maneuvering clearances as follows:

1. For a forward approach, where a door must be pulled to be opened, an unobstructed floor space shall extend at least 18 inches (455 mm) beyond the strike jamb and extend at least 60 inches (1525 mm) perpendicular to the doorway.

2. For a forward approach, where a door must be pushed to be opened and is equipped with a closer and a latch, an unobstructed floor space shall extend at least 12 inches (305 mm) beyond the strike jamb and extend at least 48 inches (1220 mm) perpendicular to the doorway.

3. For a forward approach, where a door must be pushed to be opened and is not equipped with a closer and a latch, an unobstructed floor space shall be at least the width of the doorway and extend at least 48 inches (1220 mm) perpendicular to the doorway.

4. For a hinge side approach, where a door must be pulled to be opened, an unobstructed floor space shall extend at least 36 inches (915 mm) beyond the latch side of the door and at least 60 inches (1525 mm) perpendicular to the doorway, or shall have an unobstructed floor space that extends at least 42 inches (1065 mm) beyond the latch side of the door and at least 54 inches (1370 mm) perpendicular to the doorway.

5. For a hinge side approach, where a door must be pushed to be opened and is not equipped with both a closer and a latch, an unobstructed floor space, measured from the latch side, shall extend across the width of the doorway and beyond the hinge side of the door for a total width of not less than 54 inches (1370 mm); and at least 42 inches (1065 mm) perpendicular to the doorway.

6. For a hinge side approach, where a door must be pushed to be opened and is equipped with both latch and closer, an unobstructed floor space, measured from the latch side, shall extend across the width of the doorway and beyond the hinge side of the door for a total width of not less than 54 inches (1370 mm); and at least 48 inches (1220 mm) perpendicular to the doorway.

7. For a latch side approach, where a door must be pulled to be opened and is equipped with a closer, an unobstructed floor space shall extend at least 24 inches (610 mm) beyond the latch side of the door and at least 54 inches (1370 mm) perpendicular to the doorway.

8. For a latch side approach, where a door must be pulled to be opened and is not equipped with a closer, an unobstructed floor space shall extend at least 24 inches (610 mm) beyond the latch side of the door and at least 48 inches (1220 mm) perpendicular to the doorway.

9. For a latch side approach, where a door must be pushed to be opened and is equipped with a closer, an unobstructed floor space shall extend at least 24 inches (610 mm) beyond the latch side of the door and at least 48 inches (1370 mm) perpendicular to the doorway.

10. For a latch side approach, where a door must be pushed to be opened and is not equipped with a closer, an unobstructed floor space shall extend at least 24 inches (610 mm) parallel to the doorway, beyond the latch side of the door and at least 42 inches (1065 mm) perpendicular to the doorway.

11. For a forward approach, to a sliding or folding door, an unobstructed floor space shall extend the same width as the door opening and at least 48 inches (1220 mm) perpendicular to the doorway.

12. For a slide side approach to a sliding or folding door, an unobstructed floor space, measured from the latch side, shall extend across the width of the doorway and beyond the slide side of the door for a total width of not less than 54 inches (1370 mm); and at least 42 inches (1065 mm) perpendicular to the doorway.

13. For a latch side approach to a sliding or folding door, an unobstructed floor space shall extend at least 24 inches (610 mm) beyond the latch side of the door and at least 42 inches (1065 mm) perpendicular to the doorway.

14. Where two doors are in series, the minimum distance between two hinged or pivoted doors shall be 48 inches (1220 mm), in addition to any area needed for door swing. Doors in series shall swing either in the same direction, or away from the space between the doors.

15. All doors in alcoves shall comply with the requirement for a forward approach.

**1106.10.4 Thresholds at doors.** Thresholds at doors shall comply with Section 1106.6.

EXCEPTION: In dwelling units, exterior doors other than the accessible entrance to a dwelling unit, may be sliding doors with thresholds not exceeding 3/4 inch (19 mm).

**1106.10.5 Automatic and power-assisted doors.** Door-closers or power-operators shall be operable as required by Section 1003.3.1.2.

EXCEPTION: Floor pad or electric eye actuated power-operators.

All power-operated doors shall remain in the fully open position for not less than 6 seconds before closing. Touch

switches shall be mounted 36 inches (915 mm) above the floor and not less than 18 inches (455 mm), nor more than 36 inches (915 mm), horizontally from the nearest point of travel of the moving door. Other power-operated doors must be actuated from a location not less than 36 inches (915 mm) from the nearest point of travel of the moving door. Power-operated doors shall automatically reopen when they encounter an obstruction other than the strike jamb.

**1106.10.6 Door closers.** Where provided, door closers shall be adjusted to close from an open position of 70 degrees to a point 3 inches (76 mm) from the latch, in not less than 3 seconds, when measured to the leading edge of the door.

**1106.11 Bathrooms, Toilet Rooms, Bathing Facilities, and Shower Rooms.**

**1106.11.1 General.** Bathrooms, toilet rooms, bathing facilities, and shower rooms shall be designed in accordance with this section. For dwelling units, see also Section 1106.27.

**1106.11.2 Unobstructed floor space.** An unobstructed floor space shall be provided within bathrooms, toilet rooms, bathing facilities, and shower rooms of sufficient size to inscribe a circle with a diameter not less than 60 inches (1525 mm). Doors in any position may encroach into this space by not more than 12 inches (305 mm). The clear floor spaces at fixtures, the accessible route of travel, and the unobstructed floor space may overlap.

**1106.11.3 Wheelchair accessible toilet stalls.**

***Option 1*** *Modify existing state amendment to allow for a narrower approach width for a latch side approach to an accessible toilet stall:*

**1106.11.3.1 Dimensions.** Wheelchair accessible toilet stalls shall be at least 60 inches (1525 mm) in width. Where wall-hung water closets are installed, the depth of the stall shall be not less than 56 inches (1420 mm). Where floor-mounted water closets are installed, the depth of the stall shall be not less than 59 inches (1500 mm). Entry to the compartment shall have a clear width of 32 inches (815 mm). Toilet stall doors shall not swing into the clear floor space required for any fixture. Except for door swing, a clear unobstructed access not less than 42 inches (1065 mm) in width for a latch side approach and 48 inches (1220 mm) in width for all other approaches shall be provided to toilet stalls.

EXCEPTION: Partitions may project not more than one inch (25 mm), in the aggregate, into the required width of the stall.

***Option 2*** *Maintain existing state amendment:*

**1106.11.3.1 Dimensions.** Wheelchair accessible toilet stalls shall be at least 60 inches (1525 mm) in width. Where wall-hung water closets are installed, the depth of the stall shall be not less than 56 inches (1420 mm). Where floor-mounted water closets are installed, the depth of the stall shall be not less than 59 inches (1500 mm). Entry to the compartment shall have a clear width of 32 inches (815 mm). Toilet stall doors shall not swing into the clear floor space required for any fixture. Except for door swing, a clear unobstructed access not less than 48 inches (1220 mm) in width shall be provided to toilet stalls.

EXCEPTION: Partitions may project not more than one inch (25 mm), in the aggregate, into the required width of the stall.

**1106.11.3.2 Toe clearances.** In any toilet stall, the front partition and at least one side partition shall provide a toe clearance of at least 9 inches (230 mm) above the floor.

EXCEPTION: Toe clearance is not required in a stall with a depth greater than 60 inches (1525 mm).

**1106.11.3.3 Door hardware.** Doors of accessible toilet stalls shall comply with Section 1106.3.

**1106.11.4 Ambulatory accessible toilet stalls.** Ambulatory accessible toilet stalls shall be at least 36 inches (915 mm) in width, with an outward swinging, self-closing door. Grab bars shall be installed on each side of the toilet stall and shall comply with Sections 1106.11.5.3 and 1106.11.11.

**1106.11.5 Water closets.**

**1106.11.5.1 Clear floor space.** The lateral distance from the center line of the water closet to the nearest obstruction, excluding grab bars, shall be 18 inches (455 mm) on one side and not less than 42 inches (1065 mm) on the other side. In other than stalls, a clear floor space of not less than 32 inches (815 mm), measured perpendicular to the wall on which the water closet is mounted, shall be provided in front of the water closet.

EXCEPTION: In other than a toilet stall, a lavatory may be located within the clear floor space required for a water closet provided that knee and toe clearances for the lavatory comply with Section 1106.11.7, below, and:
1. In Type B dwelling units the edge of the lavatory shall be located not less than 15 inches (380 mm) from the centerline of the water closet; or,
2. In all other occupancies the edge of the lavatory shall be located not less than 18 inches (455 mm) from the centerline of the water closet.

**1106.11.5.2 Height.** The height of water closets shall be a minimum of 17 inches (430 mm) and a maximum of 19 inches (485 mm) measured to the top of the seat. Seats shall not be sprung to return to a lifted position.

**1106.11.5.3 Grab bars.** Grab bars shall be installed at one side and at the back of the water closet. The top of grab bars shall be not less than 33 inches (840 mm) and not more than 36 inches (915 mm) above and parallel to the floor. Grab bars located at the side shall be a minimum 42 inches (1065 mm) in length located not more than 12 inches (305 mm) from the rear wall and extending at least 54 inches (1370 mm) from the rear wall. Grab bars located at the back shall be a minimum of 36 inches (915 mm) in length and shall extend at least 12 inches (305 mm) beyond the center of the water closet toward the side wall and at least 24 inches (610 mm) toward the open side of the water closet. Grab bars located at the back shall be mounted not more than 9 inches (230 mm) behind the water closet seat. See also Section 1106.11.11.

**1106.11.5.4 Flush controls.** Flush controls shall be mounted for use from the wide side of the water closet area and not more than 44 inches (1118 mm) above the floor. Flush valves shall comply with Section 1106.3.

**1106.11.5.5 Dispensers and receptacles.** Toilet paper and other dispensers or receptacles shall be installed within easy

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reach of the water closet, and shall not interfere with unobstructed floor space or grab bar utilization.

**1106.11.6 Urinals.** A clear floor space measuring 30 inches (760 mm) in width by 48 inches (1220 mm) in depth shall be provided in front of urinals to allow for forward approach. Urinal shields shall have a clear space between them of not less than 29 inches (737 mm) and shall not extend farther than the front edge of the urinal rim. Urinals shall be stall-type or wall-hung with an elongated rim at a maximum of 17 inches (430 mm) above the floor. Flush controls shall be mounted not more than 44 inches (1118 mm) above the floor. Flush valves shall comply with Section 1106.3.

**1106.11.7 Lavatories and sinks.**

**1106.11.7.1 Clear floor space.** A clear floor space not less than 30 inches (760 mm) in width by 48 inches (1220 mm) in depth shall be provided in front of lavatories and sinks to allow a forward approach. The clear floor space may include knee and toe clearances not to exceed 19 inches (485 mm) extending under the lavatory or sink.

**1106.11.7.2 Height.** Lavatories and sinks shall be mounted with the rim or counter surface no higher than 34 inches (865 mm) above the finished floor.

**1106.11.7.3 Knee and toe clearances.**

**1106.11.7.3.1 Lavatories.** The total depth of the clear space beneath a lavatory shall be not less than 17 inches (430 mm), of which toe clearance shall be not more than 6 inches (152 mm) of the total depth. Knee clearance shall be not less than 29 inches (237 mm) in height and 30 inches (760 mm) in width.

**1106.11.7.3.2 Sinks.** Knee clearance not less than 27 inches (685 mm) in height, 30 inches (760 mm) in width, and 19 inches (485 mm) in depth shall be provided underneath sinks.

**1106.11.7.4 Exposed pipes and surfaces.** Hot water and drain pipes exposed under lavatories and sinks shall be insulated or otherwise covered. There shall be no sharp or abrasive surfaces under lavatories or sinks.

**1106.11.7.5 Faucets.** Faucet control handles shall be located not more than 17 inches (430 mm) from the front edge of the lavatory, sink or counter, and shall comply with Section 1106.3. Self-closing valves shall remain open for at least 10 seconds per operation.

**1106.11.7.6 Sink depth.** Sinks shall be not more than 6-1/2 inches (165 mm) in vertical depth.

**1106.11.8 Mirrors, dispensers, and other fixtures.** Mirrors or shelves shall be installed so that the bottom of the mirror or the top of the shelf is within 40 inches (1015 mm) of the floor.

Drying equipment, towel or other dispensers, and disposal fixtures shall be mounted so as to not exceed 40 inches (1015 mm) above the finished floor to any rack, operating controls, receptacle or dispenser.

**1106.11.9 Bathtubs.**

**1106.11.9.1 Clear floor space.** A clear floor space not less than 60 inches (1525 mm) in length shall be provided along the tub. Where the required seat is located at the end of the tub, the clear floor space shall be not less than 75 inches (1905 mm) in length. The clear floor space shall be not less than 30 inches (760 mm) in width where access to the space is parallel to the tub and not less than 48 inches (1220 mm) in width where access to the space is at right angles to the tub.

A lavatory which complies with Section 1106.11.7, above, may be located in the clear floor space for the tub.

Where a seat is provided and a lavatory is located in the clear floor space for the tub, the lavatory shall be located at the end of the tub adjacent to the controls.

**1106.11.9.2 Seats.** An in-tub seat or a seat at the end of the tub shall be provided. In-tub seats shall be portable and removable, not less than 12 inches (305 mm) in width, and extend the full width of the tub. Seats at the end of the tub shall be constructed flush with the top of the tub and shall extend not less than 15 inches (380 mm) from the end of the tub. Seats shall be mounted securely and shall not slip during use.

**1106.11.9.3 Grab bars.** All required grab bars shall be installed parallel to the floor. Lower grab bars shall be installed centered 9 inches (230 mm) above the tub rim. Upper or single grab bars shall be installed centered not less than 33 inches (840 mm) and not more than 36 inches (915 mm) above the floor of the clear space.

Where a tub has a seat at the end, two grab bars not less than 48 inches (1220 mm) in length shall be installed on the wall opposite the clear floor space. One end of each grab bar shall terminate where the tub abuts the seat.

Where a tub has an in-tub seat, two grab bars, not less than 24 inches (610 mm) in length, shall be installed on the wall opposite the clear floor space. The grab bars shall extend to not less than 24 inches (610 mm) from one end of the tub and not less than 12 inches (305 mm) from the other end. One grab bar shall be installed on the wall at the end of the tub opposite the drain, extending at least 12 inches (305 mm) from the clear floor space.

For all bathtubs, one grab bar shall be installed on the wall at the end of the tub nearest the drain, extending at least 24 inches (610 mm) from the clear floor space.

**1106.11.9.4 Controls and fixtures.** Faucets and other controls shall be located above the tub rim and below the grab bars, shall be offset laterally from the clear floor space between the open edge of the tub and the mid-point of the tub and shall comply with Section 1106.3.

A shower spray unit, with a hose at least 60 inches (1525 mm) long, that can be used as a fixed shower head or as a hand-held shower, shall be provided.

**1106.11.9.5 Bathtub enclosures.** Where provided, enclosures for bathtubs shall not obstruct controls or obstruct transfer from wheelchairs onto bathtub seats or into tubs. Bathtub enclosures shall not have tracks mounted on the tub rim.

**1106.11.10 Shower stalls.**

**1106.11.10.1 Configuration.** Shower stalls shall have one of the following configurations:

1. Transfer shower stalls shall be 36 inches by 36 inches (915 by 915 mm), nominal, and shall have a seat; or,

2. Roll-in shower stalls shall be not less than 30 inches (760 mm) in depth by 60 inches (1525 mm) in length.

**1106.11.10.2 Clear floor space.** A clear floor space shall be provided adjacent to shower stalls.

1. For transfer shower stalls, a clear floor space not less than 48 inches (1220 mm) in length, parallel to the open side of the shower stall, and not less than 36 inches (915 mm) in width, perpendicular to the open edge of the shower stall, shall be located so as to extend at least 12 inches (305 mm) beyond the wall on which the seat is mounted.

2. For roll-in shower stalls, a clear floor space not less than 60 inches (1525 mm) in length, parallel to the open edge of the shower stall, and not less than 36 inches (915 mm) in width, perpendicular to the open edge of the shower stall, shall be provided. A lavatory which complies with Section 1106.11.7, above, may be located within one end of the clear floor space. Where a seat is provided in the shower, a lavatory may be located only at the opposite end of the clear space.

**1106.11.10.3 Seats.** Transfer shower stalls shall be provided with a folding or non-folding seat located on the wall opposite the shower controls.

Roll-in shower stalls shall be provided with a folding seat located on the wall adjacent to the shower controls.

EXCEPTION: Roll-in shower stalls located in occupancies other than hotels, lodging houses and congregate residences need not be provided with a seat.

The seat shall be mounted not less than 17 inches (430 mm) and not more than 19 inches (485 mm) above the floor. The seat shall be mounted not more than 1-1/2 inches (38 mm) from the shower walls. The leading edge of the seat may be set back not more than 1-1/2 inches (38 mm) from the leading edge of the shower stall.

The seat shall be L-shaped and shall extend the full depth of the stall. The section of the seat adjacent to the wall opposite the clear floor space shall be at least 22 inches (560 mm) and not more than 23 inches (585 mm) wide, measured from the wall on which the seat is mounted. That section of the seat shall extend not less than 14 inches (355 mm) but not more than 15 inches (380 mm), measured from the wall opposite the clear floor space. The remaining portion of the seat shall be not less than 15 inches (380 mm) and not more than 16 inches (405 mm) wide, measured from the wall on which the seat is mounted, and shall extend the remaining depth of the stall.

**1106.11.10.4 Grab bars.** All required grab bars shall be installed parallel to the floor. All grab bars shall be installed not less than 33 inches (840 mm) and not more than 36 inches (915 mm) above the floor of the adjacent clear space.

For transfer shower stalls, a grab bar, not less than 18 inches (455 mm) in length, shall be installed on the wall opposite the clear floor space. One end of the grab bar shall terminate at the wall opposite the seat. A grab bar not less than 27 inches (685 mm) in length shall also be installed on the wall opposite the seat.

For roll-in shower stalls, grab bars shall be provided on all permanent stall walls. Grab bars located on either end of the stall shall be not less than 27 inches (685 mm) in length. The grab bar located opposite the clear space shall be not less than 48 inches (1220 mm) in length.

**1106.11.10.5 Controls and fixtures.** Faucets and other controls shall be located on the same wall as the shower spray unit, and shall be installed not less than 38 inches (965 mm) or more than 48 inches (1220 mm) above the shower floor and shall comply with Section 1106.3. In addition:

1. For transfer shower stalls, the controls shall be located on the wall opposite the shower seat. The controls shall be located within 18 inches (455 mm) of the open side of the shower stall.

2. For roll-in shower stalls equipped with seats, the controls shall be mounted on the wall adjacent to the seat not more than 27 inches (685 mm) from the wall where the seat is mounted. For roll-in shower stalls without seats, the controls may be located on any wall. Where the controls are located on the back wall, they shall be located not more than 27 inches (685 mm) from a side wall.

A shower spray unit, with a hose at least 60 inches (1525 mm) long, that can be used as a fixed shower head or as a hand-held shower, shall be provided.

EXCEPTION: In unmonitored facilities where vandalism is a consideration, a fixed shower head may be installed not more than 48 inches (1220 mm) above the stall floor.

**1106.11.10.6 Thresholds.** In transfer shower stalls, thresholds shall be flush or beveled with a maximum edge height of 1/2 inch (13 mm), and a maximum slope of not more than 1 vertical in 2 horizontal.

Thresholds in roll-in shower stalls shall be level with the adjacent clear space.

**1106.11.10.7 Shower enclosures.** Where provided, enclosures for shower stalls shall not obstruct controls or obstruct transfer from wheelchairs onto shower seats.

**1106.11.11 Structural requirements for grab bars, and tub and shower seats.**

**1106.11.11.1 General.** All grab bars, and tub and shower seats required to be accessible, shall comply with this section.

**1106.11.11.2 Size and spacing of grab bars.** Grab bars shall have an outside diameter of not less than 1-1/4 inch (32 mm) nor more than 1-1/2 inches (38 mm) and shall provide a clearance of 1-1/2 inches (38 mm) between the grab bar and the wall.

**1106.11.11.3 Structural strength.** The structural strength of grab bars, tub and shower seats, fasteners and mounting devices shall meet the following specification:

1. Bending stress in a grab bar or seat induced by the maximum bending moment from the application of 300

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pounds (1334 N) shall be less than the allowable stress for the material of the grab bar or seat.

2. Shear stress induced in a grab bar or seat by the application of 300 pounds (1334 N) shall be less than the allowable shear stress for the material of the grab bar or seat. If the connection between the grab bar or seat and its mounting bracket or other support is considered to be fully restrained, then direct and torsional shear stresses shall be totaled for the combined shear stress, which shall not exceed the allowable shear stress.

3. Shear force induced in a fastener or mounting device from the application of 300 pounds (1334 N) shall be less than the allowable lateral load of either the fastener or mounting device or the supporting structure, whichever is the smaller allowable load.

4. Tensile force induced in a fastener by a direct tension force of 300 pounds (1334 N) plus the maximum moment from the application of 300 pounds (1334 N) shall be less than the allowable withdrawal load between the fastener and the supporting structure.

**1106.11.11.4 Special hazards.** A grab bar and any wall or other surface adjacent to it shall be free of any sharp or abrasive elements. Edges shall have a minimum radius of 1/8 inch (3 mm).

**1106.12 Kitchens.**

**1106.12.1 Clear floor space.** An unobstructed floor space shall be provided within kitchens of sufficient size to inscribe a circle with a diameter not less than 60 inches (1525 mm). Doors in any position may encroach into this space by not more than 12 inches (305 mm). The clear floor spaces at fixtures, the accessible route of travel, and the unobstructed floor space may overlap.

**1106.12.2 Counter surfaces and shelving.** Within Type A dwelling units, a counter surface, a minimum of 30 inches (760 mm) wide by 24 inches (610 mm) deep, shall be provided at a maximum height of 34 inches (865 mm), with a knee space beneath at least 27 inches (685 mm) in height.

In other than dwelling units, at least 50 percent of shelf space in cabinets, refrigerators and freezers shall be within the reach ranges specified in Section 1106.2.4.

**1106.13 Water Fountains.**

**1106.13.1 Clear floor space.** Wall- and post-mounted cantilevered units shall have a minimum clear floor space in front of the unit, of 30 inches (760 mm) in width by 48 inches (1220 mm) in depth to allow a forward approach.

Free-standing or built-in units not having a clear space beneath them shall have an adjacent clear floor space at least 30 inches (760 mm) in depth by 48 inches (1220 mm) in width in order to allow a person in a wheelchair to make a parallel approach to the unit.

**1106.13.2 Knee space.** Wall- and post-mounted cantilevered units shall have knee space in accordance with Section 1106.2.4.3. The knee space shall be not less than 17 inches (430 mm) nor more than 19 inches (485 mm) in depth.

**1106.13.3 Spout location.** Spouts shall be located not more than 36 inches (915 mm) above the floor or ground surface. Spouts shall be located at the front of the unit and shall direct a water flow not less than 4 inches (102 mm) in height, in a trajectory parallel to the front of the unit. Recessed units shall be installed such that the spout is not recessed beyond the plane of the wall.

**1106.13.4 Controls.** Controls shall be located not more than 6 inches (152 mm) from the front of the unit and shall comply with Section 1106.3. The force required to activate the control shall not exceed 5 pounds (22.2 N).

**1106.13.5 Water fountains in alcoves.** Where a unit is installed in an alcove greater than 8 inches (205 mm) in depth, the alcove shall be not less than 48 inches (1220 mm) in width. A minimum 24 inches (610 mm) of clear space shall be provided from the spout to the nearest side wall of the alcove.

**1106.14 Telephones.**

**1106.14.1 Clear floor or ground space.** A clear floor or ground space, not less than 30 inches (760 mm) by 48 inches (1220 mm), that allows either a forward or parallel approach, shall be provided in front of telephones. Bases, enclosures and fixed seats shall not project into the clear floor space.

Where parallel approach is provided, any shelf or enclosure shall not project farther than 10 inches (255 mm) beyond the face of the telephone.

Where a forward approach is provided, any shelf shall not project farther than 20 inches (510 mm) beyond the face of the telephone; any enclosure panels shall be a minimum 30 inches (760 mm) apart, and where less than 36 inches (915 mm) apart, shall project no more than 24 inches (610 mm) beyond the face of the phone.

**1106.14.2 Height.** The highest operable part of a telephone shall be within the reach ranges specified in Section 1106.2.4.

**1106.14.3 Equipment for persons with hearing impairments.** Telephones shall be equipped with volume controls and shall be hearing aid compatible. Volume controls shall be capable of increasing volume not less than 12 dbA nor more than 18 dbA above normal.

EXCEPTION: Where an automatic reset is provided, 18 dbA may be exceeded.

**1106.14.4 Controls.** Telephones shall have push-button controls where service for such equipment is available.

**1106.14.5 Cord length.** The cord from the telephone to the handset shall be not less than 29 inches (737 mm) in length.

**1106.14.6 Text telephones.** Text telephones shall be permanently affixed within, or adjacent to, the telephone enclosure. Where an acoustic coupler is used, the telephone cord shall be sufficiently long to allow connection of the text telephone and the telephone receiver.

**1106.14.7 Shelf and electrical outlet.** Shelves and an electrical outlet shall be located within or adjacent to the telephone enclosure. The shelf shall be not less than 10 inches by 10 inches (255 mm by 255 mm) in dimension with a vertical clearance above the shelf of not less than 6

inches (152 mm). The telephone handset shall be capable of being placed flush on the surface of the shelf.

**1106.15 Alarms.**

**1106.15.1 Audible alarms.** Audible alarms shall produce a sound in accordance with the Fire Code.

**1106.15.2 Visible alarms.** Visible alarm signal appliances shall be integrated into the building or facility alarm system. Where single-station audible alarms are provided, single-station visible alarm signals shall be provided.

EXCEPTION: Dwelling units in Group R, Division 1 apartment buildings.

Visible alarms shall be located not less than 80 inches (2030 mm) above floor level, or 6 inches (152 mm) below the ceiling, whichever is lower, and at an interval of not more than 50 feet (15 m) horizontal, in rooms, corridors, and hallways.

In rooms or spaces exceeding 100 feet (30 m) in horizontal dimension, with no obstructions exceeding 6 feet (1830 mm) in height above the finished floor, visible alarms may be placed around the perimeter at intervals not to exceed 100 feet (30 m) horizontally.

Visible alarm signals shall comply with the following criteria:

1. The lamp shall be a xenon strobe type or equivalent.

2. The color shall be clear or unfiltered white light.

3. The maximum pulse duration shall be two-tenths of one second (0.2 sec) with a maximum duty cycle of 40 percent. The pulse duration is defined as the time interval between initial and final point of 10 percent of maximum signal.

4. The intensity shall be a minimum of 75 candela.

5. The flash rate shall be a minimum of 1 Hz and a maximum of 3 Hz.

**1106.15.3 Access to manual fire alarm systems.** Manual fire alarm devices shall be mounted not more than 54 inches (1370 mm) above the floor where a parallel approach is provided.

**1106.16 Signage.**

**1106.16.1 Symbols.**

**1106.16.1.1 International Symbol of Access.** The International Symbol of Access shall be as shown below:

**1106.16.1.2 Text telephones.** Text telephones required by Section 1105.4.2 shall be identified by the International Text Telephone Symbol as shown below:

**1106.16.1.3 Assistive listening systems.** Permanently installed assistive listening systems that are required by Section 1103.1.2.2 shall be identified by the International Symbol of Access for Hearing Loss as shown below:

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**1106.16.1.4 Volume control telephones.** Telephones required by Section 1105.4.2 to have volume controls shall be identified by a handset containing a depiction of a telephone handset with radiating sound waves.

**1106.16.2 Mounting location and height.** Signs shall be installed on the wall adjacent to the latch side of the door. Signs shall be centered at 60 inches (1525 mm) above the finished floor. Mounting location for such signage shall be such that a person may approach within 3 inches (76 mm) of signage without encountering protruding objects or standing within the swing of a door.

**1106.16.3 Finish and color.** Characters and symbols shall have a high contrast with their background. The character and background of interior signs shall be eggshell, matte, or other nonglare finish.

All interior and exterior signs depicting the International Symbol of Access shall be white on a blue background.

**1106.16.4 Character proportion and height.** Letters and numbers on signs shall have a width-to-height ratio between 3:5 and 1:1 and a stroke-width-to-height ratio between 1:5 and 1:10.

Characters and numbers on signs shall be sized according to the viewing distance from which they are to be read. The minimum character height for signs that are suspended or projected overhead is 3 inches (76 mm) for upper case letters. Lower case letters are permitted.

**1106.16.5 Raised and Braille characters and pictorial symbol signs (pictograms).**

**1106.16.5.1 Raised characters and symbols.** Characters and symbols on tactile signs shall be raised at least 1/32 inch (.8 mm). Raised characters and symbols shall be simple type face upper case characters. Raised characters and symbols shall be between 5/8 inch (16 mm) and 2 inches (51 mm) in height. Raised characters shall be accompanied by Braille in accordance with this section.

**1106.16.5.2 Braille.** Braille shall be separated from the corresponding raised characters or symbols. Braille shall be Grade 2.

**1106.16.5.3 Pictograms.** Where provided, pictograms shall be accompanied by the equivalent verbal description placed directly below the pictogram. The border dimension of the pictogram shall be not less than 6 inches (152 mm) in height.

**1106.17 Detectable Warnings.** Detectable warnings on walking surfaces shall consist of raised truncated domes having a diameter of 0.9 inches (23 mm) nominal, a height of 0.2 inches (5 mm) nominal, and a center-to-center spacing of 2.35 inches (60 mm) nominal, and shall contrast visually with adjoining surfaces.

**1106.18 Storage, Shelving and Display Units.**

**1106.18.1 Clear floor space.** Storage, shelving and display units shall have a clear floor space, not less than 30 inches (760 mm) by 48 inches (1220 mm), that allows for either a forward or parallel approach.

**1106.18.2 Height.** Accessible storage, shelving and display units shall be within the reach ranges specified in Section 1106.2.4. Clothes rods shall be not more than 54 inches (1370 mm) above the floor.

**1106.19 Seating, Tables, and Sinks.**

**1106.19.1 Clear floor space.** Sinks and seating spaces at tables shall have a clear floor space of not less than 30 inches (760 mm) by 48 inches (1220 mm), that allows forward approach. The clear floor space shall not overlap knee space by more than 19 inches (483 mm).

**1106.19.2 Knee clearances.** Knee spaces at tables, counters, and sinks shall be provided in accordance with Section 1106.2.4.3. In addition, the depth of the knee space shall be not less than 19 inches (483 mm). No projection which might obstruct the arm of a wheelchair may intrude into this clearance, within 24 inches (610 mm) horizontally from the table edge.

**1106.19.3 Height.** The tops of tables and sinks shall be not less than 28 inches (710 mm) nor more than 34 inches (865 mm) in height above the floor or ground.

**1106.20 Aisles.** All aisles required to be accessible, including check out aisles, food service lines, and aisles between fixed tables, shall be not less than 36 inches (915 mm) in width.

**1106.21 Assembly Areas.**

**1106.21.1 Wheelchair spaces.**

**1106.21.1.1 Location.** Wheelchair spaces shall be an integral part of any fixed seating plan and shall be dispersed throughout the seating area. Spaces shall adjoin an accessible route of travel that also serves as a means of egress and shall be located to provide lines of sight comparable to those for all viewing areas.

EXCEPTION: Accessible viewing positions may be clustered for bleachers, balconies and other areas having sight lines that

require slopes of greater than 5 percent. Equivalent accessible viewing positions may be located on levels having accessible egress.

**1106.21.1.2 Size.** Wheelchair spaces shall be not less than 33 inches (840 mm) in width. Where forward or rear approach is provided, wheelchair spaces shall be not less than 48 inches (1220 mm) in depth. Where only side approach is provided, wheelchair spaces shall be not less than 60 inches (1525 mm) in depth.

**1106.21.1.3 Surfaces.** The ground or floor surfaces at wheelchair locations shall be level and shall comply with Section 1106.7.

**1106.21.2 Placement of assistive listening systems.** Where an assistive listening system serves individual fixed seats, such seats shall have a clear line of sight and shall be located not more than 50 feet (15 m) from the stage or performance area.

**1106.22 Restaurants and Cafeterias.**

**1106.22.1 Aisles.** Aisles to fixed tables required to be accessible shall comply with Section 1106.20.

**1106.22.2 Food service lines.**

**1106.22.2.1 Clear floor space.** Food service lines shall comply with Section 1106.20.

**1106.22.2.2 Height.** Tray slides shall be mounted not more than 34 inches (865 mm) in height above the floor.

**1106.22.2.3 Counters and bars.** Where service of food or drink is provided at counters more than 34 inches (865 mm) in height, to customers seated on stools or standing, a portion of the main counter shall be provided in compliance with Section 1106.19, or service shall be available at accessible tables within the same area.

**1106.22.2.4 Tableware and condiment areas.** Self-service shelves and dispensing devices for tableware, dishware, condiments, food, and beverages shall be installed to comply with Section 1106.18.

**1106.23 Patient bedrooms.** Each patient bedroom shall be designed and constructed to provide space for a 180-degree turn that complies with Section 1106.2.2. Each patient room shall have a minimum clear floor space not less than 36 inches (915 mm) on each side of any bed.

**1106.24 Customer Service Facilities.**

**1106.24.1 Dressing and fitting rooms.**

**1106.24.1.1 Clear floor space.** Each dressing and fitting room shall have a clear floor space complying with Section 1106.2.

EXCEPTION: Dressing and fitting rooms that are entered through a curtained opening need not comply with Section 1106.2.2.

**1106.24.1.2 Doors.** All doors to accessible dressing and fitting rooms shall comply with Section 1106.10.

**1106.24.1.3 Benches.** Every accessible dressing or fitting room shall have a bench installed adjacent to the longest wall in the room. The bench shall be not less than 24 inches (610 mm) in width and 48 inches (1220 mm) in length, and shall be mounted not less than 17 inches (430 mm) nor more than 19 inches (483 mm) above the finished floor.

Clear floor space shall be provided adjacent to the bench to allow for parallel transfer, and the structural strength of the bench shall comply with Section 1106.11.11.3.

Where benches are installed in dressing and fitting rooms adjacent to showers, swimming pools, or other wet locations, water shall not accumulate upon the surface of the bench and the bench shall have a slip-resistant surface.

**1106.24.1.4 Mirrors.** Where provided, mirrors in accessible dressing and fitting rooms shall be not less than 18 inches (455 mm) in width by 54 inches (1370 mm) in height and shall be mounted opposite the bench.

**1106.24.2 Counters and windows.** Where counters are required to be accessible, the accessible portion shall be not less than 36 inches (915 mm) in length and not more than 36 inches (915 mm) in height above the finished floor.

Where accessible windows are required, they shall be no more than 36 inches (915 mm) in height above the finished floor.

EXCEPTION: An auxiliary counter with a maximum height of 36 inches (915 mm) is installed in close proximity to the main counter.

**1106.24.3 Check-out aisles.** The width of accessible check-out aisles shall comply with Section 1106.20. Counters in accessible check-out aisles shall be not more than 38 inches (965 mm) in height, and the top of the raised edge of the counter shall not exceed 40 inches (1015 mm) in height above the finished floor.

Accessible check-out aisles shall be identified by the International Symbol of Access in accordance with Section 1106.16.1.1.

**1106.25 Libraries.**

**1106.25.1 Reading and study areas.** At least 5 percent, or a minimum of one, of each element of fixed seating, tables, or study carrels shall comply with Section 1106.19. Clearances between fixed accessible tables and study carrels shall comply with Section 1106.20.

**1106.25.2 Check-out areas.** At least one lane at each check-out area shall comply with Section 1106.20. Any traffic control or book security gates or turnstiles shall comply with Section 1106.10.

**1106.25.3 Card catalogs, magazine displays and stacks.**

**1106.25.3.1 Aisles.** Aisles between card catalogs, magazine displays or stacks shall comply with Section 1106.20.

**1106.25.3.2 Height.** Card catalogs or magazine displays shall have a reach height of not more than 54 inches (1370 mm) for side approach and not more than 48 inches (1220 mm) for forward approach.

Not all shelves in library stacks need be located within reach ranges required by Section 1106.2.4.

**1106.26 Hotels and Congregate Residences.**

**1106.26.1 Clear floor space.** Each sleeping room shall have a space complying with Section 1106.4.1, along both sides of each bed.

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EXCEPTION: In rooms with two beds, only one 36 inch (915 mm) wide maneuvering space need be provided between the two beds.

**1106.26.2 Accessible route of travel.** An accessible route of travel complying with Section 1103.2.2 shall connect all accessible spaces and elements; including telephones, patios, terraces, balconies, carports, garages or parking spaces; with all accessible sleeping rooms.

**1106.26.3 Doors.** Doors within all sleeping rooms, suites or other covered units shall comply with Section 1106.10.

**1106.26.4 Storage.** Where fixed or built-in storage is provided in accessible units, sleeping rooms, or suites; including cabinets, shelves, closets, and drawers; at least one of each type shall comply with Section 1106.18.

**1106.26.5 Controls.** All controls in accessible units, sleeping rooms, and suites shall comply with Section 1106.3.

**1106.27 Dwelling Units.**

**1106.27.1 Type A and B dwelling units.** Type A and B dwelling units shall comply with Section 1106.

EXCEPTIONS:

1. In a Type A accessible dwelling unit with two or more stories, access to other levels is not required if the accessible level complies with all requirements for Type A accessible dwelling units and that kitchen, toilet and bathing facilities, and at least one bedroom are provided on the accessible level.
2. Kitchens in Type B dwelling units need not comply with Section 1106.12.1, provided that:
2.1. A clear space at least 30 inches by 48 inches (760 mm by 1220 mm) that allows parallel approach by a person in a wheelchair is provided at the range or cook top and sink, and either a parallel or forward approach is provided at all other appliances; and,
2.2. In all other kitchens, clearance between all opposing counters, base cabinets, countertops, appliances, and walls shall be not less than 40 inches (1015 mm); and,
2.3. In "U" shaped kitchens with a sink, range, or cooktop at the base of the "U", an unobstructed floor space of sufficient size to inscribe a circle with a diameter of not less than 60 inches (1525 mm) shall be provided.
3. Bathrooms in Type B dwelling units need not comply with Section 1106.11.2, provided that sufficient maneuvering space which is not less than 30 inches by 48 inches (760 by 1220 mm) is provided within the bathroom. Doors may swing into the clear floor space provided at any fixture, but shall not encroach on the required maneuvering space.
4. Doors in Type B dwelling units, other than the primary entry door, need not comply with Section 1106.10.3.
5. Mezzanines in Type A or B dwelling units need not be accessible.
6. Raised or sunken floors in Type B dwelling units need not be accessible, provided that they do not interfere with the accessible route of travel through the unit, and are not located in the kitchen or bathroom.
7. Counter surfaces in Type B dwelling units need not comply with Section 1106.12.2.
8. Within an individual dwelling unit in a building with an elevator, access to other levels is not required if the accessible level complies with all requirements for accessible dwelling units.
9. In Type B dwelling units, exterior deck, patio, or balcony surfaces may be no more than 4 inches (100 mm) below the floor level of the interior surface where the exterior surface is constructed of an impervious material such as concrete, brick, or flagstone.
10. Vanities or lavatories in Type A and B dwelling units may be located in the clear floor spaces as permitted in Section 1106.11.5.1.
11. Seats for bathtubs or showers are not required in Type B dwelling units.
12. In Type B dwelling units, the clear floor space for bathtubs or showers may be reduced to not less than 30 inches (760 mm) in width by 48 inches (1220 mm) in length.

**1106.27.2 Adaptable fixtures for dwelling units.**

**1106.27.2.1 Grab bars.** Grab bars may be omitted in bathing and toilet facilities within Type A or B dwelling units, provided that all structural reinforcements for grab bar installation are provided in the appropriate locations in the adjoining walls.

**1106.27.2.2 Kitchen counters.** Cabinets or shelving may be installed beneath the counter space required by Section 1106.12.2, provided that such cabinetry or shelving is not permanent, and is easily removable.

**1106.27.2.3 Lavatories.** Cabinets or shelving may be installed beneath bathroom lavatories provided that such cabinetry or shelving is not permanent, and is easily removable.

**1106.27.2.4 Signage.** Parking signage required by Section 1107.3 need not be installed in spaces designated for accessible dwelling units.

NEW SECTION

**WAC 51-40-1107 Section 1107—Parking facilities.**

**Section 1107.1 Accessible Parking Required.**

**1107.1.1 General.** For other than Group R, Division 1 apartment buildings, when parking lots or garage facilities are provided, accessible parking spaces shall be provided in accordance with Table No. 11-F.

**1107.1.2 Inpatient and outpatient medical care facilities.** For Group I, Division 1.1, 1.2 and 2 units and facilities specializing in the treatment of persons with mobility impairments on either an inpatient or outpatient basis, 20 percent of the parking spaces provided accessory to such units and facilities shall be accessible.

**1107.1.3 Outpatient medical care facilities.** For Group I, Division 1.1 and 1.2 Occupancies providing outpatient medical care facilities, 10 percent of the parking spaces provided accessory to such occupancies shall be accessible.

**1107.1.4 Apartment buildings.** For Group R, Division 1 apartment buildings where parking is provided, one accessible parking space shall be provided for each Type A dwelling unit and reserved for it's occupants. In addition, where the total parking provided on a site exceeds 1 parking space per dwelling unit, not less than 2 percent, and in no case less than 1 space, of this additional parking shall be accessible.

**1107.1.5 Van parking.** For other than Group R, Division 1 apartment buildings, where accessible parking is required, one of every eight accessible parking spaces, or fraction thereof, shall be designed to be accessible to vans.

**1107.1.6 Location of parking.** Accessible parking spaces shall be located on the shortest possible accessible route of travel to an accessible building entrance. In facilities with

multiple accessible building entrances with adjacent parking, accessible parking spaces shall be dispersed and located near the accessible entrances. Wherever practical, the accessible route of travel shall not cross lanes of vehicular traffic. Where crossing traffic lanes is necessary, the route of travel shall be designated and marked as a crosswalk.

EXCEPTION: In multilevel parking structures, all accessible van parking spaces may be located on the same level.

Where a parking facility is not accessory to a particular building, accessible parking spaces shall be located on the shortest accessible route to an accessible pedestrian entrance to the parking facility.

**1107.2 Design and Construction.**

**1107.2.1 General.** When accessible parking spaces are required by this section, they shall be designed and constructed in accordance with this section.

**1107.2.2 Size.** Parking spaces shall be not less than 96 inches (2440 mm) in width and shall have an adjacent access aisle not less than 60 inches (1525 mm) in width. Van accessible parking spaces shall have an adjacent access aisle not less than 96 inches (2440 mm) in width.

Where two adjacent spaces are provided, the access aisle may be shared between the two spaces. Boundaries of access aisles shall be marked so that the aisles will not be used as parking space.

**1107.2.3 Vertical clearance.** Where accessible parking spaces are required for vans, the vertical clearance shall be not less than 114 inches (2895 mm) at the parking space and along at least one vehicle access route to such spaces from site entrances and exits.

**1107.2.4 Slope.** Accessible parking spaces and access aisles shall be located on a surface with a slope not to exceed 1 vertical in 48 horizontal.

**1107.2.5 Surface.** Parking spaces and access aisles shall be firm, stable, smooth, and slip-resistant.

**1107.3 Signs.** Every parking space required by this section shall be identified by a sign, centered between 3 and 5 feet (915 mm and 1525 mm) above the parking surface, at the head of the parking space. The sign shall include the International Symbol of Access and the phrase "State Disabled Parking Permit Required".

Van accessible parking spaces shall have an additional sign mounted below the International Symbol of Access identifying the spaces as "Van Accessible."

EXCEPTION: Where all of the accessible parking spaces comply with the standards for van accessible parking spaces.

(See also Section 1106.27.2)

NEW SECTION

**WAC 51-40-1108 Section 1108—Passenger loading zones.**

**Section 1108.1 Location.** Where provided, passenger loading zones shall be located on an accessible route of travel.

**1108.2 Design and Construction.**

**1108.2.1 General.** Passenger loading zones shall be designed and constructed in accordance with this section.

**1108.2.2 Size.** Passenger loading zones shall provide an access aisle not less than 60 inches (1525 mm) in width by 20 feet (6 m) in length with the long dimension abutting and parallel to: A: the vehicle space on one side; and B: an accessible route of travel on the other.

**1108.2.3 Slope.** Such zones shall be located on a surface with a slope not exceeding 1 vertical in 48 horizontal.

## PART III - ACCESSIBILITY FOR EXISTING BUILDINGS

NEW SECTION

**WAC 51-40-1109 Section 1109—Scope.**

**Section 1109.1 General.** The provisions of this part apply to renovation, alterations, and additions to existing buildings including those identified as historic buildings. This chapter includes minimum standards for removing architectural barriers, and providing and maintaining accessibility for persons with disabilities to existing buildings and their related facilities.

**1109.2 Equivalent Facilitation.** Departures from specific technical and scoping requirements of this part by the use of alternate methods are permitted where such methods will provide equivalent or greater access to, and usability of, the facility. Alternate methods shall permit individuals with disabilities to approach, enter, and use a site, building, facility or portion thereof; as easily, safely, conveniently, and independently as the specified method.

NEW SECTION

**WAC 51-40-1110 Section 1110—Definitions.**

**Section 1110.** For the purpose of this part, certain terms are designated as follows:

**ALTERATION** is any change, addition, or modification in construction or occupancy.

**ALTERATION, SUBSTANTIAL** is any alteration, where the total cost of all alterations (including but not limited to electrical, mechanical, plumbing, and structural changes) for a building or facility within any 12-month period amounts to 60 percent or more of the appraised value.

**PATH OF TRAVEL** means a continuous, unobstructed way of pedestrian passage by means of which an altered area may be approached, entered, and exited, and which connects the altered area with an exterior approach (including sidewalks, streets, and parking areas), an entry to the facility, and other parts of the facility. For the purposes of this part, the term path of travel also includes restrooms, telephones, and water fountains serving the altered area.

**TECHNICALLY INFEASIBLE** means that an alteration has little likelihood of being accomplished because existing structural conditions would require removing or altering a load-bearing member which is an essential part of the structural frame, or because site constraints prohibit

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modification or addition of elements, spaces, or features which are in full and strict compliance with the minimum requirements for new construction and necessary to provide accessibility.

NEW SECTION

**WAC 51-40-1111 Section 1111—Additions.**

**Section 1111 Additions.** New additions may be made to existing buildings without making the entire building comply, provided the new additions conform to the provisions of Part II of this chapter, except as follows:

1. **Entrances.** Where a new addition to a building or facility does not have an accessible entrance, at least one entrance in the existing building or facility shall be accessible.

2. **Accessible Route.** Where the only accessible entrance to the addition is located in the existing building or facility, at least one accessible route of travel shall be provided through the existing building or facility to all rooms, elements and spaces in the new addition which are required to be accessible.

3. **Toilet and Bathing Facilities.** Where there are no toilet rooms and bathing facilities in an addition and these facilities are provided in the existing building, then at least one toilet and bathing facility in the existing facility shall comply with Section 1106 or with Section 1112.3.7.

4. **Group I Occupancies.** Where patient rooms are added to an existing Group I Occupancy, a percentage of the additional rooms equal to the requirement of Section 1103.1.6, but in no case more than the total number of rooms required by Section 1103.1.6, shall comply with Section 1106.23. Where toilet or bathing facilities are part of the accessible rooms, they shall comply with Section 1106.11.

5. **Path of Travel.** Where an addition affects the access to or use of an area of primary function, to the maximum extent feasible, the path of travel to the area of primary function shall be made accessible.

EXCEPTION: Subject to the approval of the building official, the path of travel need not be made accessible if the cost of compliance with this part would exceed 20 percent of the total cost of construction, inclusive of the cost of eliminating barriers, within a 36-month period.

NEW SECTION

**WAC 51-40-1112 Section 1112—Alterations.**

**Section 1112 Alterations.**

**1112.1 General.**

**1112.1.1 Compliance.** Alterations to existing buildings or facilities shall comply with this section. No alteration shall reduce or have the effect of reducing accessibility or usability of a building, portion of a building, or facility. If compliance with this section is technically infeasible, the alteration shall provide accessibility to the maximum extent feasible.

EXCEPTION: Except when substantial as defined by Section 1110, alterations to Group R, Division 1 apartment buildings need not comply with this section.

**1112.1.2 Existing elements.** Where existing elements, spaces, essential features or common areas are altered, each such altered element, space, feature, or area shall comply with the applicable provisions of Part II of this chapter. Where an alteration is to an area of primary function, to the maximum extent feasible, the path of travel to the altered area shall be made accessible. See also Appendix Chapter 11 Division II.

EXCEPTIONS:

1. An accessible route of travel need not be provided to altered elements, spaces or common areas which are not areas of primary function.
2. Areas of evacuation assistance need not be added to an altered building.
3. Subject to the approval of the building official, the path of travel need not be made accessible if the cost of compliance with this part would exceed 20 percent of the total cost of construction, inclusive of the cost of eliminating barriers, within an 36-month period.

**1112.1.3 Installation of stairs or escalators.** Where an escalator or new stairway is planned or installed requiring major structural changes, then a means of vertical transportation (e.g. elevator, platform lift) shall be provided in accordance with this chapter.

**1112.1.4 Other requirements.**

**1112.1.4.1** Where alterations of single elements, when considered together, amount to an alteration of a room or space in a building or facility, the entire area or space shall be accessible.

**1112.1.4.2** No alteration of an existing element, space or area of a building shall impose a requirement for greater accessibility than that which would be required for new construction.

**1112.1.4.3** Where the alteration work is limited solely to the electrical, mechanical or plumbing system or hazardous materials removal, and does not involve the alteration, structural or otherwise, of any elements and spaces required to be accessible under these standards, Chapter 11 does not apply.

**1112.1.4.4** Where alterations would increase the number of public pay telephones to four, with at least one in the interior, or where the facility has four or more public pay telephones and one or more is altered; at least one interior text telephone shall be provided in accordance with Section 1106.14.

**1112.1.4.5** Where a building has an accessible entrance, altered entrances need not be made accessible unless they provide access to areas of primary function.

**1112.1.4.6** Where sleeping rooms are altered in an existing Group R, Division 1 hotel, at least 1 sleeping room that complies with Section 1106.26 shall be provided for each 25 sleeping rooms or fraction thereof. In addition, at least 1 sleeping room for each 25 sleeping rooms or fraction thereof shall have telephones, visible alarms, and visible notification devices in accordance with Section 1103.1.8.3.

**1112.1.4.7** Where patient bedrooms are altered in an existing Group I Occupancy, a percentage of the altered bedrooms equal to the requirement of Section 1103.1.6, but in no case more than the total number of bedrooms required by Section 1103.1.6, shall comply with Section 1106.23. Where toilet or bathing facilities are part of the accessible rooms, they shall comply with Section 1106.11.

**1112.2 Substantial Alterations.** Where substantial alteration as defined in Section 1110 occurs to a building or facility, the entire building or facility shall comply with Part II of this code.

EXCEPTIONS:

1. Areas of evacuation assistance need not be added to a substantially altered building.
2. Type B Dwelling units need not be provided in buildings which are substantially altered.

**1112.3 Modifications.**

**1112.3.1 General.** The following modifications set forth in this section may be used for compliance where the required standard is technically infeasible or when providing access to historic buildings.

**1112.3.2 Ramps.** Curb ramps and ramps constructed on existing sites, or in existing buildings or facilities, may have slopes and rises greater than specified in Part II of this chapter, where space limitations preclude the use of 1 vertical in 12 horizontal slope or less, provided that:

1. A slope not greater than 1 vertical in 10 horizontal is allowed for a maximum rise of 6 inches (152 mm).

2. A slope not greater than 1 vertical in 8 horizontal is allowed for a maximum rise of 3 inches (76 mm).

3. Slopes greater than 1 vertical in 8 horizontal are prohibited.

**1112.3.3 Stairways.** Full extension of stair handrails is not required when such extension would be hazardous or impossible due to plan configuration. When an accessible elevator is provided, existing stairs need not be made accessible.

**1112.3.4 Elevators.** Elevators shall comply with Chapter 296-81, Washington Administrative Code.

**1112.3.5 Platform lifts.** Upon the approval of the building official, platform lifts may be used in alterations, in locations in addition to those permitted in Part II of this chapter, if installation of an elevator is technically infeasible.

Platform lifts shall comply with Chapter 296-81 of the Washington Administrative Code.

**1112.3.6 Doors.**

**1112.3.6.1 Clearance.** When existing elements prohibit strict compliance with the clearance requirements, a projection of 5/8 inch (16 mm) maximum is permitted for the latch side door stop.

**1112.3.6.2 Thresholds.** Existing thresholds measuring 3/4 inch (19 mm) high or less which are modified to provide a beveled edge on each side, may be retained.

**1112.3.7 Toilet rooms.**

**1112.3.7.1 Shared facilities.** The addition of one unisex toilet facility accessible to all occupants on the floor may be provided in lieu of making existing toilet facilities accessible when it is technically infeasible to comply with either part of Chapter 11. The unisex facility shall be located in the same area as existing facilities.

**1112.3.7.2 Number.** The number of toilet facilities and water closets required by the Building Code may be reduced by one, in order to provide accessible features.

**1112.3.7.3 Signage.** When existing toilet facilities are altered and not all are made accessible, directional signage complying with Section 1106.16.3 and 1106.16.4 shall be provided indicating the location of the nearest accessible toilet facility.

**1112.3.8 Assembly areas.** Seating shall adjoin an accessible route of travel that also serves as a means of emergency egress or route to an area for evacuation assistance. In alterations, accessibility to raised or sunken dining areas, or to all parts of outdoor seating areas is not required provided that the same services and amenities are provided in an accessible space usable by the general public and not restricted to use by people with disabilities.

**1112.3.9 Dressing rooms.** Where it is technically infeasible to meet the requirements of Part II of this chapter, one dressing room for each sex, or a unisex dressing room, on each level shall be accessible.

NEW SECTION

**WAC 51-40-1113 Section 1113—Historic preservation.**

**Section 1113.1 General.** Generally the accessibility provisions of this part shall be applied to historic buildings and facilities as defined in Section 3403.5 of this code.

The building official, after consulting with the appropriate historic preservation officer, shall determine whether provisions required by this part for accessible routes of travel (interior or exterior), ramps, entrances, toilets, parking, or signage would threaten or destroy the historic significance of the building or facility.

If it is determined that any of the accessibility requirements listed above would threaten or destroy the historic significance of a building or facility, the modifications of Section 1112.3 for that feature may be utilized.

**1113.2 Special Provisions.** Where removing architectural barriers or providing accessibility would threaten or destroy the historic significance of a building or facility, the following special provisions may be used:

1. At least one accessible route from a site access point to an accessible route of travel shall be provided.

2. At least one accessible entrance which is used by the public shall be provided.

EXCEPTION: Where it is determined by the building official that no entrance used by the public can comply, access at any accessible entrance which is unlocked during business hours may be used provided directional signs are located at the primary entrance, and the accessible entrance has a notification system. The route of travel for the accessible

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entrance shall not pass through hazardous areas, storage rooms, closets, kitchens or spaces used for similar purposes.

3. Where toilet facilities are provided, at least one toilet facility complying with Section 1111 and 1112 shall be provided along an accessible route. Such toilet facility shall be a shared facility available to both sexes.

4. Accessible routes from an accessible entrance to all publicly used spaces, on at least the level of accessible entrance, shall be provided. Access should be provided to all levels of a building or facility when practical. Displays and written information and documents shall be located where they can be seen by a seated person.

NEW SECTION

**WAC 51-40-1114 Section 1114—Appeal.**

**Section 1114.1 Request for Appeal.** An appeal from the standards for accessibility for existing buildings may be filed with the building official in accordance with Section 105, when existing structural elements or physical constraints of the site prevent full compliance or would threaten or destroy the historical significance of a historic building.

**1114.2 Review.**

**1114.2.1 Consideration of alternative methods.** Review of appeal requests shall include consideration of alternative methods which may provide partial access.

**1114.2.2 Waiver or modification of requirements.** The appeals board may waive or modify the requirements of this section when it is determined that compliance with accessibility requirements would threaten or destroy the historic significance of a building or facility.

NEW SECTION

**WAC 51-40-1191 Table No. 11-A.**

## TABLE NO. 11-B
## REQUIRED TYPE A DWELLING UNITS

| Total Number of Dwelling Units on Site | Required Number of Type A Dwelling Units |
|---|---|
| 0 - 10 | None |
| 11 - 20 | 1 |
| 21 - 40 | 2 |
| 41 - 60 | 3 |
| 61 - 80 | 4 |
| 81 - 100 | 5 |
| For every 20 units or fractional part thereof, over 100 | 1 additional |

NEW SECTION

WAC 51-40-1192 Table No. 11-B.

PROPOSED

## TABLE NO. 11-A
## WHEELCHAIR SPACES REQUIRED IN ASSEMBLY AREAS

| Capacity of Seating in Assembly Area | Number of Required Wheelchair Spaces |
|---|---|
| 4 to 25 | 1 |
| 26 to 50 | 2 |
| 51 to 300 | 4 |
| 301 to 500 | 6 |
| over 500 | 6 plus 1 for each 100 over 500 |

NEW SECTION

WAC 51-40-1193 Table No. 11-C.

## TABLE NO. 11-C
## NUMBER OF ACCESSIBLE ROOMS AND ROLL-IN SHOWERS

| Total Number Of Rooms[1] | Minimum Required Accessible Rooms[1] | Rooms With Roll-In Showers |
|---|---|---|
| 1 - 25 | 1 | None |
| 26 - 50 | 2 | None |
| 51 - 75 | 3 | 1 |
| 76 - 100 | 4 | 1 |
| 101 - 150 | 5 | 2 |
| 151 - 200 | 6 | 2 |
| 201 - 300 | 7 | 3 |
| 301 - 400 | 8 | 4 |
| 401 - 500 | 9 | 4 plus 1 for every 100 rooms or fraction thereof, over 400 |
| 501 - 1000 | 2% of total rooms | |
| Over 1000 | 20 plus 1 for every 100 rooms or fraction thereof, over 1000 | |

1 For congregate residences the numbers in these columns shall apply to beds rather than rooms.

PROPOSED

NEW SECTION

WAC 51-40-1194 Table No. 11-D.

## TABLE NO. 11-D
## NUMBER OF ACCESSIBLE ROOMS FOR PERSONS WITH HEARING IMPAIRMENTS

| Total Number Of Rooms | Minimum Required Rooms |
|---|---|
| 1 - 25 | 1 |
| 26 - 50 | 2 |
| 51 - 75 | 3 |
| 76 - 100 | 4 |
| 101 - 150 | 5 |
| 151 - 200 | 6 |
| 201 - 300 | 7 |
| 301 - 400 | 8 |
| 401 - 500 | 9 |
| 501 - 1000 | 2% of total rooms |
| Over 1000 | 20 plus 1 for every 100 rooms, or fraction thereof, over 1000 |

NEW SECTION

WAC 51-40-1195 Table No. 11-E.

## TABLE NO. 11-E
## REQUIRED CHECK-OUT AISLES

| Total Check-out Aisles Units on Site | Minimum Number of Accessible Check-out Aisles |
|---|---|
| 1 - 4 | 1 |
| 5 - 8 | 2 |
| 9 - 15 | 3 |
| Over 15 | 3 plus 20% of additional aisles |

NEW SECTION

WAC 51-40-1196 Table No. 11-F.

## TABLE NO. 11-F
## NUMBER OF ACCESSIBLE PARKING SPACES

| Total Parking Spaces in Lot or Garage | Minimum Required Number of Accessible Spaces |
|---|---|
| 1 - 25 | 1 |
| 26 - 50 | 2 |
| 51 - 75 | 3 |
| 76 - 100 | 4 |
| 101 - 150 | 5 |
| 151 - 200 | 6 |
| 201 - 300 | 7 |
| 301 - 400 | 8 |
| 401 - 500 | 9 |
| 501 - 1000 | 2% of total spaces |
| Over 1000 | 20 spaces plus 1 space for every 100 spaces, or fraction thereof, over 1000 |

PROPOSED

NEW SECTION

**WAC 51-40-1203 Section 1203—Light and ventilation in Group R occupancies.**

**1203.3 Ventilation.** Guest rooms and habitable rooms within a dwelling unit or congregate residence shall be provided with natural ventilation by means of openable exterior openings with an area of not less than one twentieth of the floor area of such rooms with a minimum of 5 square feet (0.46 $m^2$).

In lieu of required exterior openings for natural ventilation, a mechanical ventilating system may be provided. Such system shall be capable of providing two air changes per hour in guest rooms, dormitories, habitable rooms and in public corridors with a minimum of 15 cubic feet per minute (7 L/s) of outside air per occupant during such time as the building is occupied.

Bathrooms, water closet compartments, laundry rooms and similar rooms shall be provided with natural ventilation by means of openable exterior openings with an area not less than one twentieth of the floor area of such rooms with a minimum of 1 1/2 square feet (0.14 $m^2$).

In lieu of required exterior openings for natural ventilation in bathrooms containing a bathtub or shower or combination thereof, laundry rooms, and similar rooms, a mechanical ventilation system connected directly to the outside capable of providing five air changes per hour shall be provided. The point of discharge shall be at least 3 feet (914 mm) from any opening which allows air entry into occupied portions of the building. Bathrooms which contain only a water closet or lavatory or combination thereof, and similar rooms may be ventilated with an approved mechanical recirculating fan or similar device designed to remove odors from the air.

NEW SECTION

**WAC 51-40-1506 Section 1506—Roof drainage.**

**1506.3 Overflow Drains and Scuppers.** Where roof drains are required, overflow drains having the same size as the roof drains shall be installed with the inlet flow line located 2 inches (51 mm) above the low point of the roof, or overflow scuppers having three times the size of the roof drains and having a minimum opening height of 4 inches (102 mm) may be installed in the adjacent parapet walls with the inlet flow line located 2 inches (51 mm) above the low point of the adjacent roof.

Overflow drains shall discharge to an approved location and shall not be connected to roof drain lines.

EXCEPTION: Storm drain overflows may be connected to the vertical riser for the roof drain.

NEW SECTION

**WAC 51-40-1616 Section 1616—Definitions.**

**EXPOSURE D** represents the most severe exposure in areas with basic wind speeds greater than 80 miles per hour (mph) (129 km/h) and has terrain which is flat and unobstructed facing large bodies of water over one mile (1.61 km) or more in width relative to any quadrant of the building site. Exposure D extends inland from the shoreline 1/4 mile (0.40 km) or 10 times the building height, whichever is greater.

NEW SECTION

**WAC 51-40-1702 Section 1702—Structural observation.**

Structural observation shall be provided in Seismic Zone 3 or 4 when one of the following conditions exists:

1. The structure is defined in Table 16-K as Occupancy Category I, II or III,

2. The structure is required to comply with Section 403,

3. The structure is in Seismic Zone 4, $N_a$ as set forth in Table 16-S is greater than one, and a lateral design is required for the entire structure,

EXCEPTION: One- and two-story Group R, Division 3 and Group U Occupancies and one- and two-story Groups B, F, M and S Occupancies.

4. When so designated by the architect or engineer of record, or

5. When such observation is specifically required by the building official for unusual lateral force-resisting structures or irregular structures as defined in Section 1629.

The owner shall employ the engineer or architect responsible for the structural design, or another engineer or architect designated by the engineer or architect responsible for the structural design, to perform structural observations as defined in Section 220. Observed deficiencies shall be reported in writing to the owner's representative, special inspector, contractor and the building official. The structural observer shall submit to the building official a written statement that the site visits have been made and identifying any reported deficiencies that, to the best of the structural observer's knowledge, have not been resolved.

NEW SECTION

**WAC 51-40-1909 Section 1909—Strength and serviceability requirements.**

**1909.3.4** In *Seismic Zones 3 and 4*, strength-reduction factors shall be as given above except for the following:

**1909.3.4.1** *The shear strength-reduction factor shall be 0.6 for the design of walls, topping slabs used as diaphragms over precast concrete members and structural framing members, with the exception of joints, if their nominal shear strength is less than the shear corresponding to development of their nominal flexural strength. The shear strength-reduction factor for joints shall be 0.85.*

**1909.3.4.2** is not adopted.

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NEW SECTION

## WAC 51-40-23110 Wood structural panel and particleboard shear walls tables.

TABLE 23-II-I-1—ALLOWABLE SHEAR FOR WIND OR SEISMIC FORCES IN POUNDS PER FOOT FOR WOOD STRUCTURAL PANEL SHEAR WALLS WITH FRAMING OF DOUGLAS FIR-LARCH OR SOUTHERN PINE[1,2,3]

| PANEL GRADE | MINIMUM NOMINAL PANEL THICKNESS (inches) × 25.4 for mm | MINIMUM NAIL PENETRATION IN FRAMING (inches) × 25.4 for mm | PANELS APPLIED DIRECTLY TO FRAMING: Nail Size (Common or Galvanized Box)[5] | Nail Spacing at Panel Edges (in.) × 25.4 for mm: 6 | 4 | 3 | 2 (× 0.0146 for N/mm) | PANELS APPLIED OVER 1/2-INCH (13 mm) OR 5/8-INCH (16 mm) GYPSUM SHEATHING: Nail Size (Common or Galvanized Box)[5] | Nail Spacing at Panel Edges (in.) × 25.4 for mm: 6 | 4 | 3 | 2 (× 0.0146 for N/mm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Structural I | 5/16 | 1 1/4 | 6d | 200 | 300 | 390 | 510 | 8d | 200 | 300 | 390 | 510 |
| | 3/8 | 1 1/2 | 8d | 230[4] | 360[4] | 460[4] | 610[4] | 10d | 280 | 430 | 550 | 730 |
| | 7/16 | | | 255[4] | 395[4] | 505[4] | 670[4] | | | | | |
| | 15/32 | | | 280 | 430 | 550 | 730 | | | | | |
| | 15/32 | 1 5/8 | 10d | 340 | 510 | 665 | 870 | — | — | — | — | — |
| C-D, C-C Sheathing, plywood panel siding and other grades covered in UBC Standard 23-2 or 23-3 | 5/16 | 1 1/4 | 6d | 180 | 270 | 350 | 450 | 8d | 180 | 270 | 350 | 450 |
| | 3/8 | | | 200 | 300 | 390 | 510 | | 200 | 300 | 390 | 510 |
| | 3/8 | 1 1/2 | 8d | 220[4] | 320[4] | 410[4] | 530[4] | 10d | 260 | 380 | 490 | 640 |
| | 7/16 | | | 240[4] | 350[4] | 450[4] | 585[4] | | | | | |
| | 15/32 | | | 260 | 380 | 490 | 640 | | | | | |
| | 15/32 | 1 5/8 | 10d | 310 | 460 | 600 | 770 | — | — | — | — | — |
| | 19/32 | | | 340 | 510 | 665 | 870 | | | | | |
| | | | Nail Size (Galvanized Casing) | | | | | Nail Size (Galvanized Casing) | | | | |
| Plywood panel siding in grades covered in UBC Standard 23-2 | 5/16 | 1 1/4 | 6d | 140 | 210 | 275 | 360 | 8d | 140 | 210 | 275 | 360 |
| | 3/8 | 1 1/2 | 8d | 160 | 240 | 310 | 410 | 10d | 160 | 240 | 310 | 410 |

1All panel edges backed with 2-inch (51 mm) nominal or wider framing. Panels installed either horizontally or vertically. Space nails at 6 inches (152 mm) on center along intermediate framing members for 3/8-inch (9.5 mm) and 7/16-inch (11 mm) panels installed on studs spaced 24 inches (610 mm) on center and 12 inches (305 mm) on center for other conditions and panel thicknesses. These values are for short-time loads due to wind or earthquake and must be reduced 25 percent for normal loading. Allowable shear values for nails in framing members of other species set forth in Division III, Part III, shall be calculated for all other grades by multiplying the shear capacities for nails in Structural I by the following factors: 0.82 for species with specific gravity greater than or equal to 0.42 but less than 0.49, and 0.65 for species with a specific gravity less than 0.42.

2Where panels are applied on both faces of a wall and nail spacing is less than 6 inches (152 mm) on center on either side, panel joints shall be offset to fall on different framing members or framing shall be 3-inch (76 mm) nominal or thicker and nails on each side shall be staggered.

3In seismic zone 4, where allowable shear values exceed 350 pounds per foot (5.11 N/mm), foundation sill plates and all framing members receiving edge nailing from abutting panels shall not be less than a single 3-inch (76 mm) nominal member. Nails shall be staggered.

4The values for 3/8-inch (9.5 mm) and 7/16-inch (11 mm) panels applied direct to framing may be increased to values shown for 15/32-inch (12 mm) panels, provided studs are spaced a maximum of 16 inches (406 mm) on center or panels are applied with long dimension across studs.

5Galvanized nails shall be hot-dipped or tumbled.

PROPOSED

TABLE 23-II-I-2—ALLOWABLE SHEAR IN POUNDS PER FOOT FOR PARTICLEBOARD SHEAR WALLS WITH FRAMING OF DOUGLAS FIR-LARCH OR SOUTHERN PINE[1,2,3]

| PANEL GRADE | MINIMUM NOMINAL PANEL THICKNESS (Inches) × 25.4 for mm | MINIMUM NAIL PENETRATION IN FRAMING (inches) × 25.4 for mm | PANELS APPLIED DIRECT TO FRAMING: Nail size (Common or Galvanized Box) | Allowable Shear (pounds per foot)[1] Nail Spacing at Panel Edges (Inches) × 25.4 for mm: .6 | 4 | 3 | 2 (× 0.0146 for N/mm) |
|---|---|---|---|---|---|---|---|
| M-S[4] and M-2[4] | 3/8 | 1 1/2 | 6d | 120 | 180 | 230 | 300 |
| | 3/8 | 1 1/2 | 8d | 130 | 190 | 240 | 315 |
| | 1/2 | | | 140 | 210 | 270 | 350 |
| | 1/2 | 1 5/8 | 10d[5] | 185 | 275 | 360 | 460 |
| | 5/8 | | | 200 | 305 | 395 | 520 |

1All panel edges backed with 2-inch (51 mm) nominal or wider framing. Space nails at 6 inches (152 mm) on center along intermediate framing members for 3/8-inch (9.5 mm) panel installed with the long dimension parallel to studs spaced 24 inches (610 mm) on center and 12 inches (305 mm) on center for other conditions and panel thicknesses. These values are for short-time loads due to wind or earthquake and must be reduced 25 percent for normal loading.

Allowable shear values for nails in framing members of other species set forth in Division III, Part III, shall be calculated for all grades by multiplying the values for common and galvanized box nails by the following factors: Group III, 0.82 and Group IV, 0.65.

2Where particleboard is applied on both faces of a wall and nail spacing is less than 6 inches (152 mm) on center on either side, panel joints shall be offset to fall on different framing members, or framing shall be 3-inch (76 mm) nominal or thicker and nails on each side shall be staggered.

3In seismic zone 4, where allowable shear values exceed 350 pounds per foot (5.11 N/mm) foundation sill plates and all framing members receiving edge nailing from abutting panels shall not be less than a single 3-inch (76 mm) nominal member. Nails shall be staggered.

4Products shall be manufactured with exterior glue and shall be identified with the words "Exterior Glue" following the product grade designation.

5Framing at adjoining panel edges shall be 3-inch (76 mm) nominal or wider and nails shall be staggered where 10d nails having penetration into framing of more than 1 5/8 inches (41 mm) are spaced 3 inches (76 mm) or less on center.

NEW SECTION

**WAC 51-40-2406 Section 2406—Safety glazing.**

**2406.4 Hazardous Locations.** The following shall be considered specific hazardous locations for the purposes of glazing:

1. Glazing in ingress and egress doors except jalousies.

2. Glazing in fixed and sliding panels of sliding door assemblies and panels in swinging doors other than wardrobe doors.

3. Glazing in storm doors.

4. Glazing in all unframed swinging doors.

5. Glazing in doors and enclosures for hot tubs, whirlpools, saunas, steam rooms, bathtubs and showers. Glazing in any portion of a building wall enclosing these compartments where the bottom exposed edge of the glazing is less than 60 inches (1525 mm) above a standing surface and drain inlet.

6. Glazing in fixed or operable panels adjacent to a door where the nearest exposed edge of the glazing is within a 24-inch (610 mm) arc of either vertical edge of the door in a closed position and where the bottom exposed edge of the glazing is less than 60 inches (1525 mm) above the walking surface.

7. Glazing in an individual fixed or operable panel, other than those locations described in Items 5 and 6, that meets all of the following conditions:

7.1 Exposed area of an individual pane greater than 9 square feet (0.84 $m^2$).

7.2 Exposed bottom edge less than 18 inches (457 mm) above the floor.

7.3 Exposed top edge greater than 36 inches (914 mm) above the floor.

7.4 One or more walking surfaces within 36 inches (914 mm) horizontally of the plane of the glazing.

8. Glazing in railings regardless of height above a walking surface. Included are structural baluster panels and nonstructural in-fill panels.

EXCEPTION: The following products and applications are exempt from the requirements for hazardous locations as listed in Items 1 through 8:

1. Glazing in Item 6 when there is an intervening wall or other permanent barrier between the door and the glazing.
2. Glazing in Item 7 when a protective bar is installed on the accessible sides of the glazing 34 inches (864 mm) to 38 inches (965 mm) above the floor. The bar shall be capable of withstanding a horizontal load of 50 pounds per linear foot (729 N/m) without contacting the glass and be a minimum of 11/2 inches (38 mm) in height.
3. Outboard pane in insulating glass units and in other multiple glazed panels in Item 7 when the bottom exposed edge of the glass is 25 feet (7620 mm) or more above any grade, roof, walking surface, or other horizontal or sloped (within 45 degrees of horizontal) surface adjacent to the glass exterior.
4. Openings in door through which a 3-inch-diameter (76.2 mm) sphere will not pass.
5. Assemblies of leaded, faceted or carved glass in Items 1, 2, 6 and 7 when used for decorative purposes.
6. Curved panels in revolving door assemblies.
7. Doors in commercial refrigerated cabinets.
8. Glass block panels complying with Section 2110.

9. Glazing in walls and fences used as the barrier for indoor and outdoor swimming pools and spas when all of the following conditions are present:

9.1 The bottom edge of the glazing is less than 60 inches (1525 mm) above the pool side of the glazing.

9.2 The glazing is within 5 feet (1525 mm) of a swimming pool or spa water's edge.

10. Glazing in walls at stairway landings within the width of the stair and within 5 feet (1525 mm) beyond the bottom and top of flights of stairs, where the bottom edge of the glazing is less than 60 inches (1525 mm) above a walking surface.

NEW SECTION

**WAC 51-40-2900 Chapter 29—Plumbing systems.**

***Option 1:***

**SECTION 2901—PLUMBING CODE.**

Plumbing systems shall comply with the Plumbing Code.

**SECTION 2902—NUMBER OF FIXTURES.**

**2902.1 General.** The number of plumbing fixtures within a building shall not be less than set forth in Section 2902 and Table 29-A.

**2902.1.1 Within a Building.** For the purpose of this chapter two or more buildings on the same property may be considered as portions of one building if the aggregate area of such buildings is within the limits specified in Section 504 for a single building.

**2902.1.2 Access.** Access to toilet rooms serving multiple tenants shall be through a common use area and not through an area controlled by a separate tenant.

**2902.2 Group A Occupancies.** In Group A Occupancies at least one drinking fountain shall be provided at each floor level in an approved location.

EXCEPTION: A drinking fountain need not be provided in a drinking or dining establishment.

For other requirements on plumbing fixtures see Sections 807, 2903, 2904, and Table 29-A.

**2902.3 Group B, F, H, M and S Occupancies.** In Groups B, F, H, M, and S Occupancies, buildings or portions thereof where persons are employed shall be provided with at least one water closet. Separate facilities shall be provided for each sex when the number of employees exceeds four. Such toilet facilities shall be located in such building or conveniently in a building adjacent thereto on the same property.

Such water closet rooms in connection with food establishments where food is prepared, stored or served shall have a nonabsorbent interior finish as specified in Section 807.1, shall have hand washing facilities therein or adjacent thereto, and shall be separated from food preparation or storage rooms as specified in Section 302.6.

For other requirements on plumbing fixtures, see Sections 807, 2903, 2904 and Table 29-A.

**2902.4 Group E Occupancies.** The number of plumbing fixtures within a building shall not be less than set forth in Table 29-A.

For other requirements on plumbing fixtures, see Sections 807, 2903 and 2904.

**2902.5 Group I Occupancies.** The number of plumbing fixtures within a building shall not be less than set forth in Table 29-A.

For other requirements on plumbing fixtures see Sections 807, 2903 and 2904.

**2902.6 Group R Occupancies.** The number of plumbing fixtures within a building shall not be less than set forth in Table 29-A.

Dwelling units shall be provided with a kitchen equipped with a kitchen sink.

Each sink, lavatory and either a bathtub or shower shall be equipped with hot and cold running water necessary for its normal operation.

For other requirements on plumbing fixtures see Sections 807, 2903 and 2904.

**SECTION 2903—ACCESSIBILITY**

For accessibility requirements for all plumbing fixtures see Chapter 11.

**SECTION 2904—PLUMBING FIXTURES**

**2904.1 Water closet space requirements.** The water closet stool in all occupancies shall be located in a clear space not less than 30 inches (762 mm) in width. The clear space in front of the water closet stool shall not be less than 24 inches (610 mm).

**2904.2 Drinking Fountains.** Drinking fountains shall not be installed in toilet rooms.

**2904.3 Finishes.** See Section 807 for wall and floor finishes.

***Option 2:***

**SECTION 2901—PLUMBING CODE.**

Plumbing systems shall comply with the Plumbing Code.

**SECTION 2902—GENERAL**

**2902.1 Number of Fixtures.**

**2902.1.1 Requirements.** Plumbing fixtures shall be provided in the minimum number shown in Table 29-A and in this Chapter. Where the proposed occupancy is not listed in Table 29-A, the building official shall determine fixture requirements based on the occupancy which most nearly resembles the intended occupancy.

**2902.1.2 Private offices.** Fixtures only accessible to private offices shall not be counted to determine compliance with this section.

**2902.1.3 Occupancy load distribution.** The occupant load shall be divided equally between the sexes, unless data approved by the building official indicates a different distribution of the sexes.

PROPOSED

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**2902.1.4 Food preparation areas.** In food preparation, serving and related storage areas, additional fixture requirements may be dictated by health codes.

**2902.1.5 Other requirements.** For other requirements for plumbing facilities, see Sections 302.6, 807, 313.5.5 and Chapter 11.

**2902.2 Access to Fixtures.**

**2902.2.1 Location.** Plumbing fixtures shall be located in each building or conveniently in a building adjacent thereto on the same property.

**2902.2.2 Multiple tenants.** Access to toilets serving multiple tenants shall be through a common use area and not through an area controlled by a tenant.

**2902.2.3 Multi-story buildings.** Required fixtures shall not be located more than one vertical story above or below the area served.

**2902.3 Separate Facilities.**

**2902.3.1 Requirements.** Separate toilet facilities shall be provided for each sex.

EXCEPTIONS:

1. In occupancies serving 10 or fewer persons, one toilet facility designed for use by no more than one person at a time shall be permitted for use by both sexes.
2. In Group B and M Occupancies with a total floor area of 1500 square feet (139.5 $m^2$) or less, one toilet facility designed for use by no more than one person at a time shall be permitted for use by both sexes.

**2902.3.2 Food service establishments.** When customers and employees share the same facilities, customers accessing the facilities are excluded from food preparation and storage areas.

**2902.4 Pay Facilities.** Required facilities shall be free of charge. Where pay facilities are installed, they shall be in addition to the minimum required facilities.

**2902.5 is not adopted.**

**2902.6 is not adopted.**

**SECTION 2903—SPECIAL PROVISIONS**

**2903.1 Dwelling Units.** Dwelling units shall be provided with a kitchen sink.

**2903.2 Water Closet Space Requirements.** The water closet stool in all occupancies shall be located in a clear space not less than 30 inches (762 mm) in width, with a clear space in front of the stool of not less than 24 inches (610 mm).

**2903.3 Water.** Each required sink, lavatory, bathtub and shower stall shall be equipped with hot and cold running water necessary for its normal operation.

**2903.4 Drinking Fountains.**

**2903.4.1 Number.** Occupant loads over 30 shall have one drinking fountain for the first 150 occupants, then one per each additional 500 occupants.

EXCEPTIONS:

1. Sporting facilities with concessions serving drinks shall have one drinking fountain for each 1000 occupants.
2. A drinking fountain need not be provided in a drinking or dining establishment.

**2904.2 Multi-story buildings.** Drinking fountains shall be provided on each floor having more than 30 occupants in schools, dormitories, auditoriums, theaters, offices and public buildings.

**2903.4.3 Penal Institutions.** Penal institutions shall have one drinking fountain on each cell block floor and one on each exercise floor.

**2903.4.4 Location.** Drinking fountains shall not be located in toilet rooms.

**SECTION 2904 is not adopted.**

NEW SECTION

**WAC 51-40-2929 Table 29-A—Minimum plumbing fixtures.**

TABLE 29-A – MINIMUM PLUMBING FIXTURES [1,2,4,6]

| TYPE OF BUILDING OR OCCUPANCY | WATER CLOSETS (fixtures per person) MALE[3] | FEMALE | LAVATORIES[5] (fixtures per person) MALE | FEMALE | BATHTUB OR SHOWER (fixtures per person) |
|---|---|---|---|---|---|
| For the occupancies listed below, use 30 square feet (2.79 m²) per occupant for the minimum number of plumbing fixtures. | | | | | |
| **Group A**<br>Conference rooms, dining rooms, drinking establishments, exhibit rooms, gymnasiums, lounges, stages and similar uses including restaurants classified as Group B Occupancies | 1:1-25<br>2:26-75<br>3:76-125<br>4:126-200<br>5:201-300<br>6:301-400<br>Over 400, add one fixture for each additional 200 males or 150 females. | 1:1-25<br>2:26-75<br>3:76-125<br>4:126-200<br>5:201-300<br>6:301-400 | one per 2 water closets | | |
| For the assembly occupancies listed below, use the number of fixed seating or, where no fixed seating is provided, use 15 square feet (1.39 m²) per occupant for the minimum number of plumbing fixtures. | | | | | |
| Assembly places –<br>Theaters, auditoriums, convention halls, dance floors, lodge rooms, casinos, and such places which have limited time for fixture use (intermissions) | 1:1-100<br>2:101-200<br>3:201-400<br>Over 400, add one fixture for each additional 250 males or 50 females. | One per 25 up to 400 | 1:1-200<br>2:201-400<br>3:401-750<br>Over 750, add one fixture for each additional 500 persons. | 1:1-200<br>2:201-400<br>3:401-750 | |

TABLE 29-A – MINIMUM PLUMBING FIXTURES [1,2,4,6] (continued)

| TYPE OF BUILDING OR OCCUPANCY | WATER CLOSETS (fixtures per person) MALE[3] | FEMALE | LAVATORIES[5] (fixtures per person) MALE | FEMALE | BATHTUB OR SHOWER (fixtures per person) |
|---|---|---|---|---|---|
| For the assembly occupancies listed below, use the number of fixed seating or, where no fixed seating is provided, use 15 square feet (1.39 m²) per occupant for the minimum number of plumbing fixtures. | | | | | |
| **Group A**<br>Assembly places –<br>Stadiums, arena and other sporting facilities where fixture use is not limited to intermissions. | 1:1-100<br>2:101-200<br>3:201-400<br>Over 400, add one fixture for each additional 300 males or 100 females. | One per 50 up to 400 | 1:1-200<br>2:201-400<br>3:401-750<br>Over 750, add one fixture for each additional 500 persons. | 1:1-200<br>2:201-400<br>3:401-750 | |
| For the assembly occupancies listed below, use the number of fixed seating or, where no fixed seating is provided, use 30 square feet (2.79 m²) per occupant for the minimum number of plumbing fixtures. | | | | | |
| Worship places<br>Principal assembly area | one per 150 | one per 75 | one per 2 water closets | | |
| Worship places<br>Educational and activity unit | one per 125 | one per 75 | one per 2 water closets | | |
| For the occupancies listed below, use 200 square feet (18.58 m²) per occupant for the minimum number of plumbing fixtures | | | | | |
| **Group B**<br>and other clerical or administrative employee accessory use | 1:1-15<br>2:16-35<br>3:36-55<br>Over 55, add one for each additional 50 persons. | 1:1-15<br>2:16-35<br>3:36-55 | one per 2 water closets | | |

PROPOSED

TABLE 29-A – MINIMUM PLUMBING FIXTURES [1,2,4,6] (continued)

| TYPE OF BUILDING OR OCCUPANCY | WATER CLOSETS (fixtures per person) MALE[3] | FEMALE | LAVATORIES[5] (fixtures per person) MALE | FEMALE | BATHTUB OR SHOWER (fixtures per person) |
|---|---|---|---|---|---|
| For the occupancies listed below, use 100 square feet ( 9.3 m²) per student for the minimum number of plumbing fixtures. | | | | | |
| **Group E**<br>Schools -- for staff use<br>All schools<br>(One staff per 20 students) | 1:1-15<br>2:16-35<br>3:36-55<br>Over 55, add one fixture for each additional 40 persons. | 1:1-15<br>2:16-35<br>3:36-55 | one per two water closets | | |
| Schools -- for student use<br>Day care | 1:1-20<br>2:21-50<br>Over 50, add one fixture for each additional 50 persons. | 1:1-20<br>2:21-50 | 1:1-20<br>2:21-50<br>Over 50, add one fixture for each additional 50 persons. | 1:1-20<br>2:21-50 | |
| Elementary | one per 30 | one per 25 | one per two water closets | | |
| Secondary | one per 40 | one per 30 | one per two water closets | | |
| For the occupancies listed below, use 50 square feet (4.65 m²) per occupant for the minimum number of plumbing fixtures. | | | | | |
| **Education Facilities other than Group E**<br>Others (colleges, universities, adult centers, etc.) | one per 40 | one per 25 | one per two water closets | | |
| For the occupancies listed below, use 2,000 square feet (185.8 m²) per occupant for the minimum number of plumbing fixtures. | | | | | |
| **Group F and Group H**<br>Workshop, foundries and similar establishments, and hazardous occupancies | 1:1-10<br>2:11-25<br>3:26-50<br>4:51-75<br>5:76-100<br>Over 100, add one fixture for each additional 30 persons. | 1:1-10<br>2:11-25<br>3:26-50<br>4:51-75<br>5:76-100 | one per two water closets | | one shower for each 15 persons exposed to excessive heat or to skin contamination with irritating materials |

## TABLE 29-A -- MINIMUM PLUMBING FIXTURES [1,2,4,6] (continued)

| TYPE OF BUILDING OR OCCUPANCY | WATER CLOSETS (fixtures per person) MALE[3] | FEMALE | LAVATORIES[5] (fixtures per person) MALE | FEMALE | BATHTUB OR SHOWER (fixtures per person) |
|---|---|---|---|---|---|
| For the occupancies listed below, use the designated application and 200 square feet (18.58 m²) per occupant of the general use area for the minimum number of plumbing fixtures. | | | | | |
| Group I [7] | | | | | |
| Hospital waiting rooms | one per room (usable by either sex) | | one per room | | |
| Hospital general use areas | 1:1-15<br>2:16-35<br>3:36-55<br>Over 55, add one fixture for each additional 40 persons. | 1:1-15<br>3:16-35<br>4:36-55 | one per two water closets | | |
| Hospital patient rooms: | | | | | |
| Single Bed | one adjacent to and directly accessible from | | one per toilet room | | one per toilet room |
| Isolation | one adjacent to and directly accessible from | | one per toilet room | | one per toilet room |
| Multi-Bed | one per four patients | | one per four patients | | one per eight patients |
| Long-term | one per four patients | | one per four patients | | one per 15 patients |
| Jails and reformatories | | | | | |
| Cell | one per cell | | one per cell | | |
| Exercise room | one per exercise room | | one per exercise room | | |
| Other institutions (on each occupied floor) | one per 25 | one per 25 | one per two water closets | | one per eight |
| Group LC For Group LC Occupancies, the minimum number of plumbing fixtures is specified in Section 313.5.5. | | | | | |
| For the occupancies listed below, use 200 square feet (18.58 m²) per occupant for the minimum number of plumbing fixtures. | | | | | |
| Group M | | | | | |
| Retail or wholesale stores | 1:1-50<br>2:51-100<br>3:101-400<br>Over 400, add one fixture for each additional 300 males or 150 females. | 1:1-50<br>2:51-100<br>3:101-200<br>4:201-300<br>5:301-400 | one per two water closets | | |

PROPOSED

TABLE 29-A – MINIMUM PLUMBING FIXTURES [1,2,4,6] (continued)

| TYPE OF BUILDING OR OCCUPANCY | WATER CLOSETS (fixtures per person) MALE[3] | FEMALE | LAVATORIES[5] (fixtures per person) MALE | FEMALE | BATHTUB OR SHOWER (fixtures per person) |
|---|---|---|---|---|---|
| For Group R Occupancies, dwelling units and hotel guest rooms, use the table below. For Group R, Division 1 congregate residences, use 200 square feet (18.58 m²) for Group R, Division 1 Occupancies and 300 square feet (27.87 m²) per occupant for the minimum plumbing fixtures. | | | | | |
| **Group R**<br>Dwelling units<br>Hotel guest rooms | one per dwelling unit<br>one per guest room | | one per dwelling unit<br>one per guest room | | one per dwelling unit<br>one per guest room |
| Congregate residences | one per 10<br>Over 10, add one fixture for each additional 25 males and over 8, add one for each additional 20 females. | one per 8 | one per 12<br>over 12, add one fixture for each additional 20 males and one for each additional 15 females. | one per 12 | one per eight<br>For females, add one additional unit per each additional 30. Over 150 persons, add one additional unit per each additional 20 persons. |
| For the occupancies listed below, use 5,000 square feet (464.5 m²) per occupant for the minimum number of plumbing fixtures. | | | | | |
| **Group S**<br>Warehouses | 1:1-10<br>2:11-25<br>3:26-50<br>4:51-75<br>5:76-100<br>Over 100, add one for each 30 persons. | 1:1-10<br>2:11-25<br>3:26-50<br>4:51-75<br>5:76-100 | One per 40 occupants of each sex. | | one shower for each 15 persons exposed to excessive heat or to skin contamination with poisonous, infectious or irritating materials. |

[1]The figures shown are based on one fixture being the minimum required for the number of persons indicated or any fraction thereof.
[2]For occupancies not shown, see Section 2902.1.1.
[3]Where urinals are provided, one water closet less than the number specified may be provided for each urinal installed, except the number of water closets in such cases shall not be reduced to less than one quarter (25%) of the minimum specified. For men's facilities serving 26 or more persons, not less than one urinal shall be provided.
[4]For drinking fountains, see Section 2903.4.
[5]Twenty-four inches (610 mm) of wash sink or 18 inches (457 mm) of a circular basin, when provided with water outlets for such space, shall be considered equivalent to one lavatory.
[6]For when a facility may be usable by either sex, see Section 2902.3.1.
[7]See WAC 246-318-690 for definitions, other fixtures and equipment for hospitals.

NEW SECTION

**WAC 51-40-3102 Section 3102—Chimneys, fireplaces and barbecues.**

**3102.5.4 Emission Standards for Factory-built Fireplaces.** After January 1, 1997, no new or used factory-built fireplace shall be installed in Washington State unless it is certified and labeled in accordance with procedures and criteria specified in the UBC Standard 31-2.

To certify an entire fireplace model line, the internal assembly shall be tested to determine its particulate matter emission performance. Retesting and recertifying is required if the design and construction specifications of the fireplace model line internal assembly change. Testing for certification shall be performed by a Washington State Department of Ecology (DOE) approved and U. S. Environmental Protection Agency (EPA) accredited laboratory.

**3102.7.14 Emission Standards for Certified Masonry and Concrete Fireplaces.** After January 1, 1997, new certified masonry or concrete fireplaces installed in Washington State shall be tested and labeled in accordance with procedures and criteria specified in the UBC Standard 31-2.

To certify an entire fireplace model line, the internal assembly shall be tested to determine its particulate matter emission performance. Retesting and recertifying is required if the design and construction specifications of the fireplace model line internal assembly change. Testing for certification shall be performed by a Washington State Department of Ecology (DOE) approved and U. S. Environmental Protection Agency (EPA) accredited laboratory.

NEW SECTION

**WAC 51-40-31200 Section 31-2—Standard test method for particulate emissions from fireplaces.**

**UNIFORM BUILDING CODE STANDARD 31-2**
**STANDARD TEST METHOD FOR PARTICULATE EMISSIONS FROM FIREPLACES**

**See Sections 3102.5.4 and 3102.7.14, *Uniform Building Code***

**SECTION 31.200—TITLE and SCOPE.**

**SECTION 31.200.1—TITLE.**

This Appendix Chapter 31-2 shall be known as the "Washington State Standard Test Method for Particulate

Emissions from Fireplaces" and may be cited as such; and will be referred to herein as "this Standard".

**SECTION 31.200.2—SCOPE.**

This Standard covers emissions performance, approval/certification procedures, test laboratory accreditation, record keeping, reporting requirements, and the test protocol for measuring particulate emissions from fireplaces.

All testing, reporting and inspection requirements of this Standard shall be conducted by a Washington State Department of Ecology (DOE) approved testing laboratory. In order to qualify for DOE approval, the test laboratory must be a U. S. Environmental Protection Agency (EPA) accredited laboratory (40 CFR Part 60, Subpart AAA). DOE may approve a test laboratory upon submittal of the following information:

1. A copy of their U. S. EPA accreditation certificate; and
2. A description of their facilities, test equipment, and test-personnel qualifications including education and work experience.

DOE may revoke a test laboratory approval when the test laboratory is no longer accredited by the U. S. EPA or if DOE determines that the test laboratory does not adhere to the testing requirements of this Chapter.

**SECTION 31.201—DEFINITIONS.** For the purpose of this Standard certain terms are defined as follows:

**ANALYZER CALIBRATION ERROR** is the difference between the gas concentration exhibited by the gas analyzer and the known concentration of the calibration gas when the calibration gas is introduced directly to the analyzer.

**BURN RATE** is the average rate at which test-fuel is consumed in a fireplace measured in kilograms of wood (dry basis) per hour (kg/hr) during a test-burn.

**CALIBRATION DRIFT** is the difference in the analyzer reading from the initial calibration response at a mid-range calibration value after a stated period of operation during which no unscheduled maintenance, repair, or adjustment took place.

**CALIBRATION GAS** is a known concentration of Carbon Dioxide ($CO_2$), Carbon Monoxide (CO), or Oxygen ($O_2$) in Nitrogen ($N_2$).

**CERTIFICATION or AUDIT TEST** is the completion of at least one, three-fuel-load test-burn cycle in accordance with Section 31.202.

**FIREBOX** is the chamber in the fireplace in which a test-fuel charge(s) is placed and combusted.

**FIREPLACE** is a wood burning device which is exempt from U. S. EPA 40 CFR Part 60, Subpart AAA and:

1. is not a cookstove, boiler, furnace, or pellet stove as defined in 40 CFR Part 60, Subpart AAA, and
2. is not a masonry heater as defined in Section 31.201, and
3. see Section 3102, Uniform Building Code for definitions of masonry and factory-built fireplaces as used in this Standard.

**FIREPLACE DESIGN** is the construction and/or fabrication specifications including all dimensions and materials required for manufacturing or building fireplaces with identical combustion function and particulate emissions factors.

**FIREPLACE MODEL LINE** is a series of fireplace models which all have the same internal assembly. Each model in a model line may have different facade designs and external decorative features.

**FIREPLACE, CERTIFIED**, is a fireplace that meets the emission performance standards when tested according to UBC Standard 31-2.

**FIREPLACE, NON-CERTIFIED**, (masonry or concrete) is any fireplace that is not a certified fireplace. A non-certified fireplace will be subject to applicable burn ban restrictions.

**INTERNAL ASSEMBLY** is the core construction and firebox design which produces the same function and emissions factor for a fireplace model line.

**MASONRY HEATER** is a heating system of predominantly masonry construction having a mass of at least 800 kg (1760 lbs), excluding the chimney and foundation, which is designed to absorb a substantial portion of the heat energy from a rapidly-burned charge of solid fuel by:

a) routing of exhaust gases through internal heat exchange channels in which the flow path downstream of the firebox includes at least one 180 degree change in flow direction, usually downward, before entering the chimney, and

b) being constructed of sufficient mass such that under normal operating conditions the external surface of the heater, except in the region immediately surrounding the fuel loading door(s), does not exceed 110°C (230°F).

Masonry heaters shall be listed or installed in accordance with ASTME-1602.

**RESPONSE TIME** is the amount of time required for the measurement system to display 95 percent of a step change in gas concentration.

**SAMPLING SYSTEM BIAS** is the difference between the gas concentrations exhibited by the analyzer when a known concentration gas is introduced at the outlet of the sampling probe and when the sample gas is introduced directly to the analyzer.

**SPAN** is the upper limit of the gas concentration measurement range (25 percent for $CO_2$, $O_2$, and 5 percent for CO).

**TEST FACILITY** is the area in which the fireplace is installed, operated, and sampled for emissions.

**TEST FUEL LOADING DENSITY** is the weight of the as-fired test-fuel charge per unit area of usable firebox floor (or hearth).

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**TEST-BURN** is an individual emission test which encompasses the time required to consume the mass of three consecutively burned test-fuel charges.

**TEST-FUEL CHARGE** is the collection of test fuel pieces placed in the fireplace at the start of certification test.

**USABLE FIREBOX AREA** is the floor (or hearth) area, within the fire chamber of a fireplace upon which a fire may be, or is intended to be built. Usable firebox area is calculated using the following definitions:

1. Length. The longest horizontal fire chamber dimension along the floor of the firebox that is parallel to a wall of the fire chamber.

2. Width. The shortest horizontal fire chamber dimension along the floor of the firebox that is parallel to a wall of the fire chamber.

3. For angled or curved firebox walls and/or sides, the effective usable firebox area shall be determined by calculating the sum of standard geometric areas or sub-areas of the firebox floor.

If a fireplace has a floor area within the fire chamber which is larger than the area upon which it is intended that fuel be placed and burned, the usable firebox area shall be calculated as the sum of standard geometric areas or sub-areas of the area intended for fuel placement and burning. For fireplace grates which elevate the fuel above the firebox floor, usable firebox area determined in this manner shall be multiplied by a factor of 1.5. The weight of test-fuel charges for fireplace-grate usable-firebox-area tests, shall not exceed the weight of test-fuel charges determined for the entire fireplace floor area.

**ZERO DRIFT** is the difference in the analyzer reading from the initial calibration response at the zero concentration level after a stated period of operation during which no unscheduled maintenance, repair, or adjustment took place.

**Section 31.202—Testing.**

**31.202.1 Applicability.** This method is applicable for the certification and auditing of fireplace particulate emission factors. This method describes the test facility, fireplace installation requirements, test-fuel charges, and fireplace operation as well as procedures for determining burn rates and particulate emission factors.

**31.202.2 Principle.** Particulate matter emissions are measured from a fireplace burning prepared test-fuel charges in a test facility maintained at a set of prescribed conditions.

**31.202.3 Test Apparatus.**

**31.202.3.1 Fireplace Temperature Monitors.** Device(s) capable of measuring flue-gas temperature to within 1.5 percent of expected absolute temperatures.

**31.202.3.2 Test Facility Temperature Monitor.** A thermocouple located centrally in a vertically oriented pipe shield 6 inches (150 mm) long, 2 inches (50 mm) diameter that is open at both ends, capable of measuring air temperature to within 1.5 percent of expected absolute temperatures.

**31.202.3.3 Balance.** Balance capable of weighing the test-fuel charge(s) to within 0.1 lb (0.05 kg).

**31.202.3.4 Moisture Meter.** Calibrated electrical resistance meter for measuring test-fuel moisture to within 1 percent moisture content (dry basis).

**31.202.3.5 Anemometer.** Device capable of detecting air velocities less than 20 ft/min (0.10 m/sec), for measuring air velocities near the fireplace being tested.

**31.202.3.6 Barometer.** Mercury, aneroid or other barometer capable of measuring atmospheric pressure to within 0.1 inch Hg (2.5 mm Hg).

**31.202.3.7 Draft Gauge.** Electromanometer or other device for the determination of flue draft (i.e., static pressure) readable to within 0.002 inches of water column (0.50 Pa).

**31.202.3.8 Combustion Gas Analyzer.** Combustion gas analyzers for measuring Carbon Dioxide ($CO_2$), Carbon Monoxide (CO), and Oxygen ($O_2$) in the fireplace exhaust-gas stream must meet all of the following measurement system performance specifications:

1. **Analyzer Calibration Error.** Shall be less than ± 2 percent of the span value for the zero, mid-range, and high-range calibration gases.

2. **Sampling System Bias.** Shall be less than ± 5 percent of the span value for the zero, mid-range, and high-range calibration gases.

3. **Zero Drift.** Shall be less than ± 3 percent of the span over the period of each run.

4. **Calibration Drift.** Shall be less than ± 3 percent of the span value over the period of each run.

5. **Response Time.** Shall be less than 1.5 minutes.

**31.202.4 Emissions Sampling Method.** Use the emission sampler system (ESS) as described in Section 31.203.12 or an equivalent method as determined by the application of the U. S. EPA Method 301 Validation Procedure (Federal Register, December 12, 1992, Volume 57, Number 250, page 11998) and upon approval of DOE.

**31.202.5 Fireplace Installation and Test Facility Requirements.** The fireplace being tested must be constructed, if site-built, or installed, if manufactured, in accordance with the designer's/manufacturer's written instructions. The chimney shall have a total vertical height above the base of the fire chamber of not less than 15 feet (4 600 mm). The fireplace chimney exit to the atmosphere must be freely communicating with the fireplace combustion makeup-air source. There shall be no artificial atmospheric pressure differential imposed between the chimney exit to the atmosphere and the fireplace makeup-air inlet.

**31.202.6 Fireplace Aging and Curing.** A fireplace of any type shall be aged before certification testing begins. The aging procedure shall be conducted and documented by the testing laboratory.

**31.202.6.1 Catalyst-Equipped Fireplaces.** Operate the catalyst-equipped fireplace using fuel described in Section 31.203. Operate the fireplace with a new catalytic combustor in place and in operation for at least 50 hours. Record and report hourly catalyst exit temperatures, the hours of operation, and the weight of all fuel used.

**31.202.6.2 Non-Catalyst-Equipped Fireplaces**. Operate the fireplace using the fuel described in Section 31.203 for at least 10 hours. Record and report the hours of operation and weight of all fuel used.

**31.202.7 Pretest Preparation**. Record the test-fuel charge dimensions, moisture content, weights, and fireplace (and catalyst if equipped) descriptions.

The fireplace description shall include photographs showing all externally observable features and drawings showing all internal and external dimensions needed for fabrication and/or construction. The drawings must be verified as representing the fireplace being tested and signed by an authorized representative of the testing laboratory.

**31.202.8 Test Facility Conditions**. Locate the test facility temperature monitor on the horizontal plane that includes the primary air intake opening for the fireplace. Locate the temperature monitor 3 to 6 feet (1 000 to 2 000 mm) from the front of the fireplace in the 90° sector in front of the fireplace. Test facility temperatures shall be maintained between 65° and 90°F (18° and 32°C). Use an anemometer to measure the air velocity. Measure and record the room-air velocity within 2 feet (600 mm) of the test fireplace before test initiation and once immediately following the test-burn completion. Air velocity shall be less than 50 feet/minute (250 mm/second) without the fireplace operating.

**Section 31.203—Test protocol.**

**31.203.1 Test Fuel**. Fuel shall be air dried Douglas fir dimensional lumber or cordwood without naturally associated bark. Fuel pieces shall not be less than 1/2 nor more than 5/6 of the length of the average fire chamber width. Fuel shall be split or cut into pieces with no cross-sectional dimension greater than 6 inches (152 mm). Spacers, if used, shall not exceed 3/4 inches (19 mm) in thickness and 15 percent of the test-fuel charge weight. Fuel moisture shall be in the range of 16 to 20 percent (wet basis) or 19 to 25 percent (dry basis) meter reading.

**31.203.2 Test-Fuel Loading Density**. The wet (with moisture) minimum weight of each test-fuel charge shall be calculated by multiplying the hearth area in square feet by 7.0 pounds per square foot (square meters x 0.30 kg/m$^2$) (± 10 percent). Three test-fuel charges shall be prepared for each test-burn.

**31.203.3 Kindling**. The initial test-fuel charge of the three test-fuel charge test-burn shall be started by using a kindling-fuel charge which is up to 50 percent of the first test-fuel charge weight. Kindling-fuel pieces can be any size needed to start the fire or whatever is recommended in the manufacturer's (builder's) instructions to consumers. The kindling-fuel charge weight is not part of the initial test-fuel charge weight but is in addition to it.

**31.203.4 Test-Burn Ignition**. The fire can be started with or without paper. If used, the weight of the paper must be included in test-fuel charge weight. The remainder of the test-fuel charge may be added at any time after kindling ignition except that the entire first test-fuel charge must be added within 10 minutes after the start of the test (i.e., the time at which the flue-gas temperature at the 8-foot (2 440 mm) level is over 25°F (14°C) greater than the ambient temperature of the test facility).

**31.203.5 Test Initiation**. Emissions and flue-gas sampling are initiated immediately after the kindling has been ignited and when flue-gas temperatures in the center of the flue at an elevation of 8 feet (2 440 mm) above the base (floor) of the fire chamber reach 25°F (14°C) greater than the ambient temperature of the test facility.

**31.203.6 Sampling Parameters**. Sampling (from the 8-foot [2 440 mm] flue-gas temperature measurement location) must include:

1. Particulate Emissions
2. Carbon Dioxide ($CO_2$)[1]
3. Carbon Monoxide (CO)[1]
4. Oxygen ($O_2$)[1]
5. Temperature(s)

[1] These gases shall be measured on-line (real-time) and recorded at a frequency of not less than once every 5 minutes. These 5-minute readings are to be arithmetically averaged over the test-burn series or alternatively, a gas bag sample can be taken at a constant sample rate over the entire test-burn series and analyzed for the required gases within one hour of the end of the test-burn.

If a fireplace is equipped with an emissions control device which is located downstream from the 8-foot (2 440 mm) flue-gas temperature measurement location, a second temperature, particulate, and gaseous emissions sampling location must be located downstream from the emissions control device but not less than 4 flue diameters upstream from the flue exit to the atmosphere. The two sampling locations must be sampled simultaneously during testing for each fireplace configuration being tested.

**31.203.7 Test-Fuel Additions and Test Completion**. The second and third test-fuel charges for a test-burn may be placed and burned in the fire chamber at any time deemed reasonable by the operator or when recommended by the manufacturer's and/or builder's instructions to consumers.

No additional kindling may be added after the start of a test-burn series and the flue-gas temperature at the 8-foot (2 440 mm) level above the base of the hearth must always be 25°F (14°C) greater than the ambient temperature of the test facility for a valid test-burn series. Each entire test-fuel charge must be added within 10 minutes from the addition of the first piece.

A test (i.e., a three test-fuel charge test-burn series) is completed and all sampling and measurements are stopped when all three test-fuel charges have been consumed (to more than 90 percent by weight) in the firebox and the 8-foot (2 440 mm) level flue-gas temperature drops below 25°F (14°C) greater than the ambient temperature of the test facility. Within 5 minutes after the test-burn is completed and all measurements and sampling has stopped, the remaining coals and/or unburned fuel, shall be extinguished with a carbon dioxide fire extinguisher. All of the remaining coals, unburned fuel, and ash shall be removed from the firebox and weighed to the nearest 0.1 pound (0.05 kg). The weight of these unburned materials and ash shall be subtracted from the total test-burn fuel weight when calculating the test-burn burn rate. A test-burn is invalid if less than 90 percent of

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the weight of the total test-fuel charges plus the kindling weight have been consumed in the fireplace firebox.

**31.203.8 Test-Fuel Charge (Load) Adjustments.** Test-fuel charges may be adjusted (i.e., repositioned) once during the burning of each test-fuel charge. The time used to make this adjustment shall be less than 15 seconds.

**31.203.9 Air Supply Adjustment.** Air supply controls, if the fireplace is equipped with controls, may not be adjusted during any test-burn series after the first 10 minutes of startup of each fuel load. All air supply settings must be set to the lowest level at the start of a test and shall remain at the lowest setting throughout a test-burn.

**31.203.10 Auxiliary Fireplace Equipment Operation.** Heat exchange blowers (standard or optional) sold with the fireplace shall be operated during all test-burns following the manufacturer's written instructions. If no manufacturer's written instructions are available, operate the heat exchange blower in the "high" position. (Automatically operated blowers shall be operated as designed.) Shaker grates, by-pass controls, afterburners, or other auxiliary equipment may be adjusted only once per test-fuel charge following the manufacturer's written instructions. Record and report all adjustments on a fireplace operational written-record.

**31.203.11 Fireplace Configurations.** One, 3 test-fuel charge test-burn shall be conducted for each of the following fireplace operating configurations:

1. Door(s) closed, with hearth grate;
2. Door(s) open, with hearth grate;
3. Door(s) closed, without hearth grate;
4. Door(s) open, without hearth grate; and
5. With no doors, and draft inducer on.

No test-burn series is necessary for any configuration the appliance design cannot or is not intended to accommodate. If a configuration is not tested, the reason must be submitted with the test report and the appliance label must state that the appliance cannot be used in that configuration by consumer users.

One emission factor result, or one emission factor average, as provided in paragraph 31.203.11.2, from each fireplace configuration tested shall be compiled into an arithmetic average of all the configurations tested for determining compliance with the requirements of paragraph 31.204.2.

**31.203.11.1 Closed-Door(s) Testing.** For all closed-door test configurations, the door(s) must be closed within 10 minutes from the addition of the first test-fuel piece of each test-fuel charge in a test-burn. During a test-burn, the door(s) cannot be re-opened except during test-fuel reload and adjustment as referenced in Sections 31.203.7 and 31.203.8.

**31.203.11.2 Additional Test-Burn.** The testing laboratory may conduct more than one test-burn series for each of the applicable configurations specified in Section 31.203.11. If more than one test-burn is conducted for a specified configuration, the results from at least 2/3 of the test-burns for that configuration shall be used in calculating the arithmetic average emission factor for that configuration. The measurement data and results of all tests conducted shall be reported regardless of which values are used in calculating the average emission factor for that configuration.

**31.203.12 Emissions Sampling System (ESS).**

**31.203.12.1 Principle.** Figure 31-2-1 shows a schematic of an ESS for sampling solid-fuel-fired fireplace emissions. Except as specified in Section 31.202.4, an ESS in this configuration shall be used to sample all fireplace emissions. The ESS shall draw flue gases through a 15 inch (380 mm) long, 3/8 inch (10 mm) O.D. stainless steel probe which samples from the center of the flue at an elevation which is 8 feet (2 440 mm) above the floor of the firebox (i.e., the hearth). A flue-gas sample shall then travel through a 3/8 inch (10 mm) O.D. Teflon® tube, and a heated U.S. EPA Method 5-type glass-fiber filter (40 CFR Part 60, Appendix A) for collection of particulate matter. The filter shall be followed by an in-line flow-through cartridge containing 20 grams of XAD-2 sorbent resin for collecting semi-volatile hydrocarbons. Water vapor shall then be removed from the sampled gas by a silica-gel trap. Flue-gas oxygen concentrations, which shall be used to determine the ratio of flue-gas volume to the amount of fuel burned, are measured within the ESS system by an electrochemical cell meeting the performance specifications presented in Section 31.202.3.8 (1.).

The ESS shall use a critical orifice to maintain a nominal flue-gas sampling rate of 0.035 cfm (0.0167 liters per second). The actual flow rate through each critical orifice shall be determined to within 0.000354 cubic feet (0.01 liters) per second before and after each test-burn with a bubble flow meter to document exact sampling rates. The post-test-burn critical-orifice flow-rate determinations shall be performed before the ESS is dismantled for sample recovery and clean-up. Pre-test-burn and post-test-burn critical-orifice flow-rate measurements shall be within 0.0000117 cubic feet (0.00033 liters) per second of each other or the test-burn emissions results shall be invalid. Temperatures shall be monitored using type K ground-isolated, stainless-steel-sheathed thermocouples.

The ESS unit shall return particle-free and dry exhaust gas to the flue via a 1/4 inch (6 mm) Teflon® line and a 15 inch (380 mm) stainless steel probe inserted into the flue. A subsample aliquot of the flue-gas sample-gas stream exiting the ESS unit, shall be pumped into a 1 cubic foot (29 liter) Tedlar® bag for measuring the average carbon dioxide, carbon monoxide, and confirmation of average oxygen concentrations for the test period. Flow to the subsample gas bag shall be controlled by a solenoid valve connected to the main pump circuit and a fine-adjust needle-controlled flow valve. The solenoid valve shall be open only when the pump is activated, allowing the subsample gas to be pumped into the gas bag at all times when the ESS pump is on. The rate of flow into the bag shall be controlled by the fine-adjust metering needle-valve which is adjusted at setup so that 4.7 to 5.2 gal (18 to 20 liters) of gas is collected over the entire 3 test-fuel charge test-burn without over-pressurizing the gas sample bag.

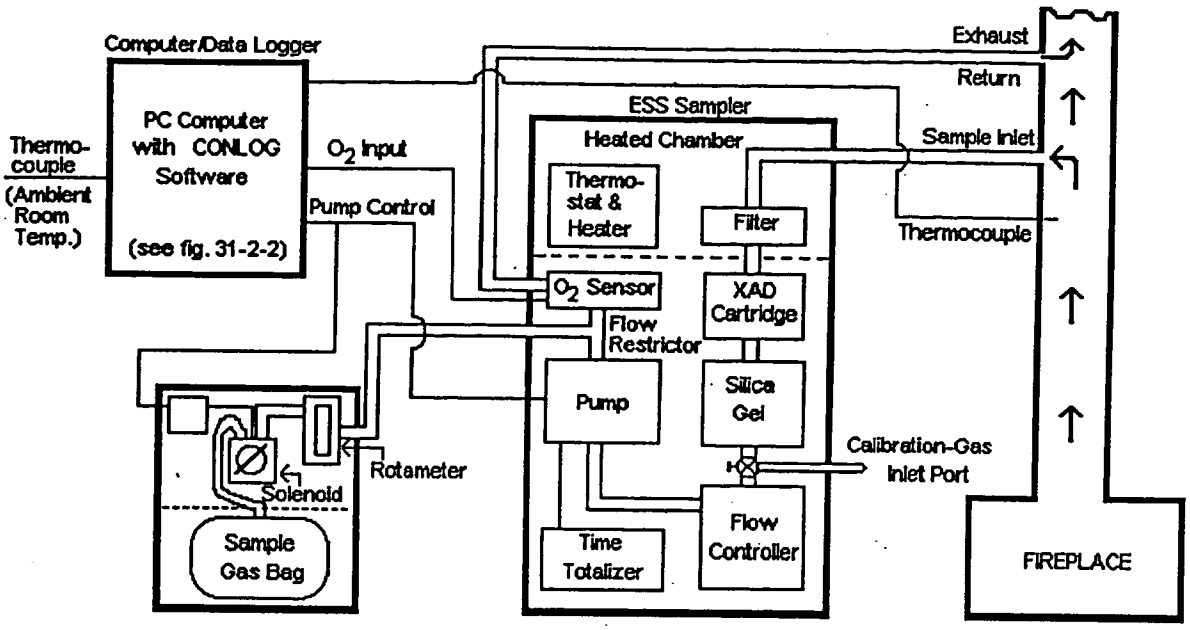


**Figure 31-2-1. Schematic of ESS/Data Logger system.**

**31.203.12.2 The Data Acquisition and Control System.** The data acquisition and control system for the ESS is shown in Figure 31-2-2. This system consists of a personal computer (PC) containing an analog-to-digital data processing board (12-bit precision), a terminal (connection) box, and specialized data acquisition and system control software (called CONLOG).

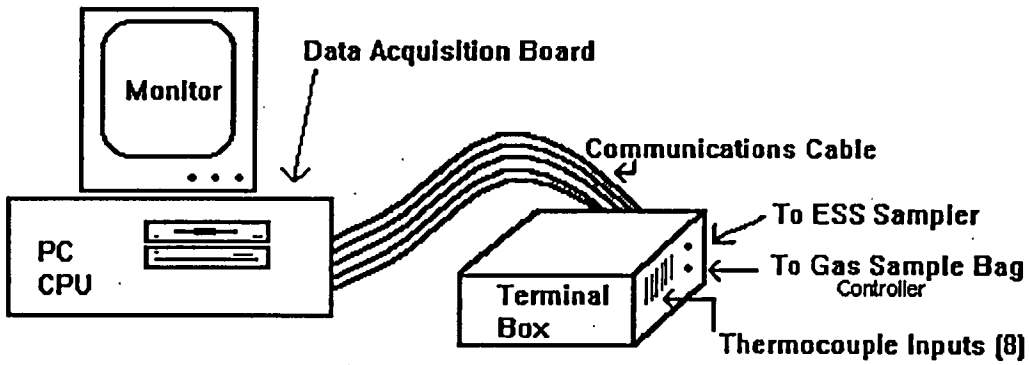


**Figure 31-2-2. ESS data logger system.**

For fireplace testing, the CONLOG software is configured to control, collect, and store the following data:

1. Test-period starting and ending times and dates, and total length of sampling period,

2. Pump-cycle on/off, cycle length and thermocouple (TC) cycle recording interval (frequency),

3. Temperature records, including flue-gas and ambient temperatures, averaged over pre-selected intervals,

4. Date, times, and weights of each added fuel load, and

5. Flue-gas oxygen measurements taken during each sample cycle.

During testing, instantaneous readings of real-time data shall be displayed on the system status screen. These data shall include the date, time, temperatures for each of the TCs, and flue-gas oxygen concentrations. The most recent 15 sets of recorded data shall also be displayed.

Flue-gas sampling and the recording of flue-gas oxygen concentrations shall only occur when flue-gas temperatures are above 25°F (14°C) greater than the ambient temperature of the test facility. Temperatures and fueling shall always be recorded at five-minute intervals regardless of flue-gas

temperature. The ESS sampling-pump operating cycle shall be adjustable as described in Section 31.203.12.3.

**31.203.12.3 ESS Sampling-Pump Operating Cycle.** The ESS sampling-pump operating cycle shall be adjusted to accommodate variable test-fuel charge sizes, emission factors, and the length of time needed to complete a test-burn series. The sampler-pump operation shall be adjustable from 1 second to 5 minutes (100 percent) "on" for every 5-minute test-burn data-recording interval. This will allow adjustment for the amount of anticipated emissions materials that will be sampled and deposited on the ESS filter, XAD-2, and the other system components. It is recommended that the minimum sample quantities stipulated in Section 31.203.12.4 be used to calculate the appropriate pump cycle "on" and "off" periods. It should be noted that if the sampler collects too much particulate material on the filter and in the XAD-2 cartridge, the unit may fail the sample flow calibration check required at the end of each test-burn.

**31.203.12.4 Minimum Sample Quantities.** For each complete 3 test-fuel charge test-burn, the ESS must catch a minimum total particulate material mass of at least 0.231 grains (15 mg). Alternatively, the ESS must sample a minimum of 10 cubic feet (283 liters) during each 3 test-fuel charge test-burn. If this volume cannot be sampled in the test-burn time period, two ESS samplers must be utilized to sample fireplace emissions simultaneously during each test-burn. If emissions results from the two ESSs are different by more than 10 percent of the lower emissions-factor result, the test-burn results are invalid. An arithmetic average is calculated for test-burn results when two ESSs are utilized.

**31.203.12.5 Equipment Preparation and Sample Processing Procedures.**

**31.203.12.5.1.** Prior to emissions testing, the ESS unit shall be prepared with a new, tared glass-fiber filter and a clean XAD-2 sorbent-resin cartridge. Within 3 hours after testing is completed, the stainless steel sampling probe, Teflon® sampling line, filter holder, and XAD-2 cartridge(s) shall be removed from the test site and transported to the laboratory for processing. Each component of the ESS sampler shall be processed as follows:

1. Filter: The glass fiber filter (4 inches (102 mm) in diameter) shall be removed from the ESS filter housing and placed in a petri dish for desiccation and gravimetric analysis.

2. XAD-2 sorbent-resin cartridge: The sorbent-resin cartridge shall be extracted in a Soxhlet extractor with dichloromethane for 24 hours. The extraction solution shall be transferred to a tared glass beaker and evaporated in an ambient-air dryer. The beaker with dried residue shall then be desiccated to constant weight (less than ± 0.5 mg change within a 2-hour period), and the extractable residue shall be weighed.

3. ESS hardware: All hardware components which are in the flue-gas sample stream (stainless steel probe, Teflon® sampling line, stainless steel filter housing, and all other Teflon® and stainless steel fittings) through the top of the sorbent-resin cartridge, shall be cleaned with a solvent mixture of 50 percent dichloromethane and 50 percent methanol. The cleaning solvent solutions shall be placed in tared glass beakers, evaporated in an ambient-air dryer, desiccated to constant weight (less than ± 0.5 mg change within a 2-hour period), and weighed.

EPA Method 5H procedures (40 CFR Part 60, Appendix A) for desiccation and weighing time intervals shall be followed for steps 1 through 3 above.

**31.203.12.5.2** The ESS shall be serviced both at the start and end of a fireplace testing period. During installation, leak checks shall be performed; the thermocouples, fuel-weighing scale, and oxygen-cell shall be calibrated, and the data logger shall be programmed. At the end of the test period, final calibration, and leak-check procedures shall again be performed, and the ESS sampling line, filter housing, XAD-2 cartridge, sampling probe, and Tedlar® bag shall be removed, sealed, and transported to the laboratory for analysis. If the pre-test and post-test leak checks of the ESS system exceed 0.00033 liters per second, the test-burn emission results shall be invalid.

**31.203.12.6 Data Processing and Quality Assurance.**

**31.203.12.6.1** Upon returning to the laboratory facilities, the data file (computer disk) shall be reviewed to check for proper equipment operation. The data-logger data files, log books, and records maintained by field staff shall be reviewed to ensure sample integrity.

The computer-logged data file shall be used in conjunction with the ESS particulate samples and sample-gas bag analyses to calculate the emission factor, emission rate, and fireplace operational parameters. An example ESS results report is presented in Table 31-2-A.

**31.203.12.6.2 Burning Period.** The total burning period is calculated by:

Total Burning Period = (Length of each sample cycle) x (Number of flue temperature readings over 25°F (14°C) greater than the ambient temperature of the test facility).

**WHERE:**

1. Length of each sample cycle: The time between each temperature recording as configured in the CONLOG software settings (standardized at 5 minutes).

2. Number of flue temperature readings during fireplace use: The total number of temperature readings when the calibrated temperature value was more than 25°F (14°C) greater than the ambient temperature of the test facility.

**31.203.12.6.3 Particulate Emissions.**

**31.203.12.6.3.1 ESS Particulate Emission Factor.** The equation for the total ESS particulate emission factor for each test-burn presented below produces reporting units of grams per dry kilogram of fuel burned (g/kg):

$$\text{Particulate emission factor (g/kg)} = \frac{\text{(Particulate Catch) x (Stoichiometric Volume) x (Flue-gas Dilution Factor)}}{\text{(Sampling Time) x (Sampling Rate)}}$$



**WHERE:**

1. Particulate Catch: The total mass, in grams, of particulate material caught on the filter, in the XAD-2 resin cartridge (semi-volatile compounds); and in the probe clean-up and rinse solutions.

2. Stoichiometric Volume: Stoichiometric volume is the volume of dry air needed to completely combust one dry kilogram of fuel with no "excess air". This value is determined by using a chemical reaction balance between the specific fuel being used and the chemical components of air. The stoichiometric volume for Douglas fir is 86.78 cubic feet per pound (5 404 liters per dry kilogram) at 68°F (20°C) and 29.92 inches (760 mm) of mercury pressure.

3. Flue-gas Dilution Factor: The degree to which the sampled combustion gases have been diluted in the flue by air in excess of the stoichiometric volume (called excess air). The dilution factor is obtained by using the average sampled carbon dioxide and carbon monoxide values obtained from the sample gas bag analyses and the following equation.

$$\text{Flue-Gas Dilution Factor} = \frac{18.53 + \left( \left[ 1 - \left[ \frac{CO_2 + \frac{1}{2} CO}{18.53} \right] \right] \times 2.37 \right)}{(CO_2 + \frac{1}{2} CO)}$$

Note: Multiplying the g/kg emission factor by the burn rate (dry kg/hr) yields particulate emissions in grams per hour (g/hr). Burn rate is calculated by the following equation:

$$\text{Burn Rate (kg/hr)} = \frac{\text{Total Fuel (kg)}}{\text{Total Burn Period (hours)}}$$

**WHERE:**

Total Fuel is the total fuel added during the entire test-burn minus the remaining unburned materials at the end of the test-burn.

4. Sampling Time: The number of minutes the sampler pump operated during the total test-burn period.

5. Sampling Rate: Sampling rate is controlled by the critical orifice installed in the sampler. The actual calibrated sampling rate is used here.

**31.203.12.6.3.2 EPA Method 5H Particulate Emissions.** ESS-measured emissions factors submitted to DOE for approval must first be converted to U. S. EPA Method 5H equivalents. The ESS particulate emissions factor results obtained in Section 31.203.12.6.1 are converted to be equivalent to the U. S. EPA Method 5H emissions factor results by the following equation:

$$1.254 + ( 0.302 \times PEF ) + ( 1.261 \times 10^{-PEF} )$$

**WHERE:**

PEF is the ESS-measured particulate emission factor for a test-burn.

**31.203.12.6.4 CO Emissions.** The carbon monoxide (CO) emission factor equation produces grams of CO per dry kilogram of fuel burned. The grams per kilogram equation includes some equation components described above.

$$\text{CO emission factor (g/kg)} = \frac{\text{(Fraction CO) x (Stoich. Volume) x (Dilution Factor) x (Molecular Weight of CO)}}{\text{(24.45 L/mole)}}$$

**WHERE:**

1. Fraction CO: The fraction of CO measured in the gas sampling bag.

Note: Percent CO divided by 100 gives the fraction CO.

2. Molecular Weight of CO: The gram molecular weight of CO, 28 pounds per pound-mole (28.0 g/g-mole).

Multiplying the results of the above equation by the burn rate (dry kg/hr) yields the grams per hour (g/hr) CO emission rate.

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## Table 31-2-A Example ESS Data Results Format

### ESS Emission Results

| | |
|---|---|
| Test Facility Location: | xxxx |
| Test Laboratory: | xxxx |
| Test-Burn Number: | xxxx |
| Start Time/Date: | xxxx |
| End Time/Date: | xxxx |
| Fireplace Model: | xxxx |

| TIME | |
|---|---|
| Total Test Period | 152.3 hours |
| Total Burn Time | 64.6 hours |
| Flue >25 Degrees F above ambient temperature | 42.4 % |

| ESS SETTINGS | |
|---|---|
| ESS Sample Rate | 1.004 l/min |
| Sample Cycle | 5.0 min |
| Sample Time / Sample Cycle | 0.443 min |

| TEST FUEL | |
|---|---|
| Total Fuel Used (wet weight) | 101.3 kg |
| Ave. Fuel Moisture (dry basis) | 17.7 % |
| Total Fuel Used (dry weight) | 86.1 kg |
| Average Test-Fuel Charge | 14.5 kg |
| Average Burn Rate kg/hr | 1.33 dry |

| PARTICULATE EMISSIONS (EPA Method 5H Equivalents) | |
|---|---|
| Gram / Kilogram | 2.6 g/kg |
| Gram / Hour | 3.4 g/hr |
| Gram / Cubic Meter | 0.06 $g/m^3$ |

| CARBON MONOXIDE EMISSIONS | |
|---|---|
| Gram / Kilogram | 48.0 g/kg |
| Gram / Hour | 64.0 g/hr |
| Gram / Cubic Meter | 1.25 $g/m^3$ |

| AVERAGE TEMPERATURES | |
|---|---|
| Fuel-Gas Temperatures | 275 °F<br>135 °C |
| Flue Exit Temperature | 308 °F<br>154 °C |
| Test Facility Ambient Temperature | 66 °F<br>19 °C |

| AVERAGE FLUE-GAS CONCENTRATIONS | |
|---|---|
| Flue Oxygen (SE) | 18.15 % |
| Flue Oxygen (gas bag or analyzer) | 18.05 % |
| Flue CO (gas bag or analyzer) | 0.10 % |
| Flue $CO_2$ (gas bag or analyzer) | 2.60 % |

| BREAKDOWN OF ESS PARTICULATE SAMPLE | |
|---|---|
| Rinse | 25.5 mg |
| XAD | 6.3 mg |
| Filter | 15.7 mg |
| Blank | 0.0 mg |
| TOTAL | 47.4 mg |

Notes:
NM = Not Measured, NA = Not Applicable, NU = Not Used
Total time flue temperature greater than 25°F over ambient temperature.

TEST PERFORMED BY: XYZ Testing International, Olympia Washington, 98504

**31.203.13 Calibrations.**

**31.203.13.1 Balance.** Before each certification test, the balance used for weighing test-fuel charges shall be audited by weighing at least one calibration weight (Class F) that corresponds to 20 percent to 80 percent of the expected test-fuel charge weight. If the scale cannot reproduce the value of the calibration weight within 0.1 lb (0.05 kg) or 1 percent of the expected test-fuel charge weight, whichever is greater, re-calibrate the scale before use with at least five calibration weights spanning the operational range of the scale.

**31.203.13.2 Temperature Monitor**. Calibrate the temperature monitor before the first certification test and semiannually thereafter.

**31.203.13.3 Fuel Moisture Meter**. Calibrate the fuel moisture meter as per the manufacturer's instructions before each certification test.

**31.203.13.4 Anemometer**. Calibrate the anemometer as specified by the manufacturer's instructions before the first certification test and semiannually thereafter.

**31.203.13.5 Barometer**. Calibrate the barometer against a mercury barometer before the first certification test and semiannually thereafter.

**31.203.13.6 Draft Gauge**. Calibrate the Draft Gauge as per the manufacturer's instructions; a liquid manometer does not require calibration.

**31.203.13.7 ESS**. The ESS shall be calibrated as specified in Section 31.203.12.1.

**31.203.14 Reporting Criteria**. Submit both raw and reduced data for all fireplace tests. Specific reporting requirements are as follows:

**31.203.14.1 Fireplace Identification**. Report fireplace identification information including manufacturer, model, and serial number. Include a copy of fireplace installation and operation manuals.

**31.203.14.2 Test Facility Information**. Report test facility location, temperature, and air velocity information.

**31.203.14.3 Test Equipment Calibration and Audit Information**. Report calibration and audit results for the test-fuel balance, test-fuel moisture meter, analytical balance, and sampling equipment including volume metering systems and gaseous analyzers.

**31.203.14.4 Pretest Information and Conditions**. Report all pretest conditions including test-fuel charge weight, fireplace temperatures, and air supply settings.

**31.203.14.5 Particulate Emission Data**. Report a summary of test results for all test-burns conducted and the arithmetically averaged emission factor for all test-burns used for certification. Submit copies of all data sheets and other records collected during the testing. Submit examples of all calculations.

**31.203.14.6 Required Test Report Information and Suggested Format**. Test report information requirements to be provided to DOE for approval/certification of fireplaces are presented in this Standard. The requirements are presented here in a recommended report format.

**31.203.14.6.1 Introduction.**

1. Purpose of test: Certification or audit.

2. Fireplace identification: Manufacturer, model number, catalytic/non-catalytic, and options. Include a copy of fireplace installation and operation manuals.

3. Laboratory: Name, location, and participants.

4. Test information: Date fireplace was received, date of tests, sampling methods used, and number of test-burns.

**31.203.14.6.2 Summary and Discussion of Results.**

1. Table of results: Test-burn number, burn rate, particulate emission factor (in U. S. EPA Method 5H equivalents), efficiency (if determined), and averages (indicate which test-burns are used).

2. Summary of other data: Test facility conditions, surface temperature averages, catalyst temperature averages, test-fuel charge weights, and test-burn times.

3. Discussion: Specific test-burn problems and solutions.

**31.203.14.6.3 Process Description.**

1. Fireplace dimensions: Volume, height, width, lengths (or other linear dimensions), weight, and hearth area.

2. Firebox configuration: Air supply locations and operation, air supply introduction location, refractory location and dimensions, catalyst location, baffle and by-pass location and operation (include line drawings and photographs).

3. Process operation during test: Air supply settings and adjustments, fuel bed adjustments, and draft.

4. Test fuel: Test fuel properties (moisture and temperature), test fuel description (include line drawing or photograph), and test fuel charge density.

**31.203.14.6.4 Sampling Locations**. Describe sampling location relative to fireplace. Include linedrawings and photographs.

**31.203.14.6.5 Sampling and Analytical Procedures.**

1. Sampling methods: Brief reference to operational and sampling procedures, and optional and alternative procedures used.

2. Analytical methods: Brief description of sample recovery and analysis procedures.

**31.203.14.6.6 Quality Control and Assurance Procedures and Results.**

1. Calibration procedures and results: Certification, sampling, and analysis procedures.

2. Test method quality control procedures: Leak-checks, volume-meter checks, stratification (velocity) checks, and proportionality results.

**31.203.14.6.7 Appendices.**

1. **Results and Example Calculations.** Include complete summary tables and accompanying examples of all calculations.

2. **Raw Data.** Include copies of all uncorrected data sheets for sampling measurements, temperature records, and sample recovery data. Include copies of all burn rate and fireplace temperature data.

3. **Sampling and Analytical Procedures.** Include detailed description of procedures followed by laboratory personnel in conducting the certification test, emphasizing particularly, parts of the procedures differing from the prescribed methods (e.g., DOE approved alternatives).

PROPOSED

4. **Calibration Results.** Summary of all calibrations, checks, and audits pertinent to certification test results including dates.

5. **Participants.** Test personnel, manufacturer representatives, and regulatory observers.

6. **Sampling and Operation Records.** Copies of uncorrected records of activities not included on raw data sheets (e.g., fireplace door open times and durations).

7. **Additional Information.** Fireplace manufacturer's written instructions for operation during the certification test and copies of the production-ready (print-ready) temporary and permanent labels required in Section 31.208 shall be included in the test report prepared by the test laboratory.

**31.203.14.7 References.**

1. Code of Federal Regulations, U. S. EPA Title 40, Part 60, Subpart AAA and Appendix A (40 CFR Part 60).

2. Barnett, S. G. and P. G. Fields, 1991, "In-Home Performance of Exempt Pellet Stoves in Medford, Oregon," prepared for U.S. Department of Energy, Oregon Department of Energy, Tennessee Valley Authority, and Oregon Department of Environmental Quality, July 1991.

3. Barnett, S. G. and R. R. Roholt, 1990, "In-Home Performance of Certified Pellet Stoves in Medford and Klamath Falls, Oregon," prepared for the U.S. Department of Energy, 1990.

4. Barnett, S. G., 1990, "Field Performance of Advanced Technology Woodstoves in Glens Falls, New York, 1988-1989," for New York State Energy Research and Development Authority, U.S. EPA, Coalition of Northeastern Governors, Canadian Combustion Research Laboratory, and the Wood Heating Alliance, December 1989.

**Section 31.204—Approval procedure for fireplaces.**

On or after the effective date of this regulation, a manufacturer or builder of a fireplace who wishes to have a fireplace model line or fireplace design designated as an approved (or certified) fireplace, shall submit to DOE for its review the following information:

**31.204.1** Manufacturer name and street address, model or design identification, construction specifications, and drawings of the firebox and required chimney system.

**31.204.2** A test report prepared in accordance with Section 31.203.14.6 showing that testing has been conducted by a DOE approved and U. S. EPA accredited laboratory, and that the arithmetically averaged particulate emission factors for that fireplace model line or design, tested in accordance with UBC Standard Section 31.202, does not exceed 7.3 g/kg (U. S. EPA Method 5H equivalent as determined in Section 31.203.12.6.3.2) for a factory-built fireplace model lines or designs or 12.0 g/kg (U. S. EPA Method 5H equivalent as determined in Section 31.203.12.6.3.2) for new certified masonry fireplace model lines or designs. After January 1, 1999, particulate emission factors for factory-built and new certified masonry fireplace model lines or designs shall not exceed 7.3 g/kg (U. S. EPA Method 5H equivalents as determined in Section 31.203.12.6.3.2).

**Section 31.205—Approval of non-tested fireplaces.**

On or after the effective date of this regulation, DOE may grant approval for a fireplace model line or design that has not been tested pursuant to Section 31.204 upon submission of the following by the applicant:

**31.205.1** Manufacturer name and street address, model or design identification, construction specifications, and drawings of the internal assembly system.

**31.205.2** Documentation from an EPA accredited laboratory that the model is a fireplace within the definition of this regulation, has substantially the same core construction as a model already tested by a DOE approved and EPA accredited laboratory, and is substantially similar to the approved model in internal assembly design, combustion function, and probable emissions performance as listed in Section 31.204.2.

**Section 31.206—Approval through alternative test protocol.**

As provided in Section 31.202.4, an alternative testing protocol may be submitted by a DOE approved and EPA accredited laboratory for acceptance by DOE as equivalent to Uniform Building Code Standard 31-2.

**Section 31.207—Approval termination.**

All fireplace model line or design approvals shall terminate five years from the approval date. Previously approved fireplace model line and/or design may be granted re-approval (re-certification) upon application to and review by DOE. No testing shall be required for fireplace model line or design re-approvals unless DOE determines that design changes have been incorporated into the fireplace that could adversely affect the emissions factor, or testing is otherwise stipulated by DOE.

DOE may revoke a fireplace model line or design approval certification if it is determined that the fireplaces being produced in a specific model line do not comply with the requirements of Section 31.200. Such a determination shall be based on all available evidence, including:

1. Test data from a retesting (audit test) of the original unit on which the certification test was conducted or a sample unit from the current model line;

2. A finding that the certification test was not valid;

3. A finding that the labeling of the fireplace does not comply with the requirements of Section 31.200;

4. Failure by the fireplace manufacturer (builder) to comply with reporting and record keeping requirements under Section 31.200;

5. Physical examination showing that a significant percentage of production units inspected are not similar in all material respects to the fireplace submitted for testing; or

6. Failure of the manufacturer to conduct a quality assurance program in conformity with Section 31.208.

Revocation of certification under this section shall not take effect until the manufacturer (builder) concerned has been given written notice by DOE setting forth the basis for

the proposed determination and an opportunity to request a hearing.

**Section 31.208—Quality control.**

Once within 30 days of each annual anniversary after the initial approval/certification, a DOE approved and U. S. EPA accredited laboratory shall inspect the most recently produced fireplace of an approved model line or design at its manufacturing location (site, if site-built) to document adherence to the approved/certified fireplace design specifications. If no fireplaces of an approved model line or design were produced (built) during the previous 12 months, no inspection is required.

An inspection report for each approved fireplace model line or design must be submitted to DOE within 30 days after the inspection date. The inspection report shall include, as a minimum, the model identification and serial number of the fireplace inspected, the location where the model was inspected, the names of the manufacturer's and/or builder's representatives present, the date of inspection, and a description of any changes made to the approved fireplace model line or design since the last inspection. The U. S. EPA accredited laboratory which conducts the annual quality control inspection is responsible for auditing the content and format of all labels to be applied to approved fireplaces as stipulated in Section 31.209.

A fireplace model line or design shall be re-tested in accordance with Section 31.202 if it is determined during inspection that design changes have been incorporated into the approved/certified fireplace design which adversely affect the fireplace particulate emissions factor. Design elements which can affect fireplace particulate emissions include:

1. Grate placement and height;
2. Air supply minimum and maximum controls;
3. Usable hearth area; and
4. Firebox height, width, and length dimensions.

**Section 31.209—Permanent label, temporary label and owner's manual.**

**31.209.1 Labels and the Owner's Manual.** Labels and owner's manual shall be prepared and installed in all certified "For Sale" fireplaces as specified in U. S. EPA 40 CFR Part 60, Section 60.536. Information that shall be presented on all labels includes:

1. Manufacturer's or builder's name, address, and phone number;
2. Model number and/or name;
3. Month and year of manufacture;
4. Starting and ending dates for the 5-year approval period;
5. If a fireplace was tested and approved with an emissions control device which is not an integral part of the fireplace structure, the label shall state that "The fireplace can not be sold or installed without the specified emissions control device in place and operational.";
6. On certified fireplaces the statement: "This appliance has been tested and has demonstrated compliance with Washington State amendment to the UBC Standard, Chapter 31-2 requirements."

**Section 31.210—List of approved fireplaces.**

DOE shall maintain a list of approved fireplace model lines and designs, and that list shall be available to the public.

PROPOSED

NEW SECTION

**WAC 51-40-3404 Section 3404—Moved buildings.**

Buildings or structures moved into or within a jurisdiction shall comply with the provisions of this code, the Uniform Mechanical Code (chapter 51-42 WAC), the Uniform Fire Code and Standards (chapters 51-44 and 51-45 WAC), the Uniform Plumbing Code and Standards (chapters 51-46 and 51-47 WAC), the Washington State Energy Code (chapter 51-11 WAC) and the Washington State Ventilation and Indoor Air Quality Code (chapter 51-13 WAC) for new buildings or structures.

EXCEPTION: Group R, Division 3 buildings or structures are not required to comply if:
1. The original occupancy classification is not changed, and
2. The original building is not substantially remodeled or rehabilitated. For the purposes of this section a building shall be considered to be substantially remodeled when the costs of remodeling exceed 60 percent of the value of the building exclusive of the costs relating to preparation, construction, demolition or renovation of foundations.

NEW SECTION

**WAC 51-40-93115 Section 93115.**

**THIS APPENDIX IS FOR REFERENCE ONLY. IT IS NOT THE RESPONSIBILITY OF THE BUILDING OFFICIAL TO ENFORCE IT.**

**APPENDIX CHAPTER 11**
**DIVISION I**
**U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT**
**FEDERAL FAIR HOUSING ACT**
**GUIDELINES FOR SITE TERRAIN EXEMPTIONS**

**93115.1 Purpose.** The purpose of this division is to provide the United States Department of Housing and Urban Development Federal Fair Housing Act Guidelines for Site Terrain Exemptions.

**93115.2 Scope.**

**93115.2.1 General.** The provisions of this division may apply to all buildings and dwelling units that are regulated by the Federal Fair Housing Act Amendments of 1988.

**93115.2.2 Applicability of other provisions.** Except as specifically allowed by this division for determining site terrain exemptions, Group R, Division 1 apartment houses shall meet all applicable provisions of this code.

**93115.3 Definitions.** For the purpose of this division, certain terms are defined as follows:

PROPOSED

**COVERED MULTIFAMILY DWELLINGS** means buildings consisting of four or more dwelling units if such buildings have one or more elevators; and ground floor dwelling units in other buildings consisting of four or more dwelling units. Dwelling units within a single structure separated by firewalls do not constitute separate buildings.

**FINISHED GRADE** means the ground surface of the site after all construction, leveling, grading, and development has been completed.

**UNDISTURBED SITE** means the site before any construction, leveling, grading, or development associated with the current project.

**93115.4 Site Impracticality.**

**93115.4.1 General.** Covered multifamily dwellings with elevators shall be designed and constructed to provide at least one accessible entrance on an accessible route, regardless of terrain or unusual characteristics of the site. Covered multifamily dwellings without elevators shall be designed and constructed to provide at least one accessible entrance on an accessible route unless terrain or unusual characteristics of the site are such that the following conditions are found to exist:

**A. Site Impracticality Due to Terrain.** There are two alternative tests for determining a site impracticality due to terrain: The individual building test provided in paragraph (1), or the site analysis test provided in paragraph (2). These tests may be used as follows.

A site with a single building having a common entrance for all units may be analyzed only as described in paragraph (1).

All other sites, including a site with a single building having multiple entrances serving either individual dwellings units or clusters of dwelling units, may be analyzed using the methodology in either paragraph (1) or paragraph (2). For these sites for which either test is applicable, regardless of which test is selected, at least 20% of the total ground floor units in nonelevator buildings, on any site, must comply with the guidelines.

**1. Individual Building Test.** It is impractical to provide an accessible entrance served by an accessible route when the terrain of the site is such that:

1.1. The slopes of the undisturbed site measured between the planned entrance and all vehicular or pedestrian arrival points within 50 feet (15 m) of the planned entrance exceed 10 percent.

1.2. The slopes of the planned finished grade measured between the entrance and all vehicular or pedestrian arrival points within 50 feet (15 m) of the planned entrance also exceed 10 percent.

If there are no vehicular or pedestrian arrival points within 50 feet (15 m)of the planned entrance, the slope for the purpose of this paragraph (1) will be measured to the closest vehicular or pedestrian arrival point.

For purposes of these guidelines, vehicular or pedestrian arrival points include public or resident parking areas; public transportation stops; passenger loading zones; and public streets or sidewalks. To determine site impracticality, (1) the slope would be measured at ground level from the point of the planned entrance, or (2) if there are no vehicular or pedestrian arrival points close to the planned entrance. In the case of sidewalks, the closet point to the entrance will be where a public sidewalk entering the site intersects with the sidewalk to the entrance. In the case of resident parking areas, the closest point to the planned entrance will be measured from the entry point to the parking area that is located closest to the planned entrance.

**2. Site Analysis Test.** Alternatively, for a site having multiple buildings, or a site with a single building with multiple entrances, impracticality of providing an accessible entrance served by an accessible route can be established by the following steps:

2.1. The percentage of the total buildable area of the undisturbed site with a natural grade less than 10% slope shall be calculated. The analysis of the existing slope (before grading) shall be done on a topographic survey with two foot (610 mm) contour intervals with slope determination made between each successive interval. The accuracy of the slope analysis shall be certified by a professional licensed engineer, landscape architect, architect, or surveyor.

2.2. To determine the practicality of providing accessibility to planned multifamily dwellings based on the topography of the existing natural terrain, the minimum percentage of ground floor units to be made accessible should equal the percentage of the total buildable area (not including floodplain, wetlands, or other restricted use areas) of the undisturbed site that has an existing natural grade of less than 10% slope.

2.3. In addition to the percentage established in paragraph 2.2, all ground floor units in a building, or ground floor units served by a particular entrance, shall be made accessible if the entrance to the units is on an accessible route, defined as a walkway with a slope between the planned entrance and a pedestrian or vehicular arrival point that is no greater than 8.33%.

**B. Site Impracticality Due to Unusual Characteristics.** Unusual characteristics include sites located in a federally-designated floodplain or coastal high-hazard area and sites subject to other similar requirements of law or code that the lowest structural member of the lowest floor must be raised to a specified level at or above the base flood elevation. An accessible route to a building entrance is impractical due to unusual characteristics of the site when:

1. The unusual site characteristics result in a difference in finished grade elevation exceeding 30 inches (760 mm) and 10 percent measured between an entrance and all vehicular or pedestrian arrival points within 50 feet (15 m) of the planned entrance; or

2. If there are no vehicular or pedestrian arrival points within 50 feet (15 m) of the planned entrance, the unusual characteristics result in a difference in finished grade elevation exceeding 30 inches (760 mm) and 10 percent measured between an entrance and the closest vehicular or pedestrian arrival point.

**93115.4.2 Exceptions to site impracticality.** Regardless of site considerations described in Section 93115.4.1, an accessible entrance on an accessible route is practical when:

A. There is an elevator connecting the parking area with the dwelling units on a ground floor. (In this case, those dwelling units on the ground floor served by an elevator, and at least one of each type of public and common use areas, would be subject to these guidelines.) However:

1. Where a building elevator is provided only as a means of creating an accessible route to dwelling units on a ground floor, the building is not considered an elevator building for purposes of these guidelines; hence, only the ground floor dwelling units would be covered.

2. If the building elevator is provided as a means of access to dwelling units other than dwelling units on a ground floor, then the building is an elevator building which is a covered multifamily dwelling, and the elevator in that building must provide accessibility to all dwelling units in the building, regardless of the slope of the natural terrain; or

B. An elevated walkway is planned between a building entrance and a vehicular or pedestrian arrival point and the planned walkway has a slope no greater than 10 percent.

NEW SECTION

**WAC 51-40-93116 Section 93116.**

**THIS APPENDIX IS FOR REFERENCE ONLY. IT IS NOT THE RESPONSIBILITY OF THE BUILDING OFFICIAL TO ENFORCE IT.**

**APPENDIX CHAPTER 11**
**DIVISION II**
**AMERICANS WITH DISABILITIES ACT**
**GUIDELINES FOR READILY ACHIEVABLE BARRIER REMOVAL**

**93116.1 Purpose.** The purpose of this division is to provide the United States Department of Justice, Americans with Disabilities Act Guidelines for readily achievable barrier removal in existing buildings.

**93116.2 Scope.**

**93116.2.1 General.** The provisions of this division may be used as a guideline for the removal of readily achievable barriers to accessibility in existing buildings, as required by the Americans with Disabilities Act of 1990.

**93116.2.2 Applicability of other provisions.** Except as specifically allowed by this division, all buildings and portions thereof shall meet all applicable provisions of this code.

**93116.3 Definitions.** For the purpose of this division, certain terms are defined as follows:

**COMMERCE** is travel, trade, traffic, commerce, transportation, or communication—

1. Among the several States;

2. Between any foreign country or any territory or possession and any State; or

3. Between points in the same State but through another State or foreign country.

**COMMERCIAL FACILITIES** are facilities—

1. Whose operations will affect commerce;

2. That are intended for nonresidential use by a private entity; and

3. That are not—

3.1. Facilities that are covered or expressly exempted from coverage under the Fair Housing Act of 1968, as amended (42 U.S.C. 3601-3631);

3.2 Aircraft; or

3.3. Railroad locomotives, railroad freight cars, railroad cabooses, commuter or intercity passenger rail cars (including coaches, dining cars, sleeping cars, lounge cars, and food service cars), any other railroad cars described in Section 242 of the American's with Disabilities Act or covered under title II of the American's with Disabilities Act, or railroad rights-of-way. For purposes of this definition, "rail" and "railroad" have the meaning given the term "railroad" in Section 202(e) of the Federal Railroad Safety Act of 1970 (46 U.S.C. 431(e)).

**PLACE OF PUBLIC ACCOMMODATION** is a facility, operated by a private entity, whose operations affect commerce and fall within at least one of the following categories—

1. An inn, hotel, motel, or other place of lodging, except for an establishment located within a building that contains not more than five rooms for rent or hire and that is actually occupied by the proprietor of the establishment as the residence of the proprietor;

2. A restaurant, bar, or other establishment serving food or drink;

3. A motion picture house, theater, concert hall, stadium, or other place of exhibition or entertainment;

4. An auditorium, convention center, lecture hall, or other place of public gathering;

5. A bakery, grocery store, clothing store, hardware store, shopping center, or other sales or rental establishment;

6. A laundromat, dry-cleaner, bank, barber shop, beauty shop, travel service, shoe repair service, funeral parlor, gas station, office of an accountant or lawyer, pharmacy, insurance office, professional office of a health care provider, hospital, or other service establishment;

7. A terminal, depot, or other station used for specified public transportation;

8. A museum, library, gallery, or other place of public display or collection;

9. A park, zoo, amusement park, or other place of recreation;

10. A nursery, elementary, secondary, undergraduate, or postgraduate private school, or other place of education;

11. A day care center, senior citizen center, homeless shelter, food bank, adoption agency, or other social service center establishment; and

12. A gymnasium, health spa, bowling alley, golf course, or other place of exercise or recreation.

**PRIVATE ENTITY** is a person or entity other than a public entity.

**PUBLIC ACCOMMODATION** is a private entity that owns, leases (or leases to), or operates a place of public accommodation.

PROPOSED

**PUBLIC ENTITY** is—

1. Any State or local government;

2. Any department, agency, special purpose district, or other instrumentality of a State or States or local government; and

3. The National Railroad Passenger Corporation, and any commuter authority (as defined in Section 103(8) of the Rail Passenger Service Act).

**READILY ACHIEVABLE** is easily accomplishable and able to be carried out without much difficulty or expense. In determining whether an action is readily achievable, factors to be considered include—

1. The nature and cost of the action needed under this part;

2. The overall financial resources of the site or sites involved in the action; the number of persons employed at the site; the effect on expenses and resources, or the impact otherwise of the action upon the operation of the site;

3. The overall financial resources of any parent corporation or entity; the overall size of the parent corporation or entity with respect to the number of its employees; the number, type, and location of its facilities;

4. The type of operation or operations of the parent corporation or entity, including the composition, structure, and functions of the work force of the parent corporation or entity; and

5. The geographic separateness, and the administrative or fiscal relationship of the site or sites in question to the parent corporation or entity.

**93116.4 Removal of Barriers.** A public accommodation shall remove architectural barriers in existing facilities, including communication barriers that are structural in nature, where such removal is readily achievable, i.e., easily accomplishable and able to be carried out without much difficulty or expense.

**93116.5 Examples.** Examples of steps to remove barriers include, but are not limited to, the following actions:

1. Installing ramps;

2. Making curb cuts in sidewalks and entrances;

3. Lowering shelves;

4. Rearranging tables, chairs, vending machines, display racks, and other furniture;

5. Lowering telephones;

6. Adding raised letter markings on elevator control buttons;

7. Installing flashing alarm lights;

8. Widening doors;

9. Installing offset hinges to widen doorways;

10. Eliminating a turnstile or providing an alternative accessible path;

11. Installing accessible door hardware;

12. Installing grab bars in toilet stalls;

13. Rearranging toilet partitions to increase maneuvering space;

14. Insulating lavatory pipes;

15. Installing a raised toilet seat;

16. Installing a full-length bathroom mirror;

17. Lowering the paper towel dispenser in a bathroom;

18. Creating a designated accessible parking space;

19. Installing an accessible paper cup dispenser at an existing inaccessible water fountain;

20. Removing high pile, low density carpeting; or

21. Modifying vehicle hand controls.

**93116.6 Priorities.** A public accommodation shall take measures to comply with the barrier removal requirements of this section in accordance with the following order of priorities:

1. First, a public accommodation shall take measures to provide access to a place of public accommodation from public sidewalks, parking, or public transportation. These measures include, for example, installing an entrance ramp, widening entrances, and providing accessible parking spaces.

2. Second, a public accommodation shall take measures to provide access to those areas of a place of public accommodation where goods and services are made available to the public. These measures include, for example, adjusting the layout of display racks, rearranging tables, widening doors, and installing ramps.

3. Third, a public accommodation shall take measures to provide access to restroom facilities in places of public accommodation where restroom facilities are used by the public on more than an incidental basis. These measures include, for example, removal of obstructing furniture or vending machines, widening of doors, installations of ramps, providing accessible signage, widening of toilet stalls, and installations of grab bars.

4. Fourth, a public accommodation shall take any other measures necessary to provide access to the goods, services, facilities, privileges, advantages, or accommodations of a place of public accommodation.

**93116.7 Relationship to Alterations Requirements of Chapter 11, Part III of this Code.** Measures taken solely to comply with the barrier removal requirements of this section are not required to conform to the requirements for alterations in Chapter 11, Part III of this code. These measures include, for example, installing a ramp with a steeper slope or widening a doorway to a narrower width than that required by Chapter 11, Part III of this code. No measure shall be taken, however, that poses a significant risk to the health or safety of individuals with disabilities or others. Barrier removal is required to conform to the Americans with Disabilities Act requirements for existing buildings.

**93116.8 Portable Ramps.** Portable ramps should be used to comply with this division only when installation of a permanent ramp is not readily achievable. In order to avoid any significant risk to the health or safety of individuals with disabilities or others in using portable ramps, due consideration shall be given to safety features such as nonslip surfaces, railings, anchoring, and strength of materials.

**93116.9 Interpretation of Readily Achievable.** The rearrangement of temporary or movable structures, such as furniture, equipment, and display racks is not readily achievable to the extent that it results in a significant loss of selling or serving space.

**93116.10 Alternatives to Barrier Removal.**

**93116.10.1 General.** Where a public accommodation can demonstrate that barrier removal is not readily achievable, a public accommodation shall not fail to make its goods and services, facilities, privileges, advantages, or accommodations available through alternative methods, if those methods are readily achievable.

**93116.10.2 Examples.** Examples of alternatives to barrier removal include, but are not limited to, the following actions:

1. Providing curb service or home delivery;

2. Retrieving merchandise from inaccessible shelves or racks;

3. Relocating activities to accessible locations;

4. Providing refueling service at inaccessible self-service gas stations.

**93116.11 Personal Devices and Services.** This section does not require a public accommodation to provide its customers, clients, or participants with personal devices, such as wheelchairs, or services of a personal nature including assistance in eating, toileting, or dressing.

**93116.12 Multiscreen Cinemas.** If it is not readily achievable to remove barriers to provide access by persons with mobility impairments to all of the theaters of a multiscreen cinema, the cinema shall establish a film rotation schedule that provides reasonable access for individuals who use wheelchairs to all films. Reasonable notice shall be provided to the public as to the location and time of accessible showings.

**93116.13 Readily Achievable and Undue Burden: Factors to be Considered.** In determining whether an action is readily achievable or would result in an undue burden, factors to be considered include:

1. The nature and cost of the action needed under this part;

2. The overall financial resources of the site or sites involved in the action; the number of persons employed at the site; the effect on expenses and resources, or the impact otherwise of the action upon the operation of the site;

3. The overall financial resources of any parent corporation or entity; the overall size of the parent corporation or entity with respects to the number of its employees; the number, type, and location of its facilities;

4. The type of operation or operations of the parent corporation or entity, including the composition, structure, and functions of the work force of the parent corporation or entity; and

5. The geographic separateness, and the administrative or fiscal relationship of the site or sites in question to the parent corporation or entity.

**93116.14 Accessible or Special Goods.**

**93116.14.1** This part does not require a public accommodation to alter its inventory to include accessible or special goods that are designed for, or facilitate use by, individuals with disabilities.

**93116.14.2** A public accommodation shall order accessible or special goods at the request of an individual with disabilities, if, in the normal course of its operation, it makes special orders on request for unstocked goods, and if the accessible or special goods can be obtained from a supplier with whom the public accommodation customarily does business.

**93116.14.3** Examples of accessible or special goods include items such as Braille versions of books, books on audio cassettes, closed-captioned video tapes, special sizes or lines of clothing, and special foods to meet particular dietary needs.

**93116.15** Seating in Assembly Areas. To the extent that it is readily achievable, a public accommodation shall:

1. Provide a reasonable number of wheelchair seating spaces in assembly areas; and,

2. Locate the wheelchair seating spaces so that they:

2.1. Are dispersed throughout the seating area;

2.2. Provide lines of sight comparable to those in all viewing areas;

2.3. Adjoin an accessible route of travel that also serves as a means of egress in case of emergency; and,

2.4. Permit individuals who use wheelchairs to sit with family members or other companions.

EXCEPTION: If removal of seats is not readily achievable, a public accommodation shall provide a portable chair or other means to permit a family member or other companion to sit with an individual who uses a wheelchair.

NEW SECTION

**WAC 51-40-93117 Section 93117.**

**THIS APPENDIX IS FOR REFERENCE ONLY. IT IS NOT THE RESPONSIBILITY OF THE BUILDING OFFICIAL TO ENFORCE IT.**

**APPENDIX CHAPTER 11**
**DIVISION III**
**AMERICANS WITH DISABILITIES ACT**
**ALTERNATE GUIDELINES FOR DETECTABLE WARNINGS**

**93117.1 General.** The purpose of this division is to provide additional design guidelines for construction and installation of truncated domes as required by the Americans with Disabilities Act of 1990.

**93117.2 Raised Truncated Domes.** Raised truncated domes shall have a diameter of 0.9 inches (23 mm) nominal, a height of 0.2 inches (5 mm) nominal and a center-to-center spacing of 2.35 (60 mm) inches nominal. Raised truncated domes shall comply with Appendix Chapter 11, Division V for visual contrast.

NEW SECTION

**WAC 51-40-93118 Section 93118.**

**APPENDIX CHAPTER 11**
**DIVISION IV**
**AMERICANS WITH DISABILITIES ACT**
**ALTERNATE GUIDELINES FOR AUDIBLE ALARMS**

**93118.1 Purpose.** The purpose of this division is to provide the United States Department of Justice, Americans with Disabilities Act Guidelines for audible alarms.



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**93118.2 Audible Alarms.** Audible alarms shall exceed the prevailing equivalent sound level in the room or space by at least 15 decibels, or shall exceed any maximum sound level with a duration of 30 seconds by 5 decibels, whichever is louder. Sound levels for alarm signals shall not exceed 120 decibels.

NEW SECTION

**WAC 51-40-93119 Section 93119.**

**THIS APPENDIX IS FOR REFERENCE ONLY. IT IS NOT THE RESPONSIBILITY OF THE BUILDING OFFICIAL TO ENFORCE IT.**

**APPENDIX CHAPTER 11**
**DIVISION V**
**AMERICANS WITH DISABILITIES ACT ALTERNATE GUIDELINES FOR VISUAL CONTRAST**

**93119.1 Purpose.** The purpose of this division is to provide the United States Department of Justice, Americans with Disabilities Act.

**93119.2 Guidelines for Visual Contrast.**

**93119.2.1 Raised truncated domes.** Raised truncated domes used as detectable warnings shall contrast visually by 70 percent with adjoining surfaces. Contrast in percent shall be determined as follows:

Contrast = $[(B^1 - B^2)/B^1] \times 100$

Where: $B^1$ = light reflectance value (LRV) of the lighter area;

and,

$B^2$ = light reflectance value (LRV) of the darker area.

The material used to provide contrast shall be an integral part of the walking surface.

**93119.2.2 Signage.** The characters and background of signs shall be eggshell (11 to 19 degree gloss on 60 degree glossimeter). Characters shall be light on a dark background (or dark on a light background) and contrast with their background by at least 70 percent. Contrast in percent shall be determined as follows:

Contrast = $[(B^1 - B^2)/B^1] \times 100$

Where: $B^1$ = light reflectance value (LRV) of the lighter area;

and,

$B^2$ = light reflectance value (LRV) of the darker area.

**Reviser's note:** The brackets and enclosed material in the text of the above section occurred in the copy filed by the agency and appear in the Register pursuant to the requirements of RCW 34.08.040.

NEW SECTION

**WAC 51-40-93120 Section 93120.**

**THIS APPENDIX IS FOR REFERENCE ONLY. IT IS NOT THE RESPONSIBILITY OF THE BUILDING OFFICIAL TO ENFORCE IT.**

**APPENDIX CHAPTER 11**
**DIVISION VI**
**AMERICANS WITH DISABILITIES ACT GUIDELINES FOR AUTOMATED TELLER MACHINES**

**93120.1 Purpose.** The purpose of this division is to provide the United States Architectural and Transportation Barriers Compliance Board Americans with Disabilities Act Guidelines for automated teller machines.

**93120.2 Accessible Buildings: Automated Teller Machines.** Where automated teller machines are provided, each machine shall comply with the requirements below except where two or more machines are provided at a location, then only one must comply.

EXCEPTION: Drive-up-only automated teller machines are not required to comply with 93120.4 and 93120.5.

**93120.3 General.** Each automated teller machine required to be accessible by 93120.2 shall be on an accessible route and shall comply with the provisions of this section.

**93120.4 Clear Floor Space.** The automated teller machine shall be located so that clear floor space complying with 1106.2.4.1, 1106.2.4.2, 1106.2.4.3 and 1106.2.4.4 is provided to allow a person using a wheelchair to make a forward approach, a parallel approach, or both, to the machine.

**93120.5 Reach Ranges.**

**1. Forward Approach Only.** If only a forward approach is possible, operable parts of all controls shall be placed within the forward reach range specified in 1106.2.4.5.

**2. Parallel Approach Only.** If only a parallel approach is possible, operable parts of controls shall be placed as follows:

2.1. Reach Depth Not More Than 10 inches (255 mm). Where the reach depth to the operable parts of all controls as measured from the vertical plane perpendicular to the edge of the unobstructed clear space at the farthest protrusion of the automated teller machine or surround is not more than 10 inches (255 mm), the maximum height above the finished floor or grade shall be 54 inches (1370 mm).

2.2. Reach Depth More Than 10 inches (255 mm). Where the reach depth to the operable parts of any control as measured from the vertical plane perpendicular to the edge of the unobstructed clear floor space at the farthest protrusion of the automated teller machine or surround is more than 10 inches (255 mm), the maximum height above the finished floor or grade shall be as follows:

| Reach Depth | | Maximum Height | |
|---|---|---|---|
| inches | mm | inches | mm |
| 10 | 255 | 54 | 1370 |
| 11 | 280 | 53½ | 1360 |
| 12 | 305 | 53 | 1345 |
| 13 | 330 | 52½ | 1335 |
| 14 | 355 | 51½ | 1310 |
| 15 | 380 | 51 | 1295 |
| 16 | 405 | 50½ | 1285 |
| 17 | 430 | 50 | 1270 |
| 18 | 455 | 49½ | 1255 |
| 19 | 485 | 49 | 1245 |
| 20 | 510 | 48½ | 1230 |
| 21 | 535 | 47½ | 1205 |
| 22 | 560 | 47 | 1195 |
| 23 | 585 | 46½ | 1180 |
| 24 | 610 | 46 | 1170 |

**3. Forward and Parallel Approach.** If both a forward and parallel approach are possible, operable parts of controls shall be placed within at least one of the reach ranges in paragraphs (1) or (2) of this section.

**4. Bins.** Where bins are provided for envelopes, waste paper, or other purposes, at least one of each type provided shall comply with the applicable reach ranges in paragraph (1), (2), or (3) of this section.

EXCEPTION: Where a function can be performed in a substantially equivalent manner by using an alternate control, only one of the controls needed to perform that function is required to comply with this section. If the controls are identified by tactile markings, such markings shall be provided on both controls.

**93120.6 Controls.** Controls for user activation shall comply with 1106.3.

**93120.7 Equipment for Persons with Vision Impairments.** Instructions and all information for use shall be made accessible to and independently usable by persons with vision impairments.

## WSR 97-16-112
### PROPOSED RULES
### BUILDING CODE COUNCIL
[Filed August 6, 1997, 10:30 a.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 97-05-064.

Title of Rule: Chapter 51-13 WAC, Washington State Ventilation and Indoor Air Quality Code.

Purpose: To consider amendments to the Washington State Ventilation and Indoor Air Quality Code.

Statutory Authority for Adoption: RCW 19.27.190, 19.27.020.

Statute Being Implemented: Chapters 19.27 and 34.05 RCW.

Summary: The proposed rules amend three sections of the Washington State Ventilation and Indoor Air Quality Code to correct references and provide greater compatibility with other codes.

Reasons Supporting Proposal: RCW 19.27.190, 19.27.020.

Name of Agency Personnel Responsible for Drafting and Implementation: Judith Darst, P.O. Box 48300, Olympia, WA 98504-8300, (360) 586-2251; and Enforcement: Local jurisdictions.

Name of Proponent: Washington State Building Code Council, governmental.

Agency Comments or Recommendations, if any, as to Statutory Language, Implementation, Enforcement, and Fiscal Matters: The council is seeking comments on the proposed changes in the rules shown below.

Rule is not necessitated by federal law, federal or state court decision.

Explanation of Rule, its Purpose, and Anticipated Effects: The proposed rule amends chapter 51-13 WAC, Washington State Ventilation and Indoor Air Quality Code. Two of the proposed changes correct references to other code documents. A third proposal would add an exception regarding combustion air systems for fireplaces.

**Regulatory Review:** In compliance with Executive Order 97-02, Regulatory improvement, the following criteria for regulatory review will be considered at the time of final adoption of the rule.

1. **Need.** This rule is in conformance with RCW 19.27.190, Indoor air quality. The council regularly reviews existing state-wide building codes. The purpose and objec-

tive of this review, as given in RCW 19.27.020, is to promote the health, safety and welfare of the occupants or users of buildings; to require minimum construction standards for the state of Washington; to permit the use of modern technical methods; to eliminate restrictive, obsolete, conflicting, duplicating and unnecessary regulations; and to provide standards to make buildings accessible to and usable by persons with physical disabilities. The technical advisory groups appointed by the council have identified rules that are obsolete, duplicative or ambiguous, and have proposed amendments and revisions.

2. **Effectiveness and Efficiency.** The mission of the council is to adopt building codes for uniform application throughout the state. In the course of the regular rule review, the council examined regulatory alternatives and new technologies. The council has identified where alternatives can be used effectively and efficiently. The council efficiently achieves uniform state building codes by serving as the central administrative agency for state-wide adoption of building codes.

3. **Clarity.** The council is revising their filing procedure for state amendments to the national uniform codes. To enhance clarity, only those subsections with a state amendment will be filed under the main section number. The balance of the main section will remain as written in the national uniform code, as adopted by reference, unless otherwise noted. This reformatting change reorganizes and shortens the WACs, and necessitates new WAC number assignments.

4. **Intent and Statutory Authority.** The proposed rule is consistent with the legislative intent of the statute chapter 19.27 RCW. The statute gives the council sufficient authority to maintain the state building code, and to amend and adopt state-wide codes as deemed appropriate.

5. **Coordination.** The council rule-making process has included participation by national, state, and local building, fire, mechanical and plumbing officials, as well as state agency representatives for the Departments of Social and Health Services, Health, Labor and Industries, and the state Fire Marshal. The council actively seeks participation from other state agencies to assure that duplication and inconsistency is eliminated.

6. **Cost.** The council appointed technical advisory groups and an Economic and Regulatory Assessment Committee to examine the costs and benefits associated with the revisions to the building codes.

7. **Fairness.** The state amendments to the Ventilation and Indoor Air Quality Code proposed by the council are intended to mitigate disproportionate impact on the regulated community. The council is made up of representatives from the regulated community, as well as public and regulatory officials. In addition, the council enlisted the assistance of technical advisory groups, made up of the individuals, organizations and businesses impacted by the building codes, to review code changes and proposals.

Proposal Changes the Following Existing Rules: 1. **Sections 106 and 502,** these changes correct uniform code and WAC references that have changed over the last three years.

2. **Section 402,** an exception was added to this section that allows manufacturers to specify combustion air systems other than the minimum six square inch combustion air duct required by Section 402.3(b). To comply with the new exception, Washington certified fireplaces combustion air systems must provide safe and efficient combustion in accordance with the emission standards, UBC Standard 31-2 and UBC Section 3102.5.4.

No small business economic impact statement has been prepared under chapter 19.85 RCW. The council appointed Technical Advisory Groups (TAGs) to do a comprehensive review and comparison of the proposed changes to the Ventilation and Indoor Air Quality Code. The TAGs held meetings over a three year period. The TAG findings were reviewed by the Council's Economic and Regulatory Assessment Committee. Based on this review, the council found that all changes proposed are editorial or provide clarification of existing rules and pose minimal economic impact. Therefore, no small business economic analysis was necessary.

Section 201, chapter 403, Laws of 1995, does not apply to this rule adoption. The state Building Code Council is not listed in this section as one of the agencies required to comply with this regulation.

Hearing Location: On Friday, September 12, 1997, at 9:00 a.m., at the Radisson Hotel, Flight Lounge, 17001 Pacific Highway South, SeaTac, WA; and on Friday, October 10, 1997, at 9:00 a.m., at the Spokane City Hall, City Council Chambers, West 808 Spokane Falls Boulevard, Spokane, WA.

Assistance for Persons with Disabilities: Contact Krista Braaksma by September 1, 1997, TDD (360) 753-2200, or (360) 753-5927.

Submit Written Comments to: Mike McEnaney, Chair, State Building Code Council, P.O. Box 48300, Olympia, WA 98504-8300, FAX (360) 586-5880, by October 8, 1997.

Date of Intended Adoption: November 14, 1997.

August 6, 1997
Mike McEnaney
Chair

AMENDATORY SECTION (Amending WSR 95-01-128, filed 12/21/94, effective 6/30/95)

**WAC 51-13-106 Conflicts with other codes.**

106.1 Conflicts with Other Codes: In addition to the requirements of this Code, buildings must conform to the provisions of the State Building Code (Chapter 19.27 RCW and Chapters ((~~51-30, 51-32, 51-34 and 51-26~~)) 51-40, 51-42, 51-44 and 51-46 Washington Administrative Code). In case of conflicts between the Uniform Building, Uniform Plumbing, Uniform Mechanical, and Uniform Fire Codes as adopted and amended in Chapters ((~~51-30, 51-32, 51-34 and 51-26~~)) 51-40, 51-42, 51-44 and 51-46 Washington Administrative Code, the provisions of Chapter 51-13 shall govern. This Code is not intended to abridge any safety or health requirements under any other applicable codes or ordinances.

Where, in any specific case, different sections of this Code specify different materials, methods of construction or other requirements, the most restrictive shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable.

Wherever in this Code reference is made to the appendix, the provisions of the appendix shall not apply unless specifically adopted.

106.2 Authority: Local legislative authorities are authorized and directed to enforce this Code. Local legislative authorities are authorized to promulgate, adopt, and issue those rules and regulations necessary for the effective and efficient administration of this Code.

AMENDATORY SECTION (Amending WSR 95-01-128, filed 12/21/94, effective 6/30/95)

**WAC 51-13-402 Solid fuel burning appliances and fireplaces.**

402.1 General: Solid fuel burning appliances and fireplaces shall satisfy one of the following criteria.

402.2 Solid Fuel Burning Appliances: Solid fuel burning appliances shall be provided with the following:

a) Tight fitting metal or ceramic glass doors.

b) 1. A source from outside the structure of primary combustion air, connected to the appliance as per manufacturer's specification. The air inlet shall originate at a point below the fire box. The duct shall be 4 inches or greater in diameter, not exceed 20 feet in length, and be installed as per manufacturer's instructions;

or

2. The appliance and manufacturer's recommended combustion air supply, as an installed unit, shall be certified by an independent testing laboratory to have passed Test No. 11 - Negative Pressure Test, Section 12.3, of ULC S627-M1984 "Space Heaters for Use with Solid Fuels," modified as follows:

A) Negative pressure of 8 Pascal shall be initially established with the chamber sealed and the air supply, if not directly connected to the appliance, closed off.

B) The air supply, if not directly connected to the appliance, shall then be opened.

C) The maximum allowable air exchange rate from chamber leakage and intentional air supply for the unit (appliance with combustion air supply) in the test chamber is 3.5 air changes per hour, or 28 cfm (cubic feet of air per minute), whichever is less.

EXCEPTION: Combustion air may be supplied to the room in which the solid fuel burning appliance is located in lieu of direct ducting, provided that one of the following conditions is met:

1) The solid fuel burning appliance is part of a central heating plant and installed in an unconditioned space in conformance with the Uniform Mechanical Code; or

2) The solid fuel burning appliance is installed in existing construction directly on a concrete floor or surrounded by masonry materials as in a fireplace.

The combustion air terminus shall be located as close to the solid fuel burning appliance as possible and shall be provided with a barometric damper or equivalent. The combustion air source shall be specified by the manufacturer or no less than four (4) inches in diameter or the equivalent in area or as approved.

402.3 Fireplaces: Fireplaces shall be provided with each of the following:

a) Tightly fitting flue dampers, operated by a readily accessible manual or approved automatic control.

EXCEPTION: Fireplaces with gas logs shall be installed in accordance with the Uniform Mechanical Code section 901.

b) An outside source for combustion air ducted into the firebox. The duct shall be at least six (6) square inches, and shall be provided with an operable outside air duct damper.

EXCEPTION: Washington certified fireplaces shall be installed with the combustion air systems necessary for their safe and efficient combustion and specified by the manufacturer in accordance with the Washington state UBC Standard 31-2 (WAC 51-40-31200) and UBC section 3102.5.4 (WAC 51-40-3102).

c) Site built fireplaces shall have tight fitting glass or metal doors, or a flue draft induction fan, or as approved for minimizing back-drafting. Factory built fireplaces shall use doors listed for the installed appliance.

402.4 Masonry Heaters: Masonry heaters shall be approved by the department of ecology and shall contain both of the following:

a) Primary combustion air ducted from the outside of the structure to the appliance.

b) Tight fitting ceramic glass or metal doors. Flue damper, when provided, shall have an external control and when in the closed position shall have a net free area of not less than five percent of the flue cross sectional area.

AMENDATORY SECTION (Amending WSR 95-01-128, filed 12/21/94, effective 6/30/95)

**WAC 51-13-502 State-wide radon requirements.**

502.1 Crawlspaces:

502.1.1 General: All crawlspaces shall comply with the requirements of this section.

502.1.2 Ventilation: All crawlspaces shall be ventilated as specified in section ((~~2317.7~~)) 2306.7 of the Washington State Uniform Building Code (chapter ((~~51-30~~)) 51-40 WAC).

If the installed ventilation in a crawlspace is less than one square foot for each three hundred square feet of crawlspace area, or if the crawlspace vents are equipped with operable louvers, a radon vent shall be installed to originate from a point between the ground cover and soil. The radon vent shall be installed in accordance with sections 503.2.6 and 503.2.7.

502.1.3 Crawlspace Plenum Systems: In crawlspace plenum systems used for providing supply air for an HVAC system, aggregate, a permanently sealed soil gas retarder membrane and a radon vent pipe shall be installed in accordance with section 503.2. Crawlspaces shall not be used for return air plenums.

In addition, an operable radon vent fan shall be installed. The fan shall be located as specified in section 503.2.7. The fan shall be capable of providing at least one hundred cfm at one inch water column static pressure. The

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fan shall be controlled by a readily accessible manual switch. The switch shall be labeled "RADON VENT FAN."

## WSR 97-16-113
### PROPOSED RULES
### BUILDING CODE COUNCIL
[Filed August 6, 1997, 10:33 a.m.]

PROPOSED

Original Notice.

Preproposal statement of inquiry was filed as WSR 97-05-064.

Title of Rule: Repeal of chapters 51-34 and 51-35 WAC, adoption and amendment of the 1994 Edition of the Uniform Fire Code and Fire Code Standards; and adoption of chapters 51-44 and 51-45 WAC, adoption and amendment of the 1997 Edition of the Uniform Fire Code and Fire Code Standards.

Purpose: To consider whether to adopt, or amend and adopt, the 1997 Editions of the Uniform Fire Code and Fire Code Standards, published by the International Fire Code Institute, and repeal the 1994 editions of these codes.

Statutory Authority for Adoption: RCW 19.27.031, 19.27.074.

Statute Being Implemented: Chapters 19.27 and 34.05 RCW.

Summary: The proposed rules include adoption of the 1997 Uniform Fire Code and Fire Code Standards, with amendments, including Appendices II-F, Protected Aboveground Tanks for Motor Vehicle Fuel Dispensing Stations Outside Buildings, and II-J, Storage of Flammable and Combustible liquids in tanks located within below-grade vaults.

Reasons Supporting Proposal: RCW 19.27.031 and 19.27.074.

Name of Agency Personnel Responsible for Drafting and Implementation: Al Rhoades, P.O. Box 48300, Olympia, WA 98504-8300, (360) 586-8999; and Enforcement: Local jurisdictions.

Name of Proponent: Washington State Building Code Council, governmental.

Agency Comments or Recommendations, if any, as to Statutory Language, Implementation, Enforcement, and Fiscal Matters: The council is seeking comments on the issues and options proposed in the rules shown below.

Rule is not necessitated by federal law, federal or state court decision.

Explanation of Rule, its Purpose, and Anticipated Effects: The proposed rule will adopt by reference and amend the 1997 Editions of the Uniform Fire Code (UFC) and the Uniform Fire Code Standards, published by the International Fire Code Institute (IFCI) and repeal the 1994 Editions of the UFC and UFC Standards. The purpose is to replace the 1994 UFC and UFC Standards (chapters 51-34 and 51-35 WAC) and assign the 1997 UFC and UFC Standards new WAC numbers (chapters 51-44 and 51-45 WAC). The 1997 UFC and UFC Standards will be amended to provide greater safety and flexibility than the published versions for their application in Washington state.

Several amendments, located in ten different sections of the 1994 UFC and UFC Standards, have not been included with the adoption of the 1997 UFC and UFC Standards. This is primarily due to changes between the 1994 and 1997 codes, which have incorporated language contained in the previous state amendments and rendered them obsolete.

**Regulatory Review:** In compliance with Executive Order 97-02, Regulatory improvement, the following criteria for regulatory review will be considered at the time of final adoption of the rule.

1. **Need.** This rule is necessary to comply with the requirements of RCW 19.27.074. The council must regularly review updated versions of the Uniform Fire Code and Uniform Fire Code Standards, and amend and adopt as deemed appropriate by the council. An updated, 1997 version of the Uniform Fire Code has been published. The purpose and objective of this review, as given in RCW 19.27.020, is to promote the health, safety and welfare of the occupants or users of buildings; to require minimum construction standards for the state of Washington; to permit the use of modern technical methods; to eliminate restrictive, obsolete, conflicting, duplicating and unnecessary regulations; and to provide standards to make buildings accessible to and usable by physically disabled persons. The technical advisory groups appointed by the council have identified rules that are obsolete, duplicative or ambiguous, and have proposed amendments and revisions.

2. **Effectiveness and Efficiency.** The mission of the council is to adopt building codes for uniform application throughout the state. In the course of the regular rule review, the council examined regulatory alternatives and new technologies. The council has identified where alternatives can be used effectively and efficiently. The council efficiently achieves uniform state building codes by serving as the central administrative agency for state-wide adoption of building codes.

3. **Clarity.** The council is revising their filing procedure for state amendments to the national uniform codes. To enhance clarity, only those subsections with a state amendment will be filed under the main section number. The balance of the main section will remain as written in the National Uniform Code, as adopted by reference, unless otherwise noted. This reformatting change reorganizes and shortens the WACs, and necessitates new WAC number assignments.

4. **Intent and Statutory Authority.** The proposed rule is consistent with the legislative intent of the statute chapter 19.27 RCW. The statute gives the council sufficient authority to maintain the state building code, and to amend and adopt new editions of the Uniform Fire Code and Uniform Fire Code Standards. The Uniform Fire Code is published every three years.

5. **Coordination.** The council rule-making process has included participation by national, state, and local building, fire, mechanical and plumbing officials, as well as state agency representatives for the Departments of Social and Health Services, Health, Labor and Industries, and the state Fire Marshal. The council actively seeks participation from other state agencies to assure that duplication and inconsistency is eliminated.

6. **Cost.** The council appointed technical advisory groups and an Economic and Regulatory Assessment Committee to examine the costs and benefits associated with the revisions to the building code.

7. **Fairness.** The state amendments to the Uniform Fire Code proposed by the council are intended to mitigate disproportionate impact on the regulated community. The council is made up of representatives from the regulated community, as well as public and regulatory officials. In addition, the council enlisted the assistance of technical advisory groups, made up of individuals, organizations and businesses impacted by the building codes, to review changes and proposals.

Proposal Changes the Following Existing Rules: Amendments to the following sections have been maintained from the 1994 UFC (chapter 51-34 WAC) with no change: WAC 51-44-200, 51-44-900, 51-44-1007, 51-44-1109, 51-44-2500, and 51-44-7802. Amendments in WAC 51-44-6300, Article 63, Refrigeration, are maintained from the permanent rule filed as WSR 97-01-135.

**WAC 51-44-003 Uniform Fire Code,** two appendix items are adopted with the 1997 UFC: Appendix II-F, Protected Aboveground Tanks For Motor Vehicle Fuel-Dispensing Stations Outside Buildings; and Appendix II-J, Storage of Flammable and Combustible Liquids in Tanks Located Within Below-Grade Vaults.

**WAC 51-44-007 Exceptions**, "temporary growing structures" are defined and their regulation is exempted from the UFC.

**WAC 51-44-103, Section 103.2.1.1**, an exception deletes Medical Gas Systems from regulation under the fire code.

**WAC 51-44-1003, Section 1003.2.4.1**, the existing amendment requiring automatic fire-extinguishing systems in newly constructed school buildings has language added to clarify that substitutions as well as increases are allowed when Sections 505, 506 and 508 of the building code may be used.

**WAC 51-44-5200, Section 5201.1**, the existing amendment, which allows for fleet fueling, has language added to clarify the intent of item 3 stating that "tank vehicles with fuel in the cargo tank shall not be left unattended."

**WAC 51-44-6100, Sections 6102 and 6103**, in Section 6102 reference to Section 7902.1.7.4 has been changed to Section 7902.1.7 for accuracy. Section 6103 has been amended to allow a permit to be issued for disposing of an oil tank without an inspection of the tank or premises.

**WAC 51-44-7404, Sections 7404.1 and 7404.2.3**, an exception to Section 7404.1 assigns the regulation of medical gas systems to the plumbing code. Section 7404.2.3 - Medical Gas Systems, is not adopted.

**WAC 51-44-7900, Sections 7902.1.7.2.4 and 7903.4.1**, in Section 7902.1.7.2.4, an exception is added to item 3 which allows for the abandonment of residential heating oil tanks without filling with an inert solid material. For Section 7903.4.1, solvent distillation units listed for and used in laboratories has been removed from the exceptions to compliance with the code for listing, labeling and installation.

**WAC 51-44-8000, Section 8001.3.2**, for hazardous materials management storage plans showing the intended storage arrangement and location of aisles, the requirement for specifying the dimensions of aisles has been deleted.

**WAC 51-44-10210, Appendix II-J, Section 5.4**, for flammable and combustible liquids storage, the maximum number of storage tanks allowed in a below-grade vault is increased from one to three.

**WAC 51-45-80400, Standard 80-4, Section 5.2.1.2**, the requirement for a smoke detection system has been changed to requiring an automatic sprinkler system when bulk inert gas systems are installed in a building of other than Type I or II construction.

No small business economic impact statement has been prepared under chapter 19.85 RCW. The council appointed Technical Advisory Groups (TAGs) to do a comprehensive review and comparison of the 1994 Uniform Fire Code and the 1997 Uniform Fire Code. The TAGs held meetings over a three year period. All national and state-wide code changes were examined. The TAG findings were reviewed by the council's Economic and Regulatory Assessment Committee. Based on this review, the council found that all changes proposed are editorial in nature or provide clarification and pose minimal economic impact. Therefore, no small business economic analysis was necessary.

Section 201, chapter 403, Laws of 1995, does not apply to this rule adoption. The state Building Code Council is not listed in this section as one of the agencies required to comply with this regulation.

Hearing Location: On Friday, September 12, 1997, at 9:00 a.m., at the Radisson Hotel, Flight Lounge, 17001 Pacific Highway South, SeaTac, WA; and on Friday, October 10, 1997, at 9:00 a.m., at the Spokane City Hall, City Council Chambers, West 808 Spokane Falls Boulevard, Spokane, WA.

Assistance for Persons with Disabilities: Contact Krista Braaksma by September 1, 1997, TDD (360) 753-2200, or (360) 753-5927.

Submit Written Comments to: Mike McEnaney, Chair, State Building Code Council, P.O. Box 48300, Olympia, WA 98504-8300, FAX (360) 586-5880, by October 8, 1997.

Date of Intended Adoption: November 14, 1997.

August 6, 1997
Mike McEnaney
Chair

## Chapter 51-44 WAC
## STATE BUILDING CODE ADOPTION AND AMENDMENT OF THE 1997 EDITION OF THE UNIFORM FIRE CODE

NEW SECTION

**WAC 51-44-001 Authority.** These rules are adopted under the authority of chapter 19.27 RCW.

NEW SECTION

**WAC 51-44-002 Purpose.** The purpose of these rules is to implement the provisions of chapter 19.27 RCW, which provides that the State Building Code council shall maintain the State Building Code in a status which is consistent with the purpose as set forth in RCW 19.27.020. In maintaining the codes the council shall regularly review updated versions of the codes adopted under the act, and other pertinent information, and shall amend the codes as deemed appropriate by the council.

PROPOSED

PROPOSED

NEW SECTION

**WAC 51-44-003 Uniform Fire Code.** The 1997 edition of the Uniform Fire Code, including Appendix II-F, Protected Aboveground Tanks For Motor Vehicle Fuel-Dispensing Stations Outside Buildings, and Appendix II-J, Storage of Flammable and Combustible Liquids in Tanks Located Within Below-Grade Vaults, published by the International Fire Code Institute is hereby adopted by reference with the following additions, deletions, and exceptions.

NEW SECTION

**WAC 51-44-007 Exceptions.** The exceptions and amendments to the Uniform Fire Code contained in the provisions of chapter 19.27 RCW shall apply in case of conflict with any of the provisions of these rules.

The provisions of this code do not apply to temporary growing structures used solely for the commercial production of horticultural plants including ornamental plants, flowers, vegetables, and fruits. "Temporary growing structure" means a structure that has the sides and roof covered with polyethylene, polyvinyl, or similar flexible synthetic material and is used to provide plants with either frost protection or increased heat retention. A temporary growing structure is not considered a building for purposes of this code.

NEW SECTION

**WAC 51-44-008 Implementation.** The Uniform Fire Code adopted by chapter 51-44 Washington Administrative Code (WAC) shall become effective in all counties and cities of this state on July 1, 1998.

NEW SECTION

**WAC 51-44-0103 Section 103—Inspection and enforcement.**

**103.2.1.1 General.** The chief is authorized to administer and enforce this code. (Exception: Medical Gas Systems, Section 7404.2.3) Under the chief's direction, the fire department is authorized to enforce all ordinances of the jurisdiction pertaining to:

1. The prevention of fires,

2. The suppression or extinguishment of dangerous or hazardous fires,

3. The storage, use and handling of hazardous materials,

4. The installation and maintenance of automatic, manual and other private fire alarm systems and fire-extinguishing equipment,

5. The maintenance and regulation of fire escapes,

6. The maintenance of fire protection and the elimination of fire hazards on land and in buildings, structures and other property, including those under construction,

7. The maintenance of means of egress, and

8. The investigation of the cause, origin and circumstances of fire and unauthorized releases of hazardous materials.

For authority related to control and investigation of emergency scenes, see Section 104.

NEW SECTION

**WAC 51-44-0200 Article 2—Definitions and abbreviations.**

**SECTION 206 - E.**

**ELECTRICAL CODE** is the National Electrical Code, promulgated by the National Fire Protection Association, as adopted in chapter 296-46 WAC, or the locally adopted Electrical Code.

**SECTION 216 - O.**

**Group E Occupancies:**

Group E Occupancies shall be:

**Division 1.** Any building used for educational purposes through the 12th grade by 50 or more persons for more than 12 hours per week or four hours in any one day.

**Division 2.** Any building used for educational purposes through the 12th grade by less than 50 persons for more than 12 hours per week or four hours in any one day.

**Division 3.** Any building or portion thereof used for day-care purposes for more than six persons.

EXCEPTION: Family child day care homes as defined in chapter 51-40 WAC, Uniform Building Code, shall be considered Group R, Division 3 Occupancies.

**Group LC Occupancies:**

Group LC Occupancies shall be:
Group LC Occupancies shall include buildings, structures, or portions thereof, used for the business of providing licensed care to clients in one of the following categories regulated by either the Washington Department of Health or the Department of Social and Health Services:

1. Adult family home.
2. Adult residential rehabilitation facility.
3. Alcoholism intensive inpatient treatment service.
4. Alcoholism detoxification service.
5. Alcoholism long term treatment service.
6. Alcoholism recovery house service.
7. Boarding home.
8. Group care facility.
9. Group care facility for severely and multiple handicapped children.
10. Residential treatment facility for psychiatrically impaired children and youth.

EXCEPTION: Where the care provided at an alcoholism detoxification service is acute care similar to that provided in a hospital, the facility shall be classified as a Group I, Division 1.1 hospital.

**Group R Occupancies:**

Group R Occupancies shall be:

**Division 1.** Hotels and apartment houses. Congregate residences (each accommodating more than 10 persons).

**Division 2.** Not used.

**Division 3.** Dwellings, family child day care homes as defined in chapter 51-40 WAC, Uniform Building Code, and lodging houses. Congregate residences (each accommodating 10 persons or less).

**OPEN BURNING** is the burning of a bonfire, rubbish fire or other fire in an outdoor location where fuel being burned is not contained in an incinerator, outdoor fireplace, barbecue grill or barbecue pit. See chapter 173-425 WAC.

**SECTION 219 - R.**

**RECREATIONAL FIRE** is the burning of materials other than rubbish where fuel being burned is not contained in an incinerator, outdoor fireplace, barbecue grill or barbecue pit and with a total fuel area of 3 feet (914 mm) or less in diameter and 2 feet (610 mm) or less in height for pleasure, religious, ceremonial, cooking or similar purposes. See chapter 173-425 WAC.

NEW SECTION

**WAC 51-44-0900 Article 9—Fire department access and water supply.**

**901.2.2.1 Fire apparatus access,** is not adopted.

**901.4.2 Fire apparatus access roads,** is not adopted.

**902.1 General.** Fire apparatus access roads shall be provided and maintained in accordance with locally adopted street, road, and access standards.

**902.2 through 902.2.4.1,** are not adopted.

NEW SECTION

**WAC 51-44-1003 Section 1003—Fire-extinguishing systems.**

**1003.2.4.1 General.** An automatic fire-extinguishing system shall be installed in all newly constructed buildings classified as Group E, Division 1 Occupancy. A minimum water supply meeting the requirements of UBC Standard 9-1 shall be required. The Chief may reduce fire flow requirements for buildings protected by an approved automatic sprinkler system.

For the purpose of this section, additions exceeding 60 percent of the value of such building or structure, or alterations and repairs to any portion of a building or structure within a twelve month period that exceeds 100 percent of the value of such building or structure shall be considered new construction. In the case of additions, area separation walls shall define separate buildings.

EXCEPTION: Portable school classrooms, provided:

1. Aggregate area of clusters of portable school classrooms does not exceed 5,000 square feet (465 $m^2$); and
2. Clusters of portable school classrooms separated as required in Chapter 5 of the Building Code.

When not required by other provisions of this chapter, a fire-extinguishing system installed in accordance with UBC Standard 9-1 may be used for increases and substitutions allowed in Sections 505, 506, and 508 of the building code.

NEW SECTION

**WAC 51-44-1007 Section 1007—Fire alarm systems.**

**1007.1.3** Where new construction or modification is to be in compliance with adopted chapter 51-40 WAC, Chapter 11, alarm modifications shall be designed to be compatible with the requirements of UFC Article 10.

**1007.2.12.10 Accessible buildings.**

**1007.2.12.10.1 General.** Alarm systems in buildings which are required to have accessible building facilities shall include both audible and visible alarms. All devices shall be listed or approved. The alarm devices shall be located in all accessible sleeping accommodations and common use areas, including toilet rooms and bathing facilities, hallways, and lobbies.

EXCEPTIONS: 1. Alarm systems in Group I, Division 1.1 and 1.2 Occupancies may be modified to suit standard health care design practice.
2. Visible alarms are not required in Group R, Division 1 apartment buildings.

**1007.2.12.10.2 Alarms.**

**1007.2.12.10.2.1 Audible alarms.** Audible alarms shall produce a sound in accordance with UFC Standard 10-2. Audible alarms shall exceed the prevailing equivalent sound level in the room or space by at least 15 decibels, or shall exceed any maximum sound level with a duration of 30 seconds by 5 decibels, whichever is louder. Sound levels for alarm signals shall not exceed 120 decibels.

**1007.2.12.10.2.2 Visible alarms.** Visible alarm signal appliances shall be integrated into the building or facility alarm system. All devices shall be listed or approved. Where single-station audible alarms are provided, single-station visible alarm signals shall be provided.

EXCEPTION: Visible alarms are not required in Group R, Division 1 apartment buildings.

Visible alarms shall be located per nationally recognized standards. NFPA 72, 1993 edition, and ANSI 117.1, 1992, shall be considered equivalent facilitation.

**1007.2.12.10.2.3 Access to manual fire alarm systems.** Manual fire alarm devices shall be mounted at least 36 inches (914.4 mm) and not more than 54 inches (1371.6 mm) above the floor where a parallel approach is provided. Where a parallel approach cannot be provided the height shall not exceed 48 inches (1219.2 mm).

**1007.3.3.3.4 Visual alarms.** Alarm systems shall include both audible and visual alarms. Alarm devices shall be located in hotel guest rooms as required by the building code (see UBC Washington State Amendments, Section 1105.4.9); accessible public- and common-use areas, including toilet rooms and bathing facilities; hallways; and lobbies. (See UBC Washington State Amendments, Section 1106.15.2, for additional information about visual signals.)

PROPOSED

PROPOSED

NEW SECTION

**WAC 51-44-10210 Appendix II-J—Storage of flammable and combustible liquids in tanks located within below-grade vaults.**

**5.4 Arrangement.** Each vault may contain a maximum of three tanks. Compartmentalized tanks are allowed and shall be considered as a single tank.

NEW SECTION

**WAC 51-44-1109 Section 1109—Control of sources of ignition.**

**1109.8.3 Religious ceremonies.** Participants in religious ceremonies shall not be precluded from carrying hand-held candles.

NEW SECTION

**WAC 51-44-2500 Article 25—Places of assembly.**

**2501.9.3 Width with Fixed Seats.** Aisles in assembly occupancies with fixed seats shall comply with Section 2501.9.3. The clear width of aisles shall be based on the number of occupants within the portion of the seating areas served by the aisle.

The clear width of an aisle in inches shall not be less than the occupant load served by the aisle multiplied by 0.3 for aisles with slopes greater than 1 unit vertical to 8 units horizontal (12.5% slope) and not less than 0.2 for aisles with a slope of 1 unit vertical to 8 units horizontal (12.5% slope) or less. In addition, when the rise of steps in aisles exceeds 7 inches (178 mm), the aisle clear width shall be increased by 1¼ inches (32 mm) for each 100 occupants or fraction thereof served for each ¼ inch (6.35 mm) of riser height above 7 inches (178 mm).

EXCEPTION: For buildings with smoke-protected assembly seating and for which an approved life-safety evaluation is conducted, the minimum clear width of aisles and other means of egress may be in accordance with Table 2501-B. For Table 2501-B, the number of seats specified must be within a single assembly area, and interpolation shall be permitted between the specified values shown. If Table 2501-B is used the minimum clear widths shown shall be modified in accordance with the following:

1. **Factor *A*:** If risers exceed 7 inches (178 mm) in height, multiply the stair width in the tables by factor *A*, where:

$$A = 1 + \frac{(\text{riser height} - 7.0 \text{ in.})}{5}$$

For SI:
$$A = 1 + \frac{(\text{riser height} - 178 \text{ mm})}{127}$$

2. **Factor *B*:** Stairs not having a handrail within a 30-inch (760 mm) horizontal distance shall be 25 percent wider than otherwise calculated. Multiply by factor *B*, where $B = 1.25$.

3. **Factor *C*:** Ramps steeper than 1 unit vertical in 10 units horizontal (10% slope) where used in ascent shall be 10 percent wider than otherwise calculated. Multiply by factor *C*, where $C = 1.10$.

Where egress is possible in two directions, the width of such aisles shall be uniform throughout their length.

When aisles converge to form a single path of exit travel, the aisle width shall not be less than the combined required width of the converging aisles.

In assembly rooms with fixed seats arranged in rows, the clear width of aisles shall not be less than set forth above and not less than the following:

Forty-eight inches (1219 mm) for stairs having seating on both sides.

Thirty-six inches (914 mm) for stairs having seating on one side.

Twenty-three inches (584 mm) between a stair handrail and seating when the aisles are subdivided by the handrail.

Forty-two inches (1067 mm) for level or ramped aisles having seating on both sides.

Thirty-six inches (914 mm) for level or ramped aisles having seating on one side.

Twenty-three inches (584 mm) between a stair handrail and seating when an aisle does not serve more than five rows on one side.

**2501.9.5 Ramp slope.** The slope of ramped aisles shall not be more than 1 unit vertical in 8 units horizontal (12.5 percent slope). Ramped aisles shall have a slip-resistant surface.

EXCEPTION: When provided with fixed seating, theaters may have a slope not steeper than 1 unit vertical to 5 units horizontal (20 percent slope).

**2501.9.6.2 When required.** Aisles with a slope steeper than 1 unit vertical to 8 units horizontal (12.5 percent slope) shall consist of a series of risers and treads extending across the entire width of the aisle, except as provided in subsection 2501.9.5.

The height of risers shall not be more than 7 inches (178 mm) or less than 4 inches (102 mm) and the tread run shall not be less than 11 inches (279 mm). The riser height shall be uniform within each flight and the tread run shall be uniform throughout the aisle. Variations in run or height between adjacent treads or risers shall not exceed 3/16 inch (4.8 mm). A contrasting marking stripe or other approved marking shall be provided on each tread at the nosing or leading edge such that the location of each tread is readily apparent when viewed in descent. Such stripe shall be a minimum of 1 inch (25.4 mm) wide and a maximum of 2 inches (51 mm) wide.

EXCEPTION: When the slope of aisle steps and the adjoining seating area is the same, the riser heights may be increased to a maximum of 9 inches (229 mm) and may be nonuniform but only to the extent necessitated by changes in the slope of the adjoining seating area to maintain adequate sightlines. Variations may exceed 3/16 inch (4.8 mm) between adjacent risers provided the exact location of such variations is identified with a marking stripe on each tread at the nosing or leading edge adjacent to the nonuniform riser. The marking stripe shall be distinctively different from the contrasting marking stripe.

**2501.17 Candles and other open-flame devices.** Candles and other open-flame devices shall not be used in places of assembly or in drinking or dining establishments.

EXCEPTIONS: 1. When used in conjunction with approved heating or cooking appliances in areas not accessible to the public.
2. When used in conformance with Section 1109.8.
3. When used in conformance with Section 8203.2.1.8.
4. Hand-held candles carried by participants in religious ceremonies. (See RCW 19.27.031(3).)

NEW SECTION

**WAC 51-44-5200 Article 52—Motor vehicle fuel-dispensing stations.**

**5201.1 Scope.** Automotive, marine and aircraft motor vehicle fuel-dispensing stations shall be in accordance with Article 52 and UFC Standard 52-1. Such operations shall include both public accessible and private operations. Flammable and combustible liquids and LP-gas shall also be in accordance with Articles 79 and 82.

EXCEPTION: Class II or III liquids may be transferred from tank vehicles into fuel tanks of motor vehicles when approved by the chief, and under the following conditions:

1. Only diesel fuel will be allowed and each premises shall require a separate permit issued in accordance with Section 105,

2. Tank vehicles shall meet the requirements of the U.S. Department of Transportation (DOT) and UFC Standard 79-4 and as approved by the chief,

3. The tank vehicle, while in service, shall not be left unattended, tank vehicles with fuel in the cargo tank shall not be left unattended,

4. A fire extinguisher with a classification of 2A-20BC shall be readily available at the fueling site,

5. There shall be signs stating "NO SMOKING OR OPEN FLAME WITHIN 25 FEET (7620 mm)" readily visible at the fueling site,

6. There shall be adequate lighting for night time operations,

7. For other than marine motor vehicles, the fuel hose shall not exceed 50 feet (15 240 mm) in length,

8. Approved automatic closing nozzles without a latch open device shall be used,

9. Communication devices shall be available in accordance with Section 5201.6.3,

10. Tank vehicles shall have emergency shut off valves as approved by the chief,

11. Dispensing shall be done in accordance with Section 7903.3.3,

12. At least 20 feet (6096 mm) from any source of ignition,

13. The applicant shall comply with all applicable federal, state and local environmental laws and regulations as a condition of permit,

14. The private fueling area shall be located on an area graded in a manner to direct the spill away from buildings, storage and property lines.

NEW SECTION

**WAC 51-44-6100 Article 61—Oil-burning equipment.**

**SECTION 6102 - GENERAL.**

The design, construction and installation of oil-burning equipment shall be in accordance with the Mechanical Code. Oil-burning equipment shall be of an approved type. Tanks and piping serving oil-burning equipment which has been out of service for a period of one year shall be removed from the ground or property or abandoned in place in accordance with Section 7902.1.7 of this code.

**SECTION 6103 - PERMITS.**

A permit is required to remove, abandon, place temporarily out of service or otherwise dispose of a combustible liquids tank. See Section 105.8, permit f.3. Such a permit may be issued without an inspection of the tank or premises as otherwise required in Section 105.4.

**SECTION 6106 - PORTABLE UNVENTED OIL-BURNING HEATING APPLIANCES AND UNVENTED DECORATIVE GAS LOGS AND FIREPLACES.**

**6106.1 General.** The design, construction and use of portable unvented oil-burning heating appliances shall be in accordance with Section 6106 and other applicable provisions of this code.

**6106.2 Equipment.** Portable unvented oil-burning heating appliances shall be listed and shall be limited to a fuel tank capacity of 2 gallons (7.6 L).

EXCEPTION: Appliances approved for temporary use during construction processes are allowed to have a greater fuel tank capacity, provided such capacity does not exceed the terms of the listing of the appliance.

**6106.3 Location.** The use of listed portable unvented oil-burning heating appliances shall be limited to supplemental heating in Groups S, Divisions 3, 4, and 5 and Group U Occupancies.

EXCEPTIONS: 1. When approved, portable unvented oil-burning heating appliances may be used in any occupancy during construction processes when such use is necessary for the construction and the use does not represent a hazard to life or property.

2. Approved, unvented portable oil-fueled heaters may be used as a supplemental heat source in any Group B, F-2, M, R or U Occupancy provided that such heaters shall not be located in any sleeping room or bathroom, and shall comply with RCW 19.27A.080, 19.27A.090, 19.27A.100, 19.27A.110, and 19.27A.120.

3. Approved, unvented decorative gas logs and decorative fireplaces may be installed, used, maintained and permitted to exist in any Group I or R Occupancy, except bathrooms and bedrooms. An unvented decorative gas log is a listed natural or liquefied petroleum gas burning log with an open flame consisting of a metal frame or base supporting simulated logs which is designed so that its primary function lies in the aesthetic effect of the logs and flame. An unvented decorative fireplace is a listed unvented gas log permanently installed in a freestanding enclosure or zero clearance enclosure designed and approved for installation in walls or other building structures. Unvented decorative gas logs and fireplaces shall:

1. Be equipped with an approved oxygen-depletion sensor,

2. Be listed,

3. Not be installed in any room which does not have an alternative primary source of heat,

4. Have free air volume of at least 50 cubic feet (1.4 $m^3$) for each 1,000 Btu (2.2 $mm^2/W$) of thermal output,

5. Be permanently installed, and

PROPOSED

6. Not be equipped with or connected to any automatic ignition or shut-off device except the oxygen-depletion sensor.

**6106.4 Fuel.** The grade and type of fuel shall be in accordance with the listing for the appliance. Storage and handling of fuel shall be in accordance with Article 79.

PROPOSED

NEW SECTION

**WAC 51-44-6300 Article 63—Refrigeration.**

**SECTION 6301 - SCOPE.**

**6301.1** This article shall govern the design, installation, construction and repair of refrigeration systems that vaporize and liquefy a fluid during the refrigerating cycle. Refrigerant piping design and installation, including pressure vessels and pressure relief devices, shall conform to this code. Permanently installed refrigerant storage systems and other components shall be considered as part of the refrigeration system to which they are attached.

**6301.2** Refrigeration unit and system installations having a refrigerant circuit containing more than 220 pounds (100 kg) of Group A1 or 30 pounds (13.6 kg) of any other group refrigerant shall be in accordance with Article 63 and the Mechanical Code. See the Mechanical Code for refrigerant group descriptions. See also Sections 8001.1.2 and 8002.

EXCEPTION: The chief is authorized to exempt temporary or portable installations.

**6301.3** Refrigeration systems shall comply with the requirements of this code and, except as modified by this code, ASHRAE 15 - 1994. Ammonia refrigerating systems shall comply with this code and, except as modified by this code, ASHRAE 15 - 1994 and IIAR 2 - 1992.

**SECTION 6309 - AMMONIA DISCHARGE.**

Ammonia refrigeration systems shall be designed and installed in accordance with ASHRAE 15 - 1994 Section 9.7.8.2, Ammonia Discharge.

EXCEPTION: An emergency discharge is not required for ammonia-water absorption unit systems installed outdoors provided that the discharge is shielded and dispersed.

**SECTION 6310 - REFRIGERATION MACHINERY ROOMS.**

**6310.1 When Required.** Where required by UMC Table 1104.2(1), a machinery room shall be provided to enclose refrigeration systems located indoors. Access to the machinery room shall be restricted to authorized personnel. For rooms where occupational exposure could occur, see WAC 269-62-07515 and 296-62-3112.

**6310.2 Dimensions.** A machinery room shall be dimensioned so as to provide clearances required by UMC Chapter 3. There shall be clear head room of not less than 7 feet 3 inches (2210 mm).

**6310.3 Means of egress.** Means of egress shall comply with Uniform Building Code Section 1020 - Special Hazards.

Each machinery room shall be provided with a minimum of one exit door that opens directly to the outside.

EXCEPTION: Self-closing, tight-fitting doors opening into a vestibule leading directly outside.

**6310.4 Refrigerant-vapor Alarms.** Machinery rooms shall contain a refrigerant vapor detector with an audible and visual alarm. The detector, or a sampling tube that draws air to the detector, shall be located in an area where refrigerant vapor from a leak will concentrate. The alarm shall be actuated at a value not greater than the corresponding TLV - TWA values shown in UMC Table 1104.1. Detectors and alarms shall be placed in approved locations.

EXCEPTION: Detectors are not required for ammonia systems complying with UMC Section 1106.8.

**6310.7 Special Requirements.** Open flames that use combustion air from the machinery room shall not be installed in a machinery room.

EXCEPTIONS: 1. Matches, lighters, halide leak detectors and similar devices.

2. Where the refrigerant is carbon dioxide or water.

3. Fuel burning equipment shall not be prohibited in the same machinery room with refrigerant - containing equipment where combustion air is ducted from outside the machinery room and sealed in such a manner as to prevent any refrigerant leakage from entering the combustion chamber, or where a refrigerant vapor detector is employed to automatically shut off the combustion process in the event of refrigerant leakage.

**SECTION 6311 - REFRIGERATION MACHINERY ROOM VENTILATION.**

**6311.1 General.** Machinery rooms shall be mechanically ventilated to the outdoors. Mechanical ventilation shall be capable of exhausting the minimum quantity of air both at the normal operating and emergency conditions. Multiple fans or multispeed fans shall be allowed in order to produce the emergency ventilation rate to obtain a reduced airflow for normal ventilation.

EXCEPTION: Where a refrigerating system is located outdoors more than 20 feet (6096 mm) from any building opening and is enclosed by a penthouse, lean - to or other structure, natural or mechanical ventilation shall be provided in accordance with UMC Section 1105.9.

**6311.2 Distribution of Ventilation.** Provisions shall be made for supply air to replace that being exhausted. Openings for supply air shall be located to avoid intake of exhaust air. Air supply and exhaust ducts to the machinery room shall comply with the provisions of UMC Section 1105.9.

**6311.3 Intermittent Control of Ventilation Systems.** Fans providing refrigeration machinery room temperature control or automatic response to refrigerant vapor are allowed to be automatically controlled to provide intermittent ventilation as conditions require.

**6311.4 Emergency Control of Ventilation Systems.** Fans providing emergency purge ventilation for refrigerant escape shall have a clearly identified switch of the break-glass type providing on-only control immediately adjacent to and outside of each refrigerant machinery room exit. Purge fans shall also respond automatically to the refrigerant concentration detection system set to activate the ventilation system at values not greater than the corresponding TLV - TWA values shown in UMC Table 1104.1. Ventilation equipment in ammonia machinery rooms equipped with a refrigerant vapor detector that will automatically start the ventilation system and actuate an alarm may be set at detection levels which exceed those in UMC Table 1104.1 but such detection

level setting shall not exceed 1,000 ppm. An emergency purge control shall be provided with a manual reset only.

**6311.6 Ventilation Discharge.** Exhaust from mechanical ventilation systems shall be discharged 20 feet (6096 mm) or more from a property line or openings into buildings. Also see Section 6308.

**6311.7 Fans.** Fans and associated equipment intended to operate the emergency purge of other than Group A1 or Group B1 refrigerants shall meet the requirements for a Class I, Division 1 hazardous location as specified in the Electrical Code.

EXCEPTION: Ammonia machinery rooms.

**SECTION 6313 - DETECTION AND ALARM SYSTEMS.**

**6313.2.1 Alarm.** Refrigerant vapor alarms shall be activated at a value not greater than the corresponding TLV - TWA values shown in UMC Table 1104.1.

EXCEPTION: Alarms in ammonia machinery rooms may be activated by a detector setting not to exceed 1,000 ppm when the activation of the detector will automatically start the ventilation system.

**6313.2.2 Automatic shutdown,** is not adopted.

**SECTION 6314 - REFRIGERATION MACHINERY ROOM EQUIPMENT AND CONTROLS.**

**6314.4 Emergency Control.** A clearly identified switch of the break-glass type providing off-only control of electrically energized equipment and devices within the refrigeration machinery room shall be provided immediately adjacent to and outside of each refrigeration machinery room exit.

**SECTION 6315 - REFRIGERANT CONTROL VALVES.**

**6315.2 Support.** Stop valves installed in copper refrigerant lines of 7/8 inch (22 mm) or less outside diameter shall be securely supported independently of the tubing or piping.

**SECTION 6318 - INSTRUCTIONS.**

The person in charge of premises on which a refrigeration unit or system is installed shall provide an approved card located in the emergency control box designating:

1. Instructions for suspending operation of the system in the event of an emergency,

2. The name, address, and emergency telephone numbers to obtain emergency service,

3. The name, address, and telephone number of the fire department with instructions to notify the fire department in the event of an emergency,

4. The names, addresses, and telephone numbers of all corporate, local, state, and federal agencies to be contacted as required in the event of a reportable incident, and,

5. The location and operation of emergency discharge systems when such systems are required by Article 63.

NEW SECTION

**WAC 51-44-7404 Section 7404—Medical gas systems.**

**7404.1 General.** Compressed gases at hospitals and similar facilities intended for inhalation or sedation including, but not limited to, analgesia systems for dentistry, podiatry, veterinary and similar uses shall be in accordance with Section 7404 in addition to other requirements of Article 74.

EXCEPTION: All distribution piping, supply manifolds, connections, regulators, valves, alarms, sensors and associated equipment shall be in accordance with the plumbing code.

**7404.2.3 - Medical gas systems,** is not adopted.

NEW SECTION

**WAC 51-44-7802 Section 7802—Fireworks.**

**7802.1 General.** Storage, use and handling of fireworks shall be in accordance with chapter 70.77 RCW and local ordinances consistent with chapter 70.77 RCW.

**7802.2 Seizure of Fireworks, through 7802.4.9.8.10 Record,** is not adopted.

NEW SECTION

**WAC 51-44-7900 Article 79—Flammable and combustible liquids.**

**SECTION 7902 - STORAGE.**

**7902.1.7.2.4 Tanks abandoned in place.** Tanks abandoned in place shall be abandoned as follows:

1. Flammable and combustible liquids shall be removed from the tank and connected piping,

2. The suction, inlet, gage, vapor return and vapor lines shall be disconnected,

3. The tank shall be filled completely with an approved, inert solid material,

EXCEPTION: Residential heating oil tanks of 1,100 gallons (4,164 L) or less, provided the fill line is permanently capped or plugged, below grade, to prevent refilling of the tank.

4. Remaining underground piping shall be capped or plugged, and

5. A record of the tank size, location and date of abandonment shall be retained.

**7902.6.8 Leaking tanks.** Leaking tanks shall be handled in accordance with WAC 173-360-325.

**7902.6.10 Tank lining.** Steel tanks are allowed to be lined only for the purpose of protecting the interior from corrosion or providing compatibility with a material to be stored. Only those liquids tested for compatibility with the lining material are allowed to be stored in lined tanks. Lining of leaking underground storage tanks shall be done in accordance with the provisions of WAC 173-360-325.

**7902.6.15.2 Cathodic protection.** Cathodic protection systems provided for corrosion protection shall be in accordance with recognized standards. See WAC 173-360-320.

PROPOSED

**SECTION 7903 - DISPENSING, USE, MIXING AND HANDLING.**

**7903.4 Solvent Distillation Units.**

**7903.4.1 General.** Solvent distillation units used to recycle Class I, II or III-A liquids having a distillation chamber capacity of 60 gallons (227.1 L) or less shall be listed, labeled and installed in accordance with Section 7903.4 and nationally recognized standards. See Article 90, Standard u.1.17.

EXCEPTIONS: 1. Solvent distillation units installed in dry-cleaning plants in accordance with Section 3603.
2. Solvent distillation units used in continuous throughput industrial processes where the source of heat is remotely supplied using steam, hot water, oil or other heat-transfer fluids, the temperature of which is below the auto-ignition point of the solvent(s).
3. Approved research, testing and experimental processes.

Solvent-distillation units used to recycle Class I, II or III-A liquids, having a distillation chamber capacity exceeding 60 gallons (227.1 L) shall be used in locations that comply with the use and mixing requirements of Section 7903 and other applicable provisions in Article 79.

Classes I, II and III-A liquids also classified as unstable (reactive) shall not be processed in solvent-distillation units.

EXCEPTION: Appliances listed for the distillation of unstable (reactive) solvents.

**SECTION 7904 - SPECIAL OPERATIONS.**

**7904.5.4.2.2 Marine craft and special equipment.** Liquids intended for use as motor fuels are allowed to be transferred from tank vehicles into the fuel tanks of marine craft and special equipment under the following conditions and when approved, and when:

1. The tank vehicle's specific function is that of supplying fuel to fuel tanks and each premises shall require a separate permit issued in accordance with Section 105,

2. The operation shall be performed only where the general public has no access or where there is no unusual exposure to life and property,

3. The dispensing line shall not exceed 50 feet (15 240 mm) in length, and

4. The dispensing nozzle is approved.

**7904.5.4.2.2.1 Vehicle fueling.** When approved by the chief, dispensing of motor vehicle fuel from tank vehicles into the fuel tanks of motor vehicles is allowed in accordance with Article 52 and Sections 7904.2 and 7904.5.4.2.2.

NEW SECTION

**WAC 51-44-8000 Article 80—Hazardous materials.**

**SECTION 8001 - GENERAL.**

**8001.3.2 Hazardous materials management plan.** When required by the chief, each application for a permit shall include a hazardous materials management plan (HMMP). The location of the HMMP shall be posted adjacent to permits when an HMMP is provided. The HMMP shall include a facility site plan designating the following:

1. Storage and use areas,

2. Maximum amount of each material stored or used in each area,

3. Range of container sizes,

4. Locations of emergency isolation and mitigation valves and devices,

5. Product conveying piping containing liquids or gases, other than utility-owned fuel gas lines and low-pressure fuel gas lines,

6. On and off positions of valves for valves which are of the self-indicating type, and

7. Storage plan showing the intended storage arrangement, including the location of aisles.

The plans shall be legible and approximately to scale. Separate distribution systems are allowed to be shown on separate pages.

See also Appendix II-E.

**SECTION 8003 - STORAGE.**

**8003.3.2.3 Canopies.** Portable tanks and cylinders stored outside of buildings shall be stored under a canopy of noncombustible construction. Such storage shall not be considered indoor storage. See also Section 8003.1.14.

EXCEPTION: Portable tanks and cylinders used for storing anhydrous ammonia (fertilizer grade).

An automatic fire-sprinkler system shall be provided for canopies used for storage of highly toxic or toxic compressed gases.

EXCEPTION: Where water is incompatible with the hazardous material stored, the chief may approve alternate fire suppression methods to an automatic sprinkler system.

## Chapter 51-45 WAC
## STATE BUILDING CODE ADOPTION AND AMENDMENT OF THE 1997 EDITION OF THE UNIFORM FIRE CODE STANDARDS

NEW SECTION

**WAC 51-45-001 Authority.** These rules are adopted under the authority of chapter 19.27 RCW.

NEW SECTION

**WAC 51-45-002 Purpose.** The purpose of these rules is to implement the provisions of chapter 19.27 RCW, which provides that the State Building Code council shall maintain the State Building Code in a status which is consistent with the purpose as set forth in RCW 19.27.020. In maintaining the codes the council shall regularly review updated versions of the codes adopted under the act, and other pertinent information, and shall amend the codes as deemed appropriate by the council.

NEW SECTION

**WAC 51-45-003 Uniform fire code standards.** The 1997 edition of the Uniform Fire Code Standards as published by the International Fire Code Institute is hereby

adopted by reference with the following additions, deletions, and exceptions.

NEW SECTION

**WAC 51-45-007 Exceptions.** The exceptions and amendments to the Uniform Fire Code Standards contained in the provisions of chapter 19.27 RCW shall apply in case of conflict with any of the provisions of these rules.

NEW SECTION

**WAC 51-45-008 Implementation.** The Uniform Fire Code Standards adopted by chapter 51-45 Washington Administrative Code (WAC) shall become effective in all counties and cities of this state on July 1, 1998.

NEW SECTION

**WAC 51-45-80400 Standard 80-4 - Inert cryogenic fluid systems at consumer sites.**

**Section 5.2.1.2** When bulk inert gas systems are installed in a building of other than Type I or II construction, an approved, supervised automatic sprinkler system shall be provided in the room or area in which the system is installed. Activation of the automatic sprinkler system shall initiate a local alarm and transmit a signal to a constantly attended control station.

## WSR 97-16-114
### PROPOSED RULES
### BUILDING CODE COUNCIL
[Filed August 6, 1997, 10:34 a.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 97-06-107.

Title of Rule: Adoption of chapters 51-46 and 51-47 WAC, adoption and amendment of the 1997 Edition of the Uniform Plumbing Code and Plumbing Code Standards; and repealing chapters 51-26 and 51-27 WAC, adoption and amendment of the 1991 Edition of the Uniform Plumbing Code and Plumbing Code Standards.

Purpose: To consider whether to adopt, or amend and adopt, the 1997 Edition of the Uniform Plumbing Code and Plumbing Code Standards, published by the International Association of Plumbing and Mechanical Officials, and repeal the 1991 edition of these codes.

Statutory Authority for Adoption: RCW 19.27.031, 19.27.074.

Statute Being Implemented: Chapters 19.27 and 34.05 RCW.

Summary: The proposed rules include adoption of the 1997 Edition of the Uniform Plumbing Code and Standards, with amendments (including Appendix I, Installation Standards), and repeal of the 1991 edition. See Explanation of Rule below for further information.

Reasons Supporting Proposal: RCW 19.27.031, 19.27.074.

Name of Agency Personnel Responsible for Drafting and Implementation: Lori Graham, P.O. Box 48300, Olympia, WA 98504-8300, (360) 753-4308; and Enforcement: Local jurisdictions.

Name of Proponent: Washington State Building Code Council, governmental.

Agency Comments or Recommendations, if any, as to Statutory Language, Implementation, Enforcement, and Fiscal Matters: The council is seeking comments on the issues and options proposed in the rule.

Rule is not necessitated by federal law, federal or state court decision.

Explanation of Rule, its Purpose, and Anticipated Effects: The proposed rule will adopt by reference and amend the 1997 Edition of the Uniform Plumbing Code and Uniform Plumbing Code Standards (UPC), published by the International Association of Plumbing and Mechanical Officials (IAPMO). The purpose is to replace the 1991 UPC (chapters 51-26 and 51-27 WAC), which will then be repealed, and assign the 1997 UPC new Washington Administrative Code (WAC) numbers (chapters 51-46 and 51-47 WAC). The 1997 UPC (proposed chapters 51-46 and 51-27 WAC) will be amended to provide greater safety and flexibility than the published version for its application in Washington state.

**Regulatory Review:** In compliance with Executive Order 97-02, Regulatory improvement, the following criteria for regulatory review will be considered at the time of final adoption of the rule.

1. **Need.** This rule is necessary to comply with the requirements of RCW 19.27.074. The council must regularly review updated versions of the Uniform Plumbing Code, and amend and adopt as deemed appropriate by the council. An updated, 1997 version of the Uniform Plumbing Code has been published. The purpose and objective of this review, as given in RCW 19.27.020, is to promote the health, safety and welfare of the occupants or users of buildings; to require minimum construction standards for the state of Washington; to permit the use of modern technical methods; to eliminate restrictive, obsolete, conflicting, duplicating and unnecessary regulations; and to provide standards to make buildings accessible to and usable by physically disabled persons. The technical advisory groups appointed by the council have identified rules that are obsolete, duplicative or ambiguous, and have proposed amendments and revisions.

2. **Effectiveness and Efficiency.** The mission of the council is to adopt building codes for uniform application throughout the state. In the course of the regular rule review, the council examined regulatory alternatives and new technologies. The council has identified where alternatives can be used effectively and efficiently. The council efficiently achieves uniform state building codes by serving as the central administrative agency for state-wide adoption of building codes.

3. **Clarity.** The council is revising their filing procedure for state amendments to the national uniform codes. To enhance clarity, only those subsections with a state amendment will be filed under the main section number. The balance of the main section will remain as written in the national uniform code, as adopted by reference, unless otherwise noted. This reformatting change reorganizes and shortens the WACs, and necessitates new WAC number assignments.

4. **Intent and Statutory Authority.** The proposed rule is consistent with the legislative intent of the statute chapter 19.27 RCW. The statute gives the council sufficient authority to maintain the state building code, and to amend and adopt new editions of the Uniform Plumbing Code. The Uniform Plumbing Code is published every three years.

5. **Coordination.** The council rule-making process has included participation by national, state, and local building, fire, mechanical and plumbing officials, as well as state agency representatives for the Departments of Social and Health Services, Health, Labor and Industries, and the state Fire Marshal. The council actively seeks participation from other state agencies to assure that duplication and inconsistency is eliminated.

6. **Cost.** The council appointed technical advisory groups and an Economic and Regulatory Assessment Committee to examine the costs and benefits associated with the revisions to the building codes.

7. **Fairness.** The state amendments to the Uniform Plumbing Code proposed by the council are intended to mitigate disproportionate impact on the regulated community. The council is made up of representatives from the regulated community, as well as public and regulatory officials. In addition, the council enlisted the assistance of technical advisory groups, made up of the individuals, organizations and businesses impacted by the building codes, to review code changes and proposals.

Proposal Changes the Following Existing Rules: **Summary of Changes Proposed in Amendments to the 1997 UPC: Chapter 51-46 WAC:**

**1. Sections 001, 002, 007, 008**, these sections maintain existing state-wide amendments, correcting section references and dates.

**2. Section 003**, this change updates the adopting language, allows conformance with chapter 19.27 RCW and maintains the intent of that law. This section mandates that Chapters 11 and 12 are not adopted. It also mandates that the portions of the code addressing venting and combustion air of fuel fired appliances and those portions addressing building sewers not be adopted.

**3. Section 101.4.1.4**, this section is not adopted. This requirement is in direct conflict with chapter 19.27 RCW, which sets specific code precedent.

**4. Section 102.4**, add a subsection outlining an appeal process. The Plumbing Code does not currently contain an appeals process. This amendment brings the code into conformance with the other model codes.

**5. Section 103.1.3**, revise requirements to eliminate concerns that the section as written would cause conflict with the licensing requirements under chapter 18.106 RCW.

**6. Section 205**, delete the definition of Combustible Construction. The definition is extraneous. Add a definition for CPVC. The Plumbing Code as written does not define CPVC.

**7. Section 215**, add a definition for Medical Gas. The Plumbing Code as written does not define medical gas.

**8. Section 218**, add a definition for PEX. The Plumbing Code as written does not define PEX. Add a definition for PP. The Plumbing Code as written does not define PP. Modify the definition of Plumbing System by removing references to fuel gas piping, building sewers, and venting for water heaters. The Plumbing Code does not have jurisdiction over these items. Under the definition Public or Public Use, add definitions for General Use and Heavy Use. These terms are currently defined in Table 6-4, Footnotes 5 and 6.

**9. Section 301.1.1**, proposed change modifies existing language to require that all materials meet nationally recognized standards.

**10. Section 301.1.3**, editorial language change eliminates extraneous language and refers users to appropriate code sections.

**11. Section 310.4**, proposed change adds a reference to manufacturer's installation requirements. In order to ensure product integrity and maintain product guarantee, the manufacturer's installation instructions must be followed.

**12. Section 311.4**, maintain existing state amendment, correcting section references.

**13. Section 313.6**, maintain existing state amendment, correcting section references.

**14. Section 313.10.4**, amendment gains consistency with the Building Code.

**15. Section 314.5**, this change, like that to Section 310.4, stresses the need to follow manufacturer's installation requirements. This is necessary for product integrity.

**16. Section 316.1.5**, this change, like that to Section 310.4 and 314.5, stresses the need to follow manufacturer's installation requirements to ensure product integrity.

**17. Table 3-2**, add PEX to the suspending support table.

**18. Section 402**, the water conservation requirements are being moved from Chapter 18 to Chapter 4. This amendment is the current state amendment with one substantive change. The change amends the current water closet exception for day care facilities to exempt all commercial facilities from the 1.6 gpf requirement. Currently, RCW 19.27.170 mandates that the council adopt rules requiring 1.6 gpf water closets in all new construction and remodeling involving the replacement of plumbing fixtures in residential, hotel, motel, school, industrial, commercial use, or other occupancies determined by the council to use significant quantities of water. The proposed change requires a legislative change prior to being enacted.

**19. Section 412.2**, maintain section, deleting reference to commercial kitchens. This proposal may increase construction costs for buildings constructed with wood floors.

**20. Section 413.0**, delete the minimum plumbing fixture requirements from the Plumbing Code and refer the user to the Building Code. The Building Code contains the requirements for the minimum number of plumbing fixtures. The Building Code takes precedence over the Plumbing Code.

**21. Section 501.0**, amend the General section to refer to the Mechanical Code for venting and combustion air issues. In addition, add a new paragraph to the general section prohibiting the use of a standard water heater as a space heater. Parallel language is being added to the Mechanical Code.

**22. Section 502.8**, delete the definition of Vent. The Mechanical Code takes precedence over venting requirements.

**23. Section 502.9**, delete the definition of Vent Collar. The Mechanical Code takes precedence over venting requirements.

**24. Section 505.0**, remove references made to hot water boilers. The Washington State Department of Labor and Industries has jurisdiction over hot water boilers.

**25. Section 507**, this section is not adopted. The Mechanical Code takes precedence over combustion air issues.

**26. Section 509.0**, alter the prohibitive locations section for water heaters. This change brings consistency with the National Fuel Gas Code. Parallel language is being added to the Mechanical Code.

**27. Sections 512 through 525**, these sections are not adopted. These sections cover the venting requirements for water heaters. The Mechanical Code takes precedence over these sections and therefore they are being deleted.

**28. Sections 603.0, 603.3.2 and 603.4.6.1**, amend cross connection control sections to be consistent with the Washington State Department of Health requirements.

**29. Section 604.1**, this section has been amended to allow the use of PEX. The section was further amended to allow the use of new materials as they are approved and enter the market place. This will avoid the necessity of adding more and more items to the list as new products become available.

**30. Section 604.11**, this is a new section allowing a water system using plastic pipes and connectors to terminate within the building so long as the connection to the potable water system is close to the point of entry. This will make the system more accessible if a problem occurs in the distribution system. By prohibiting the barbed clamp system, there will be a less likely occurrence of failure. This allowance has been available to mobile home users for some time and has not appeared to cause hardship. A similar allowance is also available in other model codes.

**31. Section 608.5**, add an exception to deal with the addition of a drain in replacement water heater installations. This exception is added to clarify the drain requirement. The existing language is being interpreted to require a floor drain in existing installations. This exception would only require the drain off the temperature pressure relief valve.

**32. Section 609.6**, this change corrects a reference error.

**33. Section 610.4**, this change maintains an existing state-wide amendment and corrects section references.

**34. Section 701.1**, this change maintains an existing state-wide amendment and corrects section references.

**35. Section 704.3**, delete section. This change eliminates conflict with Washington State Department of Health requirements.

**36. Section 710.3**, replace entire section with language from Section 409(c) 1991 UPC. The existing system performs adequately. The increase proposed in the new code appears to be unnecessary.

**37. Part II - Building Sewers, Sections 713 - 723 and Associated Tables**, delete all of Part II and associated tables. The Washington State Department of Health has jurisdiction over building sewer requirements.

**38. Table 7-3**, amend drainage requirements for group showers.

**39. Section 810.4**, change "beehive" to "dome." The term "beehive" was felt to be proprietary.

**40. Section 814.0**, delete section and refer document user to the Mechanical Code.

**41. Section 815.0**, delete section and make reference to the Mechanical Code.

**42. Section 903.1.2**, maintain existing state amendment, correcting section references.

**43. Section 1003.1**, include the material Polypropylene as an acceptable material for this section. This change includes the use of materials that are accepted in both the ANSI A40 document and the National Standard Plumbing Code.

**44. Section 1012.0**, this section is not adopted.

**45. Chapter 13**, replace Chapter 13 with one of two presented options. The main difference between the two options is how the documents reference NFPA 99 and the approach to system testing.

**46. Chapter 14**, delete the term "Mandatory" from the reference standards. In addition, make the following changes to the Standards table: Add the material PEX to the Above Ground Water Distribution Piping Section, the Joining Material And Methods - Water Supply Systems section and the Water Distribution Piping – Above Ground section. In the Medical Gas Section, change the date of the standard to 1996 and reference Chapters 2 and 4 only.

**47. Appendix M**, this is a new Appendix containing the requirements for storm drainage as previously found in Chapter 11. The following technical changes have been made to the chapter contents:

*Section M 1.3*, eliminate the three floor restriction on ABS, PVC and DWV. The restriction is unnecessary. This is also a current state-wide amendment.

*Section M 1.2*, add pertinent cleanout information that will be deleted with Part II of Chapter 7. The Storm drainage section references Section 719. Section 719 is located in the building sewer portion of the code and therefore will be deleted. In order for the Storm Drainage Appendix to be complete, it must contain the pertinent information from Section 719.

*Section M 1.11.2.2*, add an exception for roof drain overflow connections. A sister amendment is being made to the Building Code.

*Section 1108*, this section (1108, Controlled Flow Drainage) is not adopted. The UBC takes precedence over this issue.

*Section M 8.2.2*, eliminate air-testing restriction for plastic pipe. The concern with the test is with the testing equipment and the equipment's ability to maintain the five psi. Regulating the testing equipment is outside the purview of the code.

**Chapter 51-47 WAC.**

**Sections 51-47-001, 51-47-002, 51-47-003, 51-47-007 and 51-47-008**, these sections maintain existing state-wide amendments correcting section references and dates.

No small business economic impact statement has been prepared under chapter 19.85 RCW. The council appointed Technical Advisory Groups (TAGs) to do a comprehensive review and comparison of the 1991 Uniform Plumbing Code and the 1997 Uniform Plumbing Code. The TAGs held meetings over a three-year period. All national and state-wide code changes were examined. The TAG findings were reviewed by the council's Economic and Regulatory Assessment Committee. Based on this review, the council found

that all changes proposed are editorial in nature or provide clarification and pose minimal economic impact. Therefore, no small business economic analysis was necessary.

Section 201, chapter 403, Laws of 1995, does not apply to this rule adoption. The state Building Code Council is not listed in this section as one of the agencies required to comply with this regulation.

Hearing Location: On Friday, September 12, 1997, at 9:00 a.m., at the Radisson Hotel, Flight Lounge, 17001 Pacific Highway South, SeaTac, WA; and on Friday, October 10, 1997, at 9:00 a.m., Spokane City Hall, City Council Chambers, West 808 Spokane Falls Boulevard, Spokane, WA.

Assistance for Persons with Disabilities: Contact Krista Braaksma by September 1, 1997, TDD (360) 753-2200, or (360) 753-5927.

Submit Written Comments to: Mike McEnaney, Chair, State Building Code Council, P.O. Box 48300, Olympia, Wa 98504-8300, FAX (360) 586-5880, by October 8, 1997.

Date of Intended Adoption: November 14, 1997.

August 6, 1997
Mike McEnaney
Chair

## Chapter 51-46 WAC
## STATE BUILDING CODE ADOPTION AND AMENDMENT OF THE 1997 EDITION OF THE UNIFORM PLUMBING CODE

NEW SECTION

**WAC 51-46-001 Authority.** These rules are adopted under the authority of chapter 19.27 RCW.

NEW SECTION

**WAC 51-46-002 Purpose.** The purpose of these rules is to implement the provisions of chapter 19.27 RCW, which provides that the State Building Code council shall maintain the State Building Code in a status which is consistent with the purpose as set forth in RCW 19.27.020. In maintaining the codes, the council shall regularly review updated versions of the codes adopted under the act, and other pertinent information, and shall amend the codes as deemed appropriate by the council.

NEW SECTION

**WAC 51-46-003 Uniform plumbing code.** The 1997 edition of the Uniform Plumbing Code, published by the International Association of Plumbing and Mechanical Officials, is hereby adopted by reference with the following additions, deletions and exceptions: *Provided,* That Chapters 11 and 12 of this code are not adopted. *Provided further,* That those requirements of the Uniform Plumbing Code relating to venting and combustion air of fuel fired appliances as found in Chapter 5 and those portions of the Code addressing building sewers are not adopted.

NEW SECTION

**WAC 51-46-007 Exceptions.** The exceptions and amendments to the uniform codes contained in the provisions of chapter 19.27 RCW shall apply in cases of conflict with any of the provisions of these rules.

NEW SECTION

**WAC 51-46-008 Implementation.** The Uniform Plumbing Code adopted by chapter 51-46 WAC shall become effective in all counties and cities of this state on July 1, 1998, unless local government residential amendments have been approved by the State Building Code council.

NEW SECTION

**WAC 51-46-0100 Chapter 1—Administration.**

NEW SECTION

**WAC 51-46-0101 Section 101 Title, scope and general.**

**101.4.1.4 Conflicts Between Codes.** Delete paragraph.

NEW SECTION

**WAC 51-46-0102 Organization and enforcement.**

**102.4 Appeals.** All persons shall have the right to appeal a decision of the Administrative Authority. The jurisdiction shall have a board of appeals to hear and rule on Plumbing Code appeals. Members of the board shall be appointed by the jurisdiction. Decisions by the board shall be reported to the jurisdiction and administered by the Administrative Authority.

NEW SECTION

**WAC 51-46-0103 Section 103 Permits and inspections.**

**103.1.3 Licensing.** State or local rules and regulations concerning licensing which the applicable governing authority has adopted shall apply.

NEW SECTION

**WAC 51-46-0200 Chapter 2 - Definitions.**

NEW SECTION

**WAC 51-46-0205 Section 205.0 – C.**

**Combustible Construction.** Delete definition.

**CPVC** – Chlorinated Poly (Vinyl Chloride)

NEW SECTION

**WAC 51-46-0215 Section 215.0 – M.**

**Medical Gas** - Compressed gasses at hospitals and similar facilities intended for inhalation or sedation including, but not limited to, analgesia systems for dentistry, podiatry, veterinary and similar uses.

NEW SECTION

**WAC 51-46-0218 Section 218.0 – P.**

**PEX** - Crosslinked Polyethylene

**Plumbing System** – Includes all potable water building supply and distribution pipes, all plumbing fixtures and traps, all drainage and vent pipe(s), and all building drains including their respective joints and connection, devices, receptors, and appurtenances within the property lines of the premises and shall include potable water piping, potable water treating or using equipment, medical gas and medical vacuum systems, and water heaters.

**PP** - Polypropylene

**Public or Public Use** – All buildings or structures that are not defined as private or private use.

(1) **General use** applies to business, commercial, industrial and assembly occupancies other than those defined under heavy use. Included are the public and common areas in hotels, motels and multi-dwelling buildings.

(2) **Heavy use** assembly applies to toilet facilities in occupancies which place a heavy, but intermittent time-based demand on the water supply system, such as schools, auditoriums, stadiums, race courses, transportation terminals, theaters and similar occupancies where queuing is likely to occur during periods of peak use.

NEW SECTION

**WAC 51-46-0300 Chapter 3 - General regulations.**

NEW SECTION

**WAC 51-46-0301 Materials - Standards and alterations.**

**301.1.1 Approvals.** Unless otherwise provided for in this Code, all materials, fixtures or devices used or entering into the construction of plumbing and drainage systems, or parts thereof, shall be submitted to the Administrative Authority for approval and shall conform to approved nationally recognized standards, and shall be free from defects. All pipe fittings, traps, fixtures, material and devices used in a plumbing system shall be listed or labeled by a listing agency or shall be approved by the Administrative Authority.

**301.1.3 Standards.** Standards listed or referred to in this chapter and Table 14-1 cover materials that conform to the requirements of this Code, when used in accordance with the limitations imposed in this or other chapters thereof and their listing. Where a standard covers materials of various grades, weights, quality, or configurations, there may be only a portion of the listed standard which is applicable. Design and materials for special conditions or materials not provided for herein are allowed to be used only by special permission of the Administrative Authority after the Administrative Authority has been satisfied as to their adequacy in accordance with Section 301.2.

NEW SECTION

**WAC 51-46-0310 Workmanship.**

**310.4 Installation Practices.** Plumbing systems shall be installed in a manner conforming to this Code and the manufacturer's instructions.

NEW SECTION

**WAC 51-46-0311 Prohibited fittings and practices.**

**311.4.** Except as hereinafter provided in sections 908.0, 909.0 and 910.0, no vent pipe shall be used as a soil or waste pipe, nor shall any soil or waste pipe be used as a vent.

NEW SECTION

**WAC 51-46-0313 Protection of piping, materials, and structures.**

**313.6.** No water, soil, or waste pipe shall be installed or permitted outside of a building or in an exterior wall unless, where necessary, adequate provision is made to protect such pipe from freezing. All hot and cold water pipes installed outside the conditioned space shall be insulated to a minimum R-3.

**313.10.4** In exterior walls, the annular space between sleeves and pipes shall be sealed and made watertight.

EXCEPTION: Any pipe sleeve through fire resistive construction shall be sealed with an approved fire-resistive material in accordance with the Building Code.

NEW SECTION

**WAC 51-46-0314 Hangers and supports.**

**314.5** All piping, fixtures, appliances, and appurtenances shall be adequately supported in accordance with this Code and the manufacturer's installation instructions and approved by the Administrative Authority.

PROPOSED

PROPOSED

NEW SECTION

**WAC 51-46-0392 Table 3-2 Hangers and supports.**

**TABLE 3-2**

| Materials | Type of Joints | Horizontal | Vertical |
|---|---|---|---|
| Cast Iron Hub and Spigot | Lead and Oakum | 5 feet (1524 mm), except may be 10 feet (3048 mm) where 10 foot (3048 mm) lengths are installed [1, 2, 3] | Base and each floor not to exceed 15 feet (4572 mm) |
| | Compression Gasket | Every other joint, unless over 4 feet (1219 mm), then support each joint [1, 2, 3] | Base and each floor not to exceed 15 feet (4572 mm) |
| Cast Iron Hubless | Shielded Coupling | Every other joint, unless over 4 feet (1219 mm), then support each joint [1, 2, 3, 4] | Base and each floor not to exceed 15 feet (4572 mm) |
| Copper Tube and Pipe | Soldered, Brazed or Welded | 1-½ inch (38 mm) and smaller, 6 feet (1829 mm), 2 inch (51 mm) and larger, 10 feet (3048 mm) | Each floor not to exceed 10 feet (3048 mm)[5] |
| Steel and Brass Pipe for Water or DWV | Threaded or Welded | ¾ inch (19 mm) and smaller, 10 feet (3048 mm), 1 inch (25.4 mm) and larger, 12 feet (3658 mm) | Every other floor not to exceed 25 feet (7620 mm)[5] |
| Steel, Brass and Tinned Copper Pipe for Gas | Threaded or Welded | ½ inch (13 mm), 6 feet (1829 mm), ¾ inch (19 mm) and 1 inch (25 mm), 8 feet (2438 mm) 1-¼ inch (32 mm) and larger, 10 feet (3048 mm) | ½ inch (13 mm), 6 feet (1829 mm), ¾ inch (19 mm) and 1 inch (25 mm), 8 feet (2438 mm), 1-¼ inch (32 mm) and larger, every floor level |
| Schedule 40 PVC and ABS DWV | Solvent Cemented | All sizes, 4 feet (1219 mm). Allow for expansion every 30 feet (9144 mm) [3, 6] | Base and each floor. Provide mid-story guides. Provide for expansion every 30 feet (9144 mm)[6] |
| CPVC | Solvent Cemented | 1 inch (25 mm) and smaller, 3 feet (914 mm), 1-¼ inch (32 mm) and larger, 4 feet (1219 mm) | Base and each floor. Provide mid-story guides [6] |
| Lead | Wiped or Burned | Continuous support | Not to exceed 4 feet (1219 mm) |
| PEX | Mechanical | 1 inch (25 mm) and smaller, 3 feet (914 mm), 1-¼ inch (32 mm) and larger, 4 feet (1219 mm) | Base and each floor. Provide mid-story guides |
| Copper | Mechanical | In accordance with standards acceptable to the Administrative Authority | |
| Steel & Brass | Mechanical | In accordance with standards acceptable to the Administrative Authority | |

[1] Support adjacent to joint, not to exceed eighteen (18) inches (457 mm).
[2] Brace at not more than forty (40) foot (12192 mm) intervals to prevent horizontal movement.
[3] Support at each horizontal branch connection.
[4] Hangers shall not be placed on the coupling.
[5] Vertical water lines may be supported in accordance with recognized engineering principals with regard to expansion and contraction, when first approved by the Administrative Authority.
[6] See the appropriate IAPMO Installation Standard for expansion and other special requirements.

NEW SECTION

**WAC 51-46-0316 Joints and connections.**

**316.1.5 Solvent Cement Plastic Pipe Joints.** Plastic pipe and fittings designed to be joined by solvent cementing shall comply with this Code and the manufacturer's installation instructions.

ABS pipe and fittings shall be cleaned and then joined with listed solvent cement(s).

CPVC and PVC pipe and fittings shall be cleaned and joined with listed primer(s) and solvent cements.

NEW SECTION

**WAC 51-46-0400 Chapter 4 - Plumbing fixtures and fixture fittings.**

NEW SECTION

**WAC 51-46-0402 Water-conserving fixtures and fittings.**

**402.0 Water-Conserving Fixtures and Fittings**

**402.1** The purpose of this Section shall be to implement water conservation performance standards in accordance with RCW 19.27.170.

**402.2 Application.**

This section shall apply to all new construction and all remodeling involving replacement of plumbing fixtures and fittings in all residential, hotel, motel, school, industrial, commercial use, or other occupancies determined by the council to use significant quantities of water. Plumbing fixtures, fittings and appurtenances shall conform to the standards specified in this section and shall be provided with an adequate supply of potable water to flush and keep the fixtures in a clean and sanitary condition without danger of backflow or cross-connection.

**402.3 Water Efficiency Standards.**

**402.3.1 Standards for Vitreous China Plumbing Fixtures.**

**402.3.1.1** The following standards shall be adopted as plumbing materials, performance standards, and labeling standards for water closets and urinals. Water closets and urinals shall meet either the ANSI/ASME standards or the CSA standard.

| | |
|---|---|
| ANSI/ASME A112.19.2M-1990 | Vitreous China Plumbing Fixtures |
| ANSI/ASME A112.19.6-1990 | Hydraulic Requirements for Water Closets and Urinals |
| CSA B45 | CSA Standards on Plumbing Fixtures |

**402.3.1.2** The maximum water use allowed in gallons per flush (gpf) or liters per flush (lpf) for any of the following water closets shall be the following:

| | |
|---|---|
| Tank-type toilets | 1.6 gpf/6.0 lpf |
| Flushometer-valve toilets | 1.6 gpf/6.0 lpf |
| Flushometer-tank toilets | 1.6 gpf/6.0 lpf |
| Electromechanical hydraulic toilets | 1.6 gpf/6.0 lpf |

EXCEPTIONS: (1) Water closets located in day care centers, intended for use by young children, hospitals, clinics, medical and mental institutions and public restrooms (stadiums, schools, highway rest stops, shopping malls etc.), may have a maximum water use of 3.5 gallons per flush or 13.25 liters per flush.
(2) Water closets with bed pan washers may have a maximum water use of 3.5 gallons per flush or 13.25 liters per flush.
(3) Blow out bowls, as defined in ANSI/ASME A112.19.2M, Section 5.1.2.3 may have a maximum water use of 3.5 gallons per flush or 13.25 liters per flush.

**402.3.1.3** The maximum water use allowed for any urinal shall be 1.0 gallons per flush or 3.78 liters per flush.

**402.3.1.4** No urinal or water closet that operates on a continuous flow or continuous flush basis shall be permitted.

**402.3.1.5** This section does not apply to fixtures installed before the effective date of this section, that are removed and relocated to another room or area of the same building after the effective date of this section.

**402.3.2 Standards for Plumbing Fixture Fittings.**

**402.3.2.1** The following standards are adopted as plumbing material, performance requirements, and labeling standards for plumbing fixture fittings. Faucets, aerators, and shower heads shall meet either the ANSI/ASME standard or the CSA standard.

| | |
|---|---|
| ANSI/ASME A112.18.1M-1989 | Plumbing Fixture Fittings |
| CSA B125 | Plumbing Fittings |

**402.3.2.2** The maximum water use allowed for any shower head is 2.5 gallons per minute or 9.5 liters per minute.

EXCEPTION: Emergency use showers shall be exempt from the maximum water usage rates.

**402.3.2.3** The maximum water use allowed in gallons per minute (gpm) or liters per minute (lpm) for any of the following faucets and replacement aerators is the following:

| | |
|---|---|
| Lavatory faucets | 2.5 gpm/9.5 lpm |
| Kitchen faucets | 2.5 gpm/9.5 lpm |
| Replacement aerators | 2.5 gpm/9.5 lpm |
| Public lavatory faucets other than metering | 0.5 gpm/1.9 lpm |

**402.4 Metering Valves.**

Lavatory faucets located in restrooms intended for use by the general public shall be equipped with a metering valve designed to close by spring or water pressure when left unattended (self-closing).

EXCEPTIONS: (1) Where designed and installed for use by persons with a disability.
(2) Where installed in day care centers, for use primarily by children under 6 years of age.

**402.5 Accepted Plumbing Fixtures and Fixture Fittings.**

Plumbing fixtures and fixture fittings which are tested in accordance with the standards listed herein and listed by either the International Association of Plumbing and Mechanical Officials or the Canadian Standards Association may be approved by the Administrative Authority for installation. Under Section 301, the Administrative Authority may approve plumbing fixtures and fixture fittings, not

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listed by either the International Association of Plumbing and Mechanical Officials or the Canadian Standards Association, PROVIDED the products meet the testing, and marking and labeling requirements listed in Section 402.3.

The State Building Code council will publish and distribute a current list of fixtures and fixture fittings that meet the standards listed within Section 402 and have been listed with either the International Association of Plumbing and Mechanical Officials or the Canadian Standards Association.

**402.6 Implementation.**

**402.6.1** The standards for water efficiency and labeling contained within Section 402.3 shall be in effect as of July 1, 1993, as provided in RCW 19.27.170 and amended July 1, 1998.

**402.6.2** No individual, public or private corporation, firm, political subdivision, government agency, or other legal entity, may, for purposes of use in the state of Washington, distribute, sell, offer for sale, import, install, or approve for installation any plumbing fixtures or fittings unless the fixtures or fittings meet the standards as provided for in this section.

NEW SECTION

**WAC 51-46-0412 Floor drains and shower stalls.**

**412.2 Location of Floor Drains.** Floor drains shall be installed in the following areas:

**412.2.1** Toilet rooms containing two (2) or more water closets or a combination of one (1) water closet and one (1) urinal, except in a dwelling unit. The floor shall slope toward the floor drains.

**412.2.2** Laundry rooms in commercial buildings and common laundry facilities in multi-family dwelling buildings.

NEW SECTION

**WAC 51-46-0413 Minimum number of required fixtures.**

**413.0 Minimum Number of Required Fixtures.** For minimum number of plumbing fixtures required, see Building Code Chapter 29 and Table 29-A.

NEW SECTION

**WAC 51-46-0500 Chapter 5 - Water heaters.**

NEW SECTION

**WAC 51-46-0501 General.**

**501.0 General.**

The regulations of this chapter shall govern the construction, location, and installation of all fuel burning and other water heaters heating potable water. See the Mechanical Code for combustion air and installation of all vents and their connectors. All design, construction, and workmanship shall be in conformity with accepted engineering practices and shall be of such character as to secure the results sought to be obtained by this Code. No water heater shall be hereinafter installed which does not comply in all respects with the type and model of each size thereof approved by the Administrative Authority. A list of generally accepted gas equipment standards is included in Table 14-1.

Water heaters used for space heating only are prohibited.

NEW SECTION

**WAC 51-46-0502 Definitions.**

**502.8 Vent** – Delete definition

**502.9 Vent Collar** – Delete definition

NEW SECTION

**WAC 51-46-0505 Gas-fired water heater approval requirements.**

**505.0 Gas-Fired Water Heater Approval Requirements.**

**505.1** Gas fired water heaters shall conform to approved recognized applicable standards or to other standards acceptable to the Administrative Authority. Each such water heater shall bear the label of an approved testing agency, certifying and attesting that such equipment has been tested and inspected and meets the requirements of applicable standards.

**505.2** Except when reconditioned by the manufacturer or the manufacturer's approved agent in accordance with its original approval requirements and reinstalled at its original location, each reconditioned water heater shall be tested for safety and conformity to approved standards, and shall bear the label of an approved testing agency certifying and attesting that such equipment has been tested and inspected and meets the requirements of applicable standards. Such label shall also state clearly that the water heater has been reconditioned, and shall give the name and address of the reconditioner. Every person applying for a permit to install a used or reconditioned water heater shall clearly state on the application for permit that such equipment is used or reconditioned.

**505.3** Gas storage-type water heaters shall be provided with, in addition to the primary temperature controls, an over-temperature safety protection device constructed, listed, and installed in accordance with nationally recognized applicable standards for such devices and a combination temperature and pressure relief valve.

NEW SECTION

**WAC 51-46-0507 Combustion air.**

**507.0 Combustion Air.** For issues relating to combustion air, see the Mechanical Code.

Delete remainder of this section.

NEW SECTION

**WAC 51-46-0509 Prohibited locations.**

**509.0 Prohibited Locations.**

Water heaters which depend on the combustion of fuel for heat shall not be installed in a room used or designed to be

used for sleeping purposes, bathroom, clothes closets or in a closet or other confined space opening into a bath or bedroom.

EXCEPTION: 1. Direct vent water heaters.
2. Water heaters installed in a closet that has a weather-stripped solid door with an approved door closing device, and designed exclusively for the water heater and where all air for combustion and ventilation is supplied from the outdoors.
3. Water heaters of the automatic storage type installed as a replacement in a bathroom, when specifically approved, properly vented and supplied with adequate combustion air.

Where not prohibited by other regulations, water heaters may be located under a stairway or landing.

NEW SECTION

**WAC 51-46-0512 Venting of water heaters.**

**512.0 Venting of Water Heaters** Delete entire Section.

NEW SECTION

**WAC 51-46-0513 Limitations.**

**513.0 Limitations** Delete entire Section.

NEW SECTION

**WAC 51-46-0514 Vent connectors.**

**514.0 Vent Connectors.** Delete entire Section.

NEW SECTION

**WAC 51-46-0515 Location and support of venting system.**

**515.0 Location and Support of Venting System.** Delete entire Section.

NEW SECTION

**WAC 51-46-0516 Length pitch and clearance.**

**516.0 Length Pitch and Clearance.** Delete entire Section.

NEW SECTION

**WAC 51-46-0517 Vent termination.**

**517.0 Vent Termination.** Delete entire Section

NEW SECTION

**WAC 51-46-0518 Area of venting system.**

**518.0 Area of Venting System.** Delete entire Section

NEW SECTION

**WAC 51-46-0519 Multiple appliance venting.**

**519.0 Multiple Appliance Venting.** Delete entire Section.

NEW SECTION

**WAC 51-46-0520 Existing venting system.**

**520.0 Existing Venting System.** Delete entire Section.

NEW SECTION

**WAC 51-46-0521 Draft hoods.**

**521.0 Draft Hoods.** Delete entire Section.

NEW SECTION

**WAC 51-46-0522 Gas venting into existing masonry chimneys.**

**522.0 Gas Venting into Existing Masonry Chimneys.** Delete entire Section.

NEW SECTION

**WAC 51-46-0523 Installation.**

**523.0 Installation.** Delete entire Section.

NEW SECTION

**WAC 51-46-0524 Mechanical draft systems.**

**524.0 Mechanical Draft Systems.** Delete entire Section.

NEW SECTION

**WAC 51-46-0525 Venting through ventilating hoods and exhaust systems.**

**525.0 Venting Through Ventilating Hoods and Exhaust Systems.** Delete entire Section.

NEW SECTION

**WAC 51-46-0600 Water supply and distribution.**

NEW SECTION

**WAC 51-46-0603 Cross-connection control.**

**603.0 Cross-Connection Control.**

Cross-connection control shall be provided in accordance with the provisions of this chapter. The Administrative Authority shall coordinate with the local water purveyor where applicable in all matters concerning cross-connection control within the property lines of the premises.

No person shall install any water operated equipment or mechanism, or use any water treating chemical or substance, if it is found that such equipment, mechanism, chemical or substance may cause pollution or contamination of the domestic water supply. Such equipment or mechanism may be permitted only when equipped with an approved backflow prevention device or assembly.

**603.3.2** The premise owner or responsible person shall have the backflow prevention assembly tested by a Washington State Department of Health certified backflow assembly tester at the time of installation, repair, or relocation and at least on an annual schedule thereafter or more often when required by the Administrative Authority.

**603.4.6.1** Potable water supplies to systems having no pumps or connections for pumping equipment, and no chemical injection or provisions for chemical injection, shall be protected from backflow by one of the following devices:

1. Atmospheric vacuum breaker

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2. Pressure vacuum breaker

3. Reduced pressure backflow preventer

4. A double check valve may be allowed when approved by the water purveyor and the Administrative Authority.

NEW SECTION

**WAC 51-46-0604 Materials.**

**604.0 Materials**

**604.1** Water pipe and fittings shall be of brass, copper, cast iron, galvanized malleable iron, galvanized wrought iron, galvanized steel or other approved materials. Cast iron fittings used for water need not be galvanized if over two (2) inches (51 mm) in size. Asbestos-cement, CPVC, PEX, PE, PVC or other approved water pipe materials manufactured to recognized standards may be used for cold water distribution systems outside a building. PEX or CPVC water pipe and tubing may be used for hot and cold water distribution systems within a building. Other products not listed in this section are acceptable for their intended use, provided that such materials or distribution systems are listed and approved in accordance with nationally recognized standards. All materials used in the water supply system, except valves and similar devices shall be of like material, except where otherwise approved by the Administrative Authority.

**604.11** Plastic water piping may terminate within a building, provided the connection to the potable water distribution system shall be made as near as is practical to the point of entry and shall be accessible. Barbed insert fittings with clamps are prohibited within the building.

NEW SECTION

**WAC 51-46-0608 Water pressure, pressure regulators, pressure relief valves, and vacuum relief valves.**

**608.5** Relief valves located inside a building shall be provided with a drain, not smaller than the relief valve outlet, of galvanized steel, hard drawn copper piping and fittings, CPVC, or listed relief valve drain tube with fittings which will not reduce the internal bore of the pipe or tubing (straight lengths as opposed to coils) and shall extend from the valve to the outside of the building with the end of the pipe not more than two (2) feet (610 mm) nor less than six (6) inches (152 mm) above the ground or the flood level of the area receiving the discharge and pointing downward. Such drains may terminate at other approved locations. No part of such drain pipe shall be trapped and the terminal end of the drain pipe shall not be threaded.

EXCEPTION: Replacement water heating equipment shall only be required to provide a drain pointing downward from the relief valve to extend between two feet (610 mm) and six inches (152 mm) from the floor. No additional floor drain need be provided.

NEW SECTION

**WAC 51-46-0609 Installation, testing, unions, and location.**

**609.6 Location.** Except as provided in Section 609.7, no building supply shall be located in any lot other than the lot which is the site of the building or structure served by such building supply.

NEW SECTION

**WAC 51-46-0610 Size of potable water piping.**

**610.4** Where the maximum length of supply piping is two hundred (200) feet (60,960 mm) or less, each water piping system of fifty (50) fixture units or less shall be sized in accordance with the values set forth in Table 6-5. Other systems of more than fifty (50) fixture units and within the range of Table 6-3 may be sized from that table or by the method set forth in Section 610.5.

Listed engineered parallel water distribution systems may be installed in accordance with their listing.

NEW SECTION

**WAC 51-46-0700 Sanitary drainage.**

NEW SECTION

**WAC 51-46-0701 Materials.**

**701.0 Materials.**

**701.1** Drainage piping shall be cast iron, galvanized steel, galvanized wrought iron, lead, copper, brass, Schedule 40 ABS DWV, Schedule 40 PVC DWV, extra strength vitrified clay pipe, or other approved materials having a smooth and uniform bore, except that:

**701.1.1** No galvanized wrought iron or galvanized steel pipe shall be used underground and shall be kept at least six (6) inches (152 mm) above ground.

**701.1.2** No vitrified clay pipe or fittings shall be used above ground or where pressurized by a pump or ejector. They shall be kept at least twelve (12) inches (305 mm) below ground.

**701.1.3** Copper tube for underground drainage and vent piping shall have a weight of not less than that of copper drainage tube type DWV.

**701.1.4** Copper tube for above ground drainage and vent piping shall have a weight of not less than that of copper drainage tube type DWV.

NEW SECTION

**WAC 51-46-0704 Fixture connections (drainage).**

**704.3** Delete paragraph.

NEW SECTION

**WAC 51-46-0710 Drainage of fixtures located below the next upstream manhole or below the main sewer level.**

**710.3** The minimum size of any pump or any discharge pipe from a sump having a water closet connected thereto shall be not less than two (2) inches (52 mm).

NEW SECTION

**WAC 51-46-0713 Building sewers.**

**Part II Building Sewers.** Delete all of Part II, Sections 713 to 723, and Tables 7-7 and 7-8.

NEW SECTION

**WAC 51-46-0793 Table 7-3 Drainage fixture unit values.**

## TABLE 7-3
## Drainage Fixture Unit Values (DFU)

| Individual Fixtures | Min. Size Trap and Trap Arm [7] | Private | | Public | |
|---|---|---|---|---|---|
| | | Individual Dwelling | 3 or More Dwellings | General Use | Heavy-Use Assembly |
| Bar Sink | 1-1/2" | 1.0 | 1.0 | | |
| Bar Sink | 1-1/2" [2] | | | 2.0 | |
| Bathtub or Combination Bath/Shower | 1-1/2" | 3.0 | 3.0 | | |
| Bidet, 1-1/4" trap | 1-1/4" | 1.0 | 1.0 | | |
| Clinical Sink, 3" trap | 3" | | | 6.0 | |
| Clothes Washer, domestic, 2" standpipe [5] | 2" | 3.0 | 3.0 | 3.0 | |
| Dental Unit, cuspidor | 1-1/4" | | | 1.0 | |
| Dishwasher, domestic, with independent drain | 1-1/2" | 2.0 | 2.0 | 2.0 | |
| Drinking Fountain or Watercooler | 1-1/4" | | | 0.5 | |
| Food-waste-grinder, commercial | 2" | | | 3.0 | |
| Floor Drain, emergency | | | | 0.0 | |
| Kitchen Sink, domestic, with one 1-1/2" trap | 1-1/2" [2] | 2.0 | 2.0 | 2.0 | |
| Kitchen Sink, domestic, with food-waste-grinder | 1-1/2" [2] | 2.0 | 2.0 | 2.0 | |
| Kitchen Sink, domestic, with dishwasher | 1-1/2" [2] | 3.0 | 3.0 | 3.0 | |
| Kitchen Sink, domestic, w/grinder and dishwasher | 1-1/2" [2] | 3.0 | 3.0 | 3.0 | |
| Laundry Sink, one or two compartments | 1-1/2" | 2.0 | 2.0 | 2.0 | |
| Laundry Sink, with discharge from clothes washer | 1-1/2" | 2.0 | 2.0 | 2.0 | |
| Lavatory, single | 1-1/4" | 1.0 | 1.0 | 1.0 | 1.0 |
| Lavatory in sets of two or three | 1-1/2" | 2.0 | 2.0 | 2.0 | 2.0 |
| Mobile Home, trap | 3" | 12.0 | 12.0 | | |
| Mop Basin, 3" trap | 3" | | | 3.0 | |
| Receptor, indirect waste. 1-1/2" trap [1,3] | 1-1/2" | | | (1) | |
| Receptor, indirect waste, 2" trap [1,4] | 2" | | | (1) | |
| Receptor, indirect waste, 3" trap [1] | 3" | | | (1) | |
| Service Sink, 2" trap | 2" | | | 3.0 | |
| Service Sink, 3" trap | 3" | | | 3.0 | |
| Shower Stall, 2" trap | 2" | 2.0 | 2.0 | 2.0 | |
| Shower, group, per head (continuous use) | 2" | | | ~~5.0~~ 1.0 | |
| Sink, commercial, 1-1/2" trap, with food waste | 1-1/2" [2] | | | 3.0 | |
| Sink, service, flushing rim | 3" | | | 6.0 | |
| Sink, general, 1-1/2" trap | 1-1/2" | 2.0 | 2.0 | 2.0 | |
| Sink, general, 2" trap | 2" | 3.0 | 3.0 | 3.0 | |
| Sink, general, 3" trap | 3" | | | 5.0 | |
| Urinal, 1.0 GPF | | | | 4.0 | 5.0 |
| Urinal, greater than 1.0 GPF | | | | 5.0 | 6.0 |
| Urinal, 1-1/2" trap | 1-1/2" [2] | | | 4.0 | 5.0 |
| Washfountain, 1-1/2" trap | 1-1/2" | | | 2.0 | |
| Washfountain, 2" trap | 2" | | | 3.0 | |
| Wash Sink, each set of faucets | | | | 2.0 | |
| Water Closet, 1.6 GPF Gravity Tank [6] | 3" | 3.0 | 3.0 | 4.0 | 6.0 |
| Water Closet, 1.6 GPF Flushometer Tank [6] | 3" | 3.5 | 3.5 | 5.0 | 8.0 |
| Water Closet, 1.6 GPF Flushometer Valve [6] | 3" | 3.0 | 3.0 | 4.0 | 6.0 |
| Water Closet, 3.5 GPF Gravity Tank [6] | 3" | 4.0 | 4.0 | 6.0 | 8.0 |
| Water Closet, 3.5 GPF Flushometer Valve [6] | 3" | 4.0 | 4.0 | 6.0 | 8.0 |
| Whirlpool Bath or Combination Bath/Shower | 2" | 3.0 | 3.0 | | |

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**Footnotes for Table 7-3:**

[1]Indirect waste receptors shall be sized based on the total drainage capacity of the fixtures that drain therein to, in accordance with Table 7-4.
[2]Provide a 2" (51 mm) minimum branch drain beyond the trap arm.
[3]For refrigerators, coffee urns, water stations, and similar low demands.
[4]For commercial sinks, dishwashers, and similar moderate or heavy demands.
[5]Buildings having a clothes washing area with clothes washers in a battery of three (3) or more, clothes washers shall be rated at six (6) fixtures units each for purposes of sizing common horizontal and vertical drainage piping.
[6]Water closets shall be computed as six (6) fixtures units when determining septic tank sizes based on Appendix K of this Code.
[7]Trap sizes shall not be increased to the point where the fixture discharge may be inadequate to maintain their self-scouring properties.

NEW SECTION

**WAC 51-46-0800 Indirect wastes.**

NEW SECTION

**WAC 51-46-0810 Steam and hot water drainage condensers and sumps.**

**810.4 Strainers.** Every indirect waste interceptor receiving discharge containing particles that would clog the receptor drain shall have a readily removable dome strainer.

NEW SECTION

**WAC 51-46-0814 Refrigeration wastes.**

**814.0 Refrigeration Wastes.**

For refrigeration wastes see Mechanical Code Section 1105.13.

NEW SECTION

**WAC 51-46-0815 Air-conditioning equipment.**

**815.0 Air-Conditioning Equipment.**

**815.1 Size.** For sizing of equipment see Mechanical Code Table 11-E. Air conditioning waste pipes shall be constructed of materials specified in Chapter 7.

**815.2 Point of Discharge.** Air-conditioning condensate waste pipes shall connect indirectly to the drainage system through an airgap or airbreak to:

**815.2.1** A properly trapped receptor; or

**815.2.2** Other points of discharge acceptable to the Administrative Authority, including dry wells, leach pits, the tailpiece of plumbing fixtures, etc.

NEW SECTION

**WAC 51-46-0900 Vents.**

NEW SECTION

**WAC 51-46-0903 Materials.**

**903.1.2** Delete paragraph.

NEW SECTION

**WAC 51-46-1000 Traps and interceptors.**

NEW SECTION

**WAC 51-46-1003 Traps - Described.**

**1003.1** Each trap, except one for an interceptor or similar device shall be self-cleaning. Traps for bathtubs, showers, lavatories, sinks, laundry tubs, floor drains, hoppers, urinals, drinking fountains, dental units, and similar fixtures shall be of standard design and weight and shall be of ABS, cast brass, cast iron, lead, PP, PVC, or other approved material. An exposed and readily accessible drawn brass tubing trap, not less than 17 B&S Gauge (0.045 inch) (1.1 mm), may be used on fixtures discharging domestic sewage but shall exclude urinals. Each trap shall have the manufacturer's name stamped legibly in the metal of the trap and each tubing trap shall have the gauge of the tubing in addition to the manufacturer's name. Every trap shall have a smooth and uniform interior waterway.

NEW SECTION

**WAC 51-46-1012 Laundries.**

**1012.0 Laundries.** Delete entire Section.

NEW SECTION

**WAC 51-46-1300 Medical gas systems.**

**OPTION 1** ***REPLACE ENTIRE CHAPTER WITH THE FOLLOWING:***

NEW SECTION

**WAC 51-46-1301 Scope.**

**1301.0 Scope**

**1301.1** The provisions herein shall apply to the design, installation, testing, and certification of medical gas, medical vacuum systems, and related equipment for safe use in patient care hospitals, clinics, and other health care facilities.

**1301.2** The purpose of this chapter is to provide minimum requirements for the design, installation, testing, and certification of medical gas, medical vacuum systems and related equipment.

**1301.3** Medical gas and vacuum systems shall include, but not be limited to, all distribution piping, supply manifolds, connections, regulators, valves, alarms, sensors, compressors, pumps, and appurtenances.

NEW SECTION

**WAC 51-46-1302 Medical gases.**

**1302.0 Medical Gases**

**1302.1** Medical gas and medical vacuum systems shall be designed and installed in accordance with the requirements of this chapter, the installation requirements of this Code and 1996 NFPA 99, Chapters 2 & 4. Installation and testing of medical gas and medical vacuum systems shall be inspected by the Administrative Authority.

NEW SECTION

**WAC 51-46-1303 Plan review.**

**1303.0 Plan Review**

**1303.1** Before any medical gas or medical vacuum system is installed or altered in any patient care hospital, clinic, or other health care facility, duplicate plans and specifications shall be filed with the Administrative Authority. Approval of the plans shall be obtained prior to the issuance of any permit by the Administrative Authority.

**1303.2** Plans and specifications submitted to the Administrative Authority shall be of sufficient clarity to indicate the nature and extent of the work proposed and show in detail that such work will conform to the provisions of this Code and 1996 NFPA 99, Chapters 2 & 4.

NEW SECTION

**WAC 51-46-1304 System certification.**

**1304.0 System Certification.**

**1304.1** Prior to any medical gas system being placed in service, each and every system shall be certified, as described in 1996 NFPA 99, Chapters 2 & 4, Gas and Vacuum Systems. This certification shall be accomplished by an independent third party certification agency which is approved by the Administrative Authority.

**1304.2** A report which includes at least the specific items in 1996 NFPA 99, Chapters 2 & 4, Gas and Vacuum Systems, shall be furnished to the Administrative Authority prior to final acceptance of the system.

**OPTION 2** ***REPLACE ENTIRE CHAPTER WITH THE FOLLOWING:***

NEW SECTION

**WAC 51-46-1301 Scope.**

**1301.0 Scope.**

**1301.1** The provisions herein shall apply to the design, installation, testing, and verification of medical gas, medical vacuum systems, and related permanent equipment for safe use in patient care hospitals, clinics, and other heath care facilities.

**1301.2** The purpose of this chapter is to provide minimum requirements for the design, installation and verification of medical gas, medical vacuum systems, and related permanent equipment.

PROPOSED

PROPOSED

NEW SECTION

**WAC 51-46-1302 Definitions.**

**1302.0 Definitions.**

**1302.1 Installer Performance Testing** - Testing conducted by the installer or representative prior to system verification using oil-free, dry nitrogen as stated in Chapter 14.

**1302.2 System Verification** - Testing conducted by a qualified party other than the installer or material vendor after the installer performance testing and prior to the medical gas system being put into service.

NEW SECTION

**WAC 51-46-1303 Plan review.**

**1303.0 Plan Review.**

**1303.1** Before any medical gas or medical vacuum system is installed or altered in any patient care hospital, clinic, or health care facility, duplicate plans and specifications shall be filed with the Administrative Authority. The Administrative Authority shall approve the plans prior to the issuance of any permit.

**1303.2** Plans and specifications submitted to the Administrative Authority shall be of sufficient clarity to indicate the nature and extent of the work proposed and shown in detail that such work will conform to the provisions of this Code, specifically Chapter 14 of this Code.

NEW SECTION

**WAC 51-46-1304 System installation and performance testing.**

**1304.0 System Installation and Installer Performance Testing.**

**1304.1** Medical gas and medical vacuum systems shall be designed and installed in accordance with the requirements of this Chapter and the installation requirement of this Code, specifically Chapter 14 of this Code.

**1304.2** A report of completion of the installer performance testing which includes the specific items in Chapter 14 shall be furnished to the Administrative Authority prior to system verification.

NEW SECTION

**WAC 51-46-1305 System verification.**

**1305.0 System Verification.**

**1305.1** Prior to any medical gas system being placed in service, each and every system shall be verified as described in Chapter 14. This verification shall be accomplished by an independent third party verification agency which is approved by the Administrative Authority.

**1305.2** A report which includes at least the specific items in Chapter 14 shall be furnished to the Administrative Authority prior to final acceptance of the system.

NEW SECTION

**WAC 51-46-1400 Referenced standards.**

NEW SECTION

**WAC 51-46-1401 Referenced standards.**

**CHAPTER 14**
**REFERENCED STANDARDS**

Table of Contents for Table 14-1



Footnotes to standards listed in Table 14-1 and abbreviations are at the end of the table.

NEW SECTION

**WAC 51-46-1491 Table 14-1 Standards for materials, equipment, joints and connections.**

PROPOSED

**TABLE 14-1**
**Standards for Materials, Equipment, Joints and Connections**

Where more than one standard has been listed for the same material or method, the relevant portions of all such standards shall apply.

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| **APPLIANCES AND APPURTENANCES PLUMBING** | | | |
| Chimneys, factory-built residential type and building heating appliances | UL 103-95 | | |
| Dishwashers, households | AHAM DW-2PR-86<br>UL 749-94<br>ASSE 1006-89 | | |
| Dishwashers, commercial | ASSE 1004-90<br>UL 921-95 | | NSF No. 3-82 |
| Draft Hoods | Z21.12-90 | | |
| Electrical heating, water supply, and power boilers | UL 834-91 | | |
| Electrical heating appliances | UL 499-87 | | |
| Food waste disposers (grinders), household | ASSE 1008-89<br>AHAM FWD-2PR-80 (R1989)<br>UL 430-86 | | |
| Food waste disposers (grinders), commercial | ASSE 1009-90<br>AHAM FWD-1-83 | | |
| Gas vents | UL 441-91 | | |
| Icemakers | UL 563-91 | | |
| Laundry equipment, household | ASSE 1007-92<br>AHAM HLW-2 PR-86 | | |
| Manual food and beverage dispensing equipment | NSF 18-90 | | |

PROPOSED

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Manually Operated Gas Valves for Appliances, Appliance Connector Valves and Hose End Valves | Z21.15-92 | | |
| Manually Operated Metallic Gas Valves (Line Type) for Use in Gas Piping Systems Up to 125 psig(Sizes 1/2 in. through 2 in.) | ASME B16.33-90 | | |
| Large Metallic Valves for Gas Distribution (Manually Operated, NPS 2-1/2 to 12, 125 psig Maximum) | ASME B16.38-85 | | |
| Metal Gas Connectors for Gas Appliances | Z21.24-93 | | |
| Quick Disconnect Devices for Use with Gas Fuel | Z21.41-89 | | |
| Pressure Regulating Valves for LP Gas | UL 144-85 | | |
| Pigtails and Flexible Hose Connectors for LP-Gas | UL 569-94 | | |
| Steel auxiliary tanks for oil-burner fuel | UL 443-89 | | |
| Steel inside tanks for oil burner fuel | UL 80-92 | | |
| Constant-level oil valves | UL 352-92 | | |
| Oil fired boiler assemblies | UL 726-90 | | |
| **Water Heaters** | | | |
| Water heater relief valve drain tubes | ASME A112.4.1-93 | | |
| Electric Booster and Commercial Storage Tank Water Heaters | UL 1453-94 | | |
| Gas, Volume III, circulating tank instantaneous and large automatic type water heaters | Z21.10.3a-94<br>Z21.10.32-90<br>Z21.10.3b-92 | | |
| Gas, Volume I, automatic storage-type water heaters with input of 75,000 BTU/H (22 kW), or less | Z21.10.1a-94 | | |
| Electric | Z21.10.1a-91<br>UL 174-89 | | |
| Oil | Z21.10.1b-92<br>UL 732-87 | | |
| Gas Fired Low--Pressure Steam and Hot Water Boilers and Addenda | Z21.13-91 | | |
| **DRAINAGE SYSTEM - SANITARY** | | | |
| **Building Sewers** | | | |
| Cast iron soil pipe and fittings - hub and spigot | | A 74-93[1] | CISPI HSN-85 |

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Hubless cast iron sanitary system | | | CISPI 301-90<br>CISPI 310-90<br>IAPMO IS 6-95 |
| Ductile iron pipe centrifugally cast in sand-lined or metal molds | AWWA C151/ A21.51-91 | A 377-89 | |
| Ductile iron or grey iron fittings | AWWA C110/ A21.10-93 | A 377-89 | |
| Ductile iron compact fittings | AWWA C153/ A21.53-88 | | |
| Clay pipe | A106.6-70 | C 700-91<br>C 425-90a | IAPMO IS 18-85 |
| Asbestos-cement nonpressure sewer pipe | | C 428-92[6,7] | |
| Copper alloy sand casting for general applications | | B 584-93b[5] | |
| Seamless copper water tube | | B 88-93a | IAPMO IS 3-93 |
| Copper drainage tube | | B 306-92 | IAPMO IS 3-93 |
| Cast copper alloy solder joint drainage fittings | ASME B16.23-92 | | IAPMO IS 3-93 |
| Wrought copper and copper alloy solder-joint drainage fittings | ASME B16.29-86[1] | | IAPMO IS 3-93 |
| Concrete sewer, storm drain and culvert pipe | | C 14-92 | |
| Low pressure air test for building sewers (Installation) | | IAPMO IS 16-84 | |
| Plastic, ABS | | | |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2661-94a[1] | IAPMO IS 1-91<br>IAPMO IS 5-92 |
| Acrylonitrile-Butadiene-Styrene (ABS) sewer pipe and fittings | NSF 14-90 | D 2751-93[1] | IAPMO IS 11-87<br>IAPMO IS 1-91 |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe having a foam core | NSF 14-90 | F 628-93[1,3] | IAPMO IS 1-91<br>IAPMO IS 5-92 |
| Acrylonitrile-Butadiene-Styrene (ABS) composite sewer piping | | D 2680-93 | IS 1-91 |
| Plastic, PVC | | | |
| Poly (vinyl chloride) (PVC) plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2665-94 | IAPMO IS 1-91<br>IAPMO IS 9-95 |
| Type PSP poly (vinyl chloride) (PVC) sewer pipe and fittings | NSF 14-90 | D 3033-85 (D) | IAPMO IS 1-91 |

PROPOSED

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Shielded couplings joining hubless cast iron soil pipe and fittings | | C 1277-94 | |
| Ductile iron pipe centrifugally cast in sand-lined or metal molds | AWWA C151/ A21.51-91 | A 377-89 | |
| Ductile iron or grey iron fittings | AWWA C110/ A21.10-93 | A 377-89 | |
| Ductile iron compact fittings | AWWA 153/ A21.53-88 | | |
| Copper alloy sand casting for general applications | | B 584-93b[5] | |
| Seamless copper water tube | | B 88-93a | IAPMO IS 3-93 |
| Copper drainage tube | | B 306-92 | IAPMO IS 3-93 |
| Seamless copper tube | | B 75-93 | IAPMO IS 3-93 |
| Seamless brass tube | | B 135-91 | |
| Cast bronze solder-joint drainage fittings | ASME B16.23-92 | | |
| Wrought copper and copper alloy solder-joint drainage fittings | ASME B16.29-86[1] | | IAPMO IS 3-93 |
| Steel pipe (galvanized) | ASME B36.10-85 | A 53-93a<br>A 120-84 (D) | |
| Cast iron threaded drainage fittings | ASME B16.12-91[1] | | |
| Lead pipe and bends | | | WW-P 325B-76 |
| Plastic, ABS | | | |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2661-94a[1] | IAPMO IS 5-92 |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe having a foam core | NSF 14-90 | F 628-93[1,3] | IAPMO IS 5-92 |
| Plastic, PVC | | | |
| Poly (vinyl chloride) (PVC) plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2665-94 | IAPMO IS 9-95 |
| Coextruded poly (vinyl chloride) (PVC) plastic pipe with a cellular core | | F 891-93a | IAPMO IS 9-95 |
| **Building Drains - Below Ground** | | | |
| Cast iron soil pipe and fittings - hub and spigot | | A 74-93[1] | CISPI HSN-85 |
| Hubless cast iron sanitary system | | C 564-95a | CISPI 310-90<br>CISPI 301-90[1]<br>IAPMO IS 6-95 |
| Ductile iron pipe centrifugally cast in sand-lined or metal molds | AWWA C151/ A21.51-91 | A 377-89 | |

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Type PSM poly (vinyl chloride) (PVC) sewer pipe and fittings | NSF 14-90 | D 3034-94 | IAPMO IS 1-91 |
| Poly (vinyl chloride) (PVC) sewer pipe and fittings | NSF 14-90 | D 2729-93[1] | IAPMO IS 1-91 |
| Type PS-46 poly (vinyl chloride) (PVC) plastic gravity flow sewer pipe and fittings | NSF 14-90 | F 789-89[1] | IAPMO IS 1-91 |
| Coextruded poly (vinyl chloride)(PVC) plastic pipe with a cellular core | | F 891-93a | IAPMO IS 1-91<br>IAPMO IS 9-95 |
| Poly (vinyl chloride) (PVC) corrugated sewer pipe with a smooth interior and fittings | | F 949-93a | IAPMO IS 1-91 |
| **Building Drains Above Ground** | | | |
| Cast iron soil pipe and fittings – hub and spigot | | A 74-93[1] | CISPI HSN-85 |
| Hubless cast iron sanitary system | | C 564-95a | CISPI 310-90<br>CISPI 301-90[1]<br>IAPMO IS 6-95 |
| Ductile iron or grey iron fittings | AWWA C110/ A21.10-93 | A 377-89 | |
| Ductile iron compact fittings | AWWA C153/ A21.53-88 | | |
| Copper alloy sand casting for general applications | | B 584-93b[5] | |
| Seamless copper water tube | | B 88-93a | IAPMO IS 3-93 |
| Copper drainage tube | | B 306-92 | IAPMO IS 3-93 |
| Cast bronze solder-joint drainage fittings | ASME B16.23-92 | | |
| Wrought copper and copper alloy solder-joint drainage fittings | ASME B16.29-86[1] | | IAPMO IS 3-93 |
| Lead pipe and bends | | | WW-P-325B-76 |
| Plastic, ABS | | | |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2661-94a[1] | IAPMO IS 5-92 |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe having a foam core | NSF 14-90 | F 628-93[1,3] | IAPMO IS 5-92 |
| Plastic, PVC | | | |
| Poly (vinyl chloride) (PVC) plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2665-94 | IAPMO IS 9-95 |

PROPOSED

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Coextruded poly (vinyl chloride)(PVC) plastic pipe with a cellular core | | F 891-93a | IAPMO IS 9-95 |
| **Sanitary Drain and Waste – Above Ground** | | | |
| Cast iron soil pipe and fittings hub and spigot | | A 74-93[1] | CISPI HSN-85 |
| Hubless cast iron sanitary system | | C 564-95a | CISPI 310-90, CISPI 301-90[1], IAPMO IS 6-95 |
| Ductile iron pipe centrifugally cast in sand-lined or metal molds | AWWA C151/ A21.51-91 | A 377-89 | |
| Ductile iron or grey iron fittings | AWWA C110/ A21.10-93 | A 377-89 | |
| Ductile iron compact fittings | AWWA C153/ A21.53-88 | | |
| Copper alloy sand casting for general applications | | B 584-93b[5] | |
| Seamless copper water tube | | B 88-93a | IAPMO IS 3-93 |
| Copper drainage tube | | B 306-92 | IAPMO IS 3-93 |
| Cast bronze solder-joint drainage fittings | ASME B16.23-92 | | |
| Wrought copper and copper alloy solder-joint drainage fittings | ASME B16.29-86[1] | | IAPMO IS 3-93 |
| Cast bronze solder-joint fittings for solvent drainage systems | ASME B16.32-92 | | |
| Copper alloy fixture fittings | ASME A112.18.1M-94 | | |
| Lead pipe and bends | | | WW-P-325B-76 |
| Steel pipe (galvanized) | ASME B36.10M-85 | A 53-93a A 120-84 (D) | |
| Cast iron threaded drainage fittings | ASME B16.12-91 | | |
| ABS and PVC piston driven DWV expansion joints | | | IAPMO PS 51-92 |
| Plastic, ABS | | | |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2661-94a[1] | IAPMO IS 5-92 |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe having a foam core | NSF 14-90 | F 628-93[1,3] | IAPMO IS 5-92 |
| Plastic, PVC | | | |
| Poly (vinyl chloride) (PVC) plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2665-94 | IAPMO IS 9-95 |

PROPOSED

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Coextruded poly (vinyl chloride)(PVC) plastic pipe with a cellular core | | F 891-93a | IAPMO IS 9-95 |
| **Sanitary Drain and Waste – Below Ground** | | | |
| Cast iron soil pipe and fittings hub and spigot | | A 74-93[1] | CISPI HSN-85 |
| Hubless cast iron sanitary system | | | CISPI 301-90[1]<br>CISPI 310-90<br>IAPMO IS 6-95 |
| Ductile iron pipe centrifugally cast in sand-lined or metal molds | AWWA C151/ A21.51-91 | A 377-89 | |
| Ductile iron or grey iron fittings | AWWA C110/ A21.10-93 | A 377-89 | |
| Ductile iron compact fittings | AWWA C153/ A21.53-88 | | |
| Copper alloy sand casting for general applications | | B 584-93b[5] | |
| Seamless copper water tube | | B 88-93a | IAPMO IS 3-93 |
| Copper drainage tube | | B 306-92 | IAPMO IS 3-93 |
| Cast bronze solder-joint drainage fittings | ASME B16.23-92 | | IAPMO IS 3-93 |
| Copper flush pipes | ASME A112.18.1M-94 | | |
| Wrought copper and copper alloy solder-joint drainage fittings | ASME B16.29-86[1] | | IAPMO IS 3-93 |
| Cast bronze solder-joint fittings for solvent drainage systems | ASME B16.32-92 | | |
| Lead pipe, lead traps and bends | | | WW-P-325B-76 |
| Cast iron threaded drainage fittings | ASME B16.12-91[1] | | |
| Plastic, ABS | | | |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2661-94a[1] | IAPMO IS 5-92 |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe having a foam core | NSF 14-90 | F 628-93[1,3] | IAPMO IS 5-92 |
| Plastic, PVC | | | |
| Poly (vinyl chloride) (PVC) plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2665-94 | IAPMO IS 9-95 |
| Coextruded poly (vinyl chloride)(PVC) plastic pipe with a cellular core | | F 891-93a | IAPMO IS 9-95 |

PROPOSED

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| **JOINING MATERIALS AND METHODS - SANITARY DRAINAGE SYSTEMS** | | | |
| Type "F" clamps for plumbing applications | SAE J1670-93 | | |
| Rubber gasket joints for ductile-iron and gray-iron pressure pipe and fittings | AWWA C111 A21.11-90 | | |
| Cast iron soil pipe and fittings hub and spigot neoprene compression gaskets, caulking, lead wool and lead pig | | C 564-95a B 29-92 | CISPI HSN-85 |
| Threaded joints (IPS) | ASME B1.10.1-83 B1.20.3-91 | | |
| Hubless cast iron sanitary systems neoprene gasket and stainless steel shield | | C 564-95a | CISPI 310-90, CISPI 301-90[1], IAPMO IS 6-95 |
| Flexible transition couplings for underground piping systems | | C 1173-95 | |
| Shielded transition couplings for use with dissimilar DWV pipe and fittings above ground | | | IAPMO PS 44-92 |
| Clay pipe | | C 425-90a | IAPMO IS 18-85 |
| Brazing filler metals | AWS A5.8-92 | | |
| Solder metal and wiping solder | | B 32-95a[4] | |
| Silver brazing joints for wrought and cast solder-joint fittings | | | MSS-SP-73-91 |
| Flux brazing | | | 0-F-499D-85 |
| Flux soldering | | | |
| Seal compound pipe joint and thread | | | TT-S-1732-71 |
| **Plastic DWV, ABS** | | | |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2661-94a[1] | IAPMO IS 5-92 |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe having a foam core | NSF 14-90 | F 628-93[1,3] | IAPMO IS 5-92 |
| Solvent cement for Acrylonitrile-Butadiene- Styrene (ABS) plastic pipe and fittings | NSF 14-90 | D 2235-93a | IAPMO IS11-87 IAPMO IS 5-92 |
| Safe handling of solvent cements and primers used for joining thermoplastic pipe and fittings | | F 402-93 | IAPMO IS 5-92 |
| Joints for drain and sewer plastic pipes using flexible elastomeric seals | | D 3212-92 | |

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| **Plastic DWV, PVC** | | | |
| Poly (vinyl chloride) (PVC) plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2665-94 | IAPMO IS 9-95 |
| Solvent cement for poly (vinyl chloride) (PVC) plastic pipe and fittings | NSF 14-90 | D 2564-93 | IAPMO IS 9-95 |
| Primers for use in solvent cement joints of poly (vinyl chloride) (PVC) plastic pipe and fittings | NSF 14-90 | F 656-93 | IAPMO IS 9-95 |
| Safe handling of solvent cements and primers used for joining thermoplastic pipe and fittings | | F 402-93 | IAPMO IS 9-95 |
| Making solvent-cemented joints with poly (vinyl chloride)(PVC) pipe and fittings | | D 2855-93 | IAPMO IS 9-95 |
| Joints for drain and sewer plastic pipes using flexible elastomeric seals | | D 3212-92 | |
| **Plastic Sewer, ABS** | | | |
| Solvent cement for Acrylonitrile-Butadiene-Styrene (ABS) plastic pipe and fittings | NSF 14-90 | D 2235-93a | |
| Joints for drain and sewer plastic pipes using flexible elastomeric seals | | D 3212-92 | |
| Safe handling of solvent cements and primers used for joining thermoplastic pipe and fittings | | F 402-93 | |
| Underground installation of flexible thermo-plastic sewer pipe | | D 2321-89 | |
| Joints for drain and sewer plastic pipes using flexible elastomeric seals | | D 3212-92 | |
| **Plastic Sewer, PVC** | | | |
| Solvent cement for poly (vinyl chloride) (PVC) plastic pipe and fittings | NSF 14-90 | D 2564-93 | |
| Primers for use in solvent cement joints of poly (vinyl chloride) (PVC) plastic pipe and fittings | NSF 14-90 | F 656-93 | |
| Safe handling of solvent cements and primers used for joining thermoplastic pipe and fittings | | F 402-93 | |
| Underground installation of flexible thermo-plastic sewer pipe | | D 2321-89 | |

PROPOSED

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Joints for drain and sewer plastic pipes using flexible elastomeric seals | | D 3212-92 | |
| Making solvent-cemented joints with poly (vinyl chloride) (PVC) pipe and fittings | | D 2855-93 | |
| Safe handling of solvent cements and primers used for joining thermoplastic pipe and fittings | | F 402-93 | |
| Underground installation of flexible thermo-plastic sewer pipe | | D 2321-89 | |
| Joints for drain and sewer plastic pipes using flexible elastomeric seals | | D 3212-92 | |
| Plastic stabilizers for use with plastic closet bends | | | IAPMO PS 91-95 |
| Mechanical cast iron closet flanges | | | IAPMO PS 97-96 |
| **Pumps - Drainage** | | | |
| Sewage pump, centrifugal, wet pit | | | |
| Sump pumps, vertical, wet pit | | | MIL-P-21214B-92 |
| **Sewage Ejectors** | | | |
| Mechanical and air | | | |
| **DRAINS - STORM** | | | |
| **Building Storm Sewers** | | | |
| Joints for circular concrete sewer and culvert pipe, using rubber gaskets | | C 443-85a(R90) | |
| Cast iron soil pipe and fittings hub and spigot | | A 74-93[1]<br>C 564-95a | CISPI HSN-85 |
| Hubless cast iron sanitary system | | C 564-95a | CISPI 301-90[1]<br>CISPI 310-90<br>IAPMO IS 6-95 |
| Flexible transition couplings for underground piping systems | | C 1173-95 | |
| Ductile iron pipe centrifugally cast in sand-lined or metal molds | AWWA C151/ A21.51-91 | A 377-89 | |
| Ductile iron or grey iron fittings | AWWA C110/ A21.10-93 | A 377-89 | |
| Ductile iron compact fittings | AWWA C153/ A21.53-88 | | |
| Clay pipe | | C 700-91<br>C 425-90a | IAPMO IS 1-91<br>IAPMO IS 18-85 |
| Asbestos-cement nonpressure sewer pipe | | C 428-92[6,7] | |

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Copper alloy sand casting for general applications | | B 584-93b[5] | |
| Seamless copper water tube (types K, L and M) | | B 88-93a | IAPMO IS 3-93 |
| Copper drainage tube-type DWV | | B 306-92 | IAPMO IS 3-93 |
| Cast copper alloy solder joint drainage fittings | ASME B16.23-92 | | IAPMO IS 3-93 |
| Wrought copper and copper alloy solder-joint drainage fittings | ASME B16.29-86[1] | | IAPMO IS 3-93 |
| Concrete sewer, storm drain and culvert pipe | | C 14-92 | |
| Low pressure air test for building sewers (Installation) | | | IAPMO IS 16-84 |
| Plastic, ABS | | | |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain,waste and vent pipe and fittings | NSF 14-90 | D 2661-94a[1] | M265-811<br>IAPMO IS 1-91<br>IAPMO IS 5-92 |
| Acrylonitrile-Butadiene-Styrene (ABS) sewer pipe and fittings | NSF 14-90<br>K65.59-71 | D 2751-93[1] | IAPMO IS11-87<br>IAPMO IS 1-91 |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe having a foam core | NSF 14-90 | F 628-93[1,3] | IAPMO IS 5-92<br>IAPMO IS 1-91 |
| Acrylonitrile-Butadiene-Styrene (ABS) composite sewer pipe | | D 2680-93 | IAPMO IS 1-91 |
| Plastic, PVC | | | |
| Poly (vinyl chloride) (PVC) plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2665-94 | IAPMO IS 9-95<br>IAPMO IS 1-91 |
| Type PSP poly (vinyl chloride) (PVC) sewer pipe and fittings | NSF 14-90 | D 3033-85 (D) | IAPMO IS 1-91 |
| Type PSM poly (vinyl chloride) (PVC) sewer pipe and fittings | NSF 14-90 | D 3034-94 | IAPMO IS 1-91 |
| Type PS-46 poly (vinyl chloride) (PVC) plastic gravity flow sewer pipe and fittings | NSF 14-90 | F 789-89[1] | IAPMO IS 1-91 |
| Coextruded poly (vinyl chloride)(PVC) plastic pipe with a cellular core | | F 891-93a | IAPMO IS 1-91<br>IAPMO IS 9-95 |
| Poly (vinyl chloride) (PVC) corrugated sewer pipe with a smooth interior and fittings | | F 949-93a | IAPMO IS 1-91 |

PROPOSED

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| **SUBSOIL DRAINS** | | | |
| Cast iron soil pipe and fittings hub and spigot | | C 564-95a<br>A 74-93[1] | CISPI HSN-85 |
| Hubless cast iron sanitary system | | C 564-95a | CISPI 310-90<br>CISPI 301-90[1]<br>IAPMO IS 6-95 |
| Clay pipe | | C 700-91 | IAPMO IS 18-85 |
| Copper alloy sand casting for general applications | | B 584-93b[5] | |
| Seamless copper water tube (types K, L and M) | | B 88-93a | IAPMO IS 3-93 |
| Copper drainage tube-type DWV | | B 306-92 | IAPMO IS 3-93 |
| Cast bronze solder-joint drainage fittings | ASME B16.23-92 | | IAPMO IS 3-93 |
| Wrought copper and copper alloy solder-joint drainage fittings | ASME B16.29-86[1] | | IAPMO IS 3-93 |
| **Plastic, PE** | | | |
| Corrugated polyethylene tubing | | F 405-93 | |
| **Plastic, SR** | | | |
| Styrene-rubber (SR) plastic drain pipe, perforated-type | | D 3298-81 (D) | |
| **ROOF DRAINS** | A112.21.2M-83 | | |
| Copper and other metallic roof/deck/ balcony drains | | | IAPMO PS 41-91 |
| Plastic roof drains | | | IAPMO PS 47-92 |
| **JOINING MATERIALS AND METHODS - SUBSOIL DRAINS** | | | |
| Clay pipe (open jointed clay pipe or perforated clay pipe) | | C 425.90a | |
| Caulking lead, wool and lead pig | | B 29-92 | |
| Brazing filler metals | AWS A5.8-92 | | |
| Solder metal and wiping solder | | B 32-95a[4] | |
| Silver brazing joints for wrought and cast solder joint fittings | | | MSS-SP-73-91 |
| **Plastic, PE** | | | |
| Corrugated polyethylene tubing | | F 405-93 | |
| Underground installation of flexible thermo-plastic sewer pipe | | D 2321-89 | |
| **Plastic, PVC** | | | |
| Solvent cements for poly (vinyl chloride) (PVC) plastic pipe and fittings | NSF 14-90 | D 2564-93 | IAPMO IS 9-95 |

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Primers for use in solvent cement joints of poly (vinyl chloride) (PVC) plastic pipe and fittings | NSF 14-90 | F 656-93 | IAPMO IS 9-95 |
| Safe handling of solvent cements and primers used for joining thermoplastic pipe and fittings | | F 402-93 | IAPMO IS 9-95 |
| Underground installation of flexible thermo-plastic sewer pipe | | D 2321-89 | |
| Making solvent-cemented joints with poly (vinyl chloride) (PVC) pipe and fittings | | D 2855-93 | IAPMO IS 9-95 |
| **Plastic, SR** | | | |
| Solvent cement for styrene-rubber (SR) plastic pipe and fittings | | D 3122-93 | |
| Safe handling of solvent cements and primers used for joining thermoplastic pipe and fittings | | F 402-93 | |
| Underground installation of flexible thermo-plastic sewer pipe | | D 2321-89 | |
| **FIXTURES AND TRIM - PLUMBING** | | | |
| Plumbing fixtures, general specification | | | WW-P-541-E-Gen.1980 |
| Drains for prefabricated and precast showers | | | IAPMO PS 4-95 |
| Porous filter protector for sub-drain weep holes | | | IAPMO PS 100-96 |
| Prefabricated fiberglass church baptistries | | | IAPMO PS 98-96 |
| Bathwaste strainer drains | | | IAPMO PS 55-92 |
| Plastic bathwaste and overflow assemblies | | | IAPMO PS 69-93 |
| Bathtub/whirlpool bathtubs with pressure sealed doors | | | IAPMO PS 70-93 |
| Electronic controlled showers | | | IAPMO PS 71-93 |
| Flexible metallic water connectors | | | IAPMO PS 14-89 |
| Non-Vitreous Ceramic Plumbing Fixtures | ASME A112.19.9M-91 | | |
| Plumbing fixtures, stainless steel | ASME A112.19.3M-87 | | |
| Shower heads and water control valves | ASME A112.18.1M-94<br>ASSE 1016-90<br>ASSE 1017-86 | | |
| Water flow control devices | | | ASSE 1028-81<br>ASSE 1034-81 |

PROPOSED

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Showers, plastic | Z124.2-95 | | |
| Showers, terrazzo | | | IAPMO PS 99-96 |
| Shower pans-sheet lead, grade B, 4 lb. min. | | | 00-L-201 f-70 |
| Shower units, chlorinated polyethylene sheeting | | D 4068-91 | |
| Subdrains for built-up shower pans | | | IAPMO PS 16-90 |
| Tile-Lined shower receptors (and replacements) (Installation) | | | IAPMO IS 4-96 |
| Load bearing, bonded, waterproof membranes for thin-set ceramic tile and dimension stone installations | A118.10-93 | | |
| Poly (vinyl chloride)(PVC) plastic flexible concealed water-containment membranes | | D 4551-91 | |
| Sinks, kitchen, service | ASME A112.19.1M-87 | | |
| Sinks, Plastic | Z124.6-90 | | |
| Sinks, terrazzo | | | IAPMO PS 99-96 |
| Laundry tubs | ASME A112.19.1M-87 | | |
| Supports for off-the-floor plumbing fixtures with or without concealed tanks | | | IAPMO PS 58-92 |
| Supports for off-floor plumbing fixtures for public use | ASME A112.6.1M-88 | | |
| Urinals | ASME A112.19.2M-95<br>Z124.9-94[1] | | |
| **Water Closets** | | | |
| Vitreous china | ASME A112.19.2M-95 | | |
| Plastic | Z124.4-86<br>Z124.4a-90 | | |
| Water closet trim | A112.19.5-79 | | |
| Plastic Toilet (Water Closet) Seats | Z124.5-89 | | |
| Water closet seats with spray | | | IAPMO PS 93-95 |
| Hydraulic Requirements for Water Closets & Urinals | ASME A112.19.6-90 | | |
| Fabricated stainless steel security water closets | | | IAPMO PS 61-92 |
| Electrohydraulic water closets | | | IAPMO PS 77-95 |
| Dual flush for electrohydraulic and gravity 6 liter (1.6 gallons) water closet | | | IAPMO PS 78-95 |
| **Whirlpool Bathtubs** | | | |
| Appliances | ASME A112.19.7M-95 | | |
| Suction fittings | ASME A112.19.8M-87 | | |

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Soaking and hydrotherapy (whirlpool) bathtubs with hydraulic seatlift | | | IAPMO PS 89-95 |
| **Bathtubs** | | | |
| Cast iron | ASME A112.19.1M-87 | | |
| Steel | ASME A112.19.4M-94 | | |
| Plastic | Z124.1-95 | | |
| Terrazzo | | | IAPMO PS 99-96 |
| **Built-Up Fixtures** | | | |
| Roman tubs | | | IAPMO IS 2-92 |
| Drinking fountains and drinking water coolers | ARI 1010-84<br>UL 399-92 | | |
| Plumbing fixture fittings | ASME A112.18.1M-94 | | |
| Bathtub three-way diverter valves with backflow protection | | | IAPMO PS 45-91 |
| Backflow prevention requirements for fixture fittings with hose connected singular moveable outlets | | | IAPMO PS 49-92 |
| Fixture supply and drains | ASME A112.18.1M-94 | | |
| Floor drains | ASME A112.21.1M-91[1] | | |
| Enameled cast iron sanitary floor sinks | | | IAPMO PS 62-93 |
| Epoxy coated cast iron sanitary floor sinks | | | IAPMO PS 83-95 |
| PVC plastic sanitary floor sinks | | | IAPMO PS 84-95 |
| **Flushometers** | | | |
| Pressurized flushing devices | ASSE 1037-90 | | MIL-V-29193-80(D) |
| **Lavatories** | | | |
| Vitreous china | ASME A112.19.2M-95 | | |
| Cast iron | ASME A112.19.1M-87 | | |
| Steel, enamel | ASME A112.19.4M-94 | | |
| Plastic and cultured marble | Z124.3-95 | | |
| Steel, stainless | ASME A112.19.3M-87 | | |
| **Utility Hydrants** | ASME A112.21.3M-85[1] | | |
| Wall hydrants, anti-freeze-type with vacuum breaker | ASSE 1019-95 | | |
| **Accessibility Standard** | CABO A117.1-92 | | |
| **HANGERS AND SUPPORTS - PIPING** | | | MSS SP-58-93 |
| **Plastic Waste, ABS** | | | |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste, and vent pipe and fittings | NSF 14-90 | D 2661-94a[1] | IAPMO IS 5-92 |

PROPOSED

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste, and vent pipe having a foam core | NSF 14-90 | F 628-93[1,3] | IAPMO IS 5-92 |
| Drain, waste, and vent hangers | | | IAPMO PS 95-96 |
| **Plastic Waste, PVC** | | | |
| Poly (vinyl chloride) (PVC) plastic drain, waste, and vent pipe and fittings | NSF 14-90 | D 2665-94 | IAPMO IS 9-95 |
| Drain, waste, and vent hangers | | | IAPMO PS 95-96 |
| **Plastic Water Distribution Piping, CPVC** | | | |
| Chlorinated poly (vinyl chloride) CPVC plastic hot-and cold-water distribution system | NSF 14-90 | D 2846-93 | |
| Supports for off-the-floor plumbing fixtures for public use | ASME A112.6.1M-88 | | |
| **INDIRECT WASTE PIPING AND SPECIAL WASTE** | | | |
| **Indirect Waste Piping** | | | |
| Cast iron soil pipe and fittings – hub and spigot | | A 74-93[1] | CISPI HSN-85 |
| Hubless cast iron sanitary system coupling | | | CISPI 301-90[1]<br>CISPI 310-90<br>IAPMO IS 6-95 |
| Steel pipe (galvanized) | | A 53-93a<br>A 120-84 (D) | |
| Cast iron threaded drainage fittings | | A 126-93 | |
| Copper alloy sand casting for general applications | | B 584-93b[5] | |
| Seamless copper water tube | | B 88-93a | IAPMO IS 3-93 |
| Copper drainage tube | | B 306-92 | IAPMO IS 3-93 |
| Cast bronze solder-joint drainage fittings | ASME B16.23-92 | | IAPMO IS 3-93 |
| Wrought copper and copper alloy solder-joint drainage fittings | ASME B16.29-86[1] | | IAPMO IS 3-93 |
| Plastic, ABS | | | |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2661-94a[1] | IAPMO IS 5-92 |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe having a foam core | NSF 14-90 | F 628-93[1,3] | IAPMO IS 5-92 |

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Plastic, PP | | | |
| Polypropylene (PP) pipe and fittings (Sch. 40 and 80) | NSF 14-90 | D 2146-82 (D) | |
| Plastic, PVC | | | |
| Poly (vinyl chloride) (PVC) plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2665-94 | IAPMO IS 9-95 |
| Coextruded poly (vinyl chloride) (PVC) plastic pipe with a cellular core | | F 891-93a | IAPMO IS 9-95 |
| **Special Waste Piping** | | | |
| Chemical | | | |
| Clay pipe | | C 700-91 | IAPMO IS 18-85 |
| Lead pipe | | C 425-92a | WW-P-325B-76 |
| Glass | | | MIL-P-22561-82(D) |
| Borosilicate glass pipe and fittings for drain, waste and vent (DWV) applications | | C 1053-90[1] | |
| Corrosion-resistant high silicon cast iron hub and spigot | | A 518-92 | |
| High-Silicon Iron Pipe and Fittings | | A 861-92[1] | |
| Fiberglass (glass fiber reinforced thermosetting resin) fittings | | | IAPMO PS 82-95 |
| Plastic, ABS | | | |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2661-94a[1] | IAPMO IS 5-92 |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe having a foam core | NSF 14-90 | F 628-93[1,3] | IAPMO IS 5-92 |
| Plastic, PP | | | |
| Polypropylene (PP) pipe and fittings (Sch.40 and 80) | NSF 14-90 | D 2146 (D) | |
| Polyolefin pipe and fittings for corrosive waste drainage systems | | F 1412-94 | |
| Plastic, PVC | | | |
| Poly (vinyl chloride) (PVC) plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2665-94 | IAPMO IS 9-95 |

PROPOSED

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Coextruded poly (vinyl chloride)(PVC) plastic pipe with a cellular core | | F 891-93a | IAPMO IS 9-95 |
| Corrosive waste piping | | | |
| Clay pipe | | C 700-91 | IAPMO IS 18-85 |
| Lead pipe | | C 425-90a | WW-P-325B-76 |
| Glass | | | MIL-P-22561-82(D) |
| Borosilicate glass pipe and fittings for drain, waste and vent (DWV) applications | | C 1053-90[1] | |
| Corrosion-resistant high silicon cast iron hub and spigot | | A 518-92 | |
| Fiberglass (glass fiber reinforced thermosetting resin) fittings | | | IAPMO PS 82-95 |
| High-Silicon Iron Pipe and Fittings | | A 861-92[1] | |
| Plastic, ABS | | | |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2661-94a[1] | IAPMO IS 5-92 |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe having a foam core | NSF 14-90 | F 628-93[1,3] | IAPMO IS 5-92 |
| Plastic, PP | | | |
| Polypropylene (PP) pipe and fittings (Sch. 40 and 80) | NSF 14-90 | D 2146 (D) | |
| Polyolefin pipe and fittings for corrosive waste drainage systems | | F 1412-94 | |
| Plastic, PVC | | | |
| Poly (vinyl chloride) (PVC) plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2665-94 | IAPMO IS 9-95 |
| **Industrial** | | | |
| Cast iron soil pipe and fittings – hub and spigot | | A 74-93[1] | CISPI HSN-85 |
| Hubless cast iron sanitary system coupling | | | CISPI 301-90[4]<br>CISPI 310-90<br>CISPI HSN-85<br>IAPMO IS 6-95 |

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Corrosion-resistant high silicon cast iron hub and spigot | | A 518-92 | |
| Fiberglass (glass fiber reinforced thermosetting resin) fittings | | | IAPMO PS 82-95 |
| Steel pipe (galvanized) | B125.1 | A 53-93a<br>A 120-84 (D) | |
| Cast iron threaded drainage fittings | ASME B16.12-91[1] | A 126-93 | |
| Clay pipe | | C 700-91 | IAPMO IS 18-85 |
| Lead pipe | | C 425-90a | WW-P-325B-76 |
| Plastic, ABS | | | |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2661-94a[1] | IAPMO IS 5-92 |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe having a foam core | NSF 14-90 | F 628-93[1,3] | IAPMO IS 5-92 |
| Plastic, PP | | | |
| Polypropylene (PP) pipe and fittings (Sch. 40 and 80) | NSF 14-90 | D 2146 (D) | |
| Polyolefin pipe and fittings for corrosive waste drainage systems | | F 1412-94 | |
| Plastic, PVC | | | |
| Poly (vinyl chloride) (PVC) plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2665-94 | IAPMO IS 9-95 |
| Coextruded poly (vinyl chloride)(PVC) plastic pipe with a cellular core | | F 891-93a | IAPMO IS 9-95 |
| **JOINING METHODS - INDIRECT WASTE PIPING AND SPECIAL WASTE** | | | |
| Type "F" clamps for plumbing applications | SAE J1670-93 | | |
| Corrosion-resistant high silicon cast iron hub and spigot | | A 518-92 | |
| Fiberglass (glass fiber reinforced thermosetting resin) fittings | | | IAPMO PS 82-95 |
| Cast iron soil pipe and fittings hub and spigot -neoprene gaskets, compression caulking, lead wool and lead pig | | A 7-93[1] | CISPI HSN-85 |
| Hubless cast iron sanitary system neoprene gasket and stainless steel shield | | C 564-95a | CISPI 301-90<br>CISPI 310-90<br>IAPMO IS 6-95 |

PROPOSED

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Clay pipe | | C 425-90a | IAPMO IS 18-85 |
| Silver brazing joints for wrought and cast bronze solder joint fittings | A106.6-77 | | MSS-SP-73-91 |
| Solder metal | | B 32-95a[4] | |
| Brazing filler metal | AWS A5.8-92 | | |
| **Plastic, ABS** | | | |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2661-94a[1] | IAPMO IS 5-92 |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe having a foam core | NSF 14-90 | F 628-93[1,3] | IAPMO IS 5-92 |
| Solvent cement for Acrylonitrile-Butadiene-Styrene (ABS) plastic pipe and fittings | NSF 14-90 | D 2235-93a | |
| Joints for drain and sewer plastic pipes using flexible thermoplastic sewer pipe | | D 3212-92 | |
| Safe handling of solvent cements and primers used for joining thermoplastic pipe and fittings | | F 402-93 | |
| **Plastic, PP** | | | |
| Practice for heating joining of thermal plastic pipe and fittings | | D 2657-90 | |
| Polypropylene (PP) pipe and fittings (Sch. 40 and 80) | NSF 14-90 | D 2146-82 (D) | |
| **Plastic, PVC** | | | |
| Poly (vinyl chloride) (PVC) plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2665-94 | IAPMO IS 9-95 |
| Solvent cement for poly (vinyl chloride) (PVC) plastic pipe and fittings | NSF 14-90 | D 2564-93 | IAPMO IS 9-95 |
| Primers for use in solvent cement joints of poly (vinyl chloride) (PVC) plastic pipe and fittings | NSF 14-90 | F 656-93 | IAPMO IS 9-95 |
| Making solvent-cemented joints with poly (vinyl chloride) (PVC) pipe and fittings | | D 2855-93 | IAPMO IS 9-95 |
| Safe handling of solvent cements and primers used for joining thermoplastic pipe and fittings | | F 402-93 | IAPMO IS 9-95 |
| Joints for drain and sewer plastic pipes using flexible elastomeric seals | | D 3212-92 | |

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| **INTERCEPTORS AND BACKWATER VALVES** | | | |
| **Interceptors** | | | |
| Grease (Grease Traps) | | | PDI G-101-85<br>IAPMO PS 13-89[2] |
| Grease interceptors and clarifiers | | | IAPMO PS 80-95 |
| Sand | | | |
| Oil | | | PDI G-101-85<br>IAPMO PS 8-77 (D) |
| Rainwater diverter valve for non-roofed area slabs | | | IAPMO PS 86-95 |
| **Backwater Valves** | A112.14.1-75 (Rev.90) | | |
| Acrylonitrile-butadiene-styrene (ABS) and poly (vinyl chloride) (PVC) backwater valves | | | IAPMO PS 38-91 |
| **MANHOLES** | | C 478-90b | |
| **MEDICAL GAS AND VACUUM SYSTEMS** | | | |
| Medical Gas Systems | NFPA 99-96 (Ch. 2 & 4) | | |
| Medical – Surgical Vacuum Systems | NFPA 99-96 (Ch. 2 & 4) | | |
| **JOINING MATERIALS AND METHODS –MEDICAL GAS PIPING** | | | |
| Seamless copper tube for medical gas systems | | B 819-92 | |
| Brazing filler metal | AWS A5.8-92 | | |
| Certified Brazing | | | AWS B2.2.<br>ASME Section IX Boiler and Pressure Vessel Code |
| **MISCELLANEOUS** | | | |
| National fuel gas code | Z223.1-92/ NFPA 54 | | |
| Energy efficient design of new buildings except low-rise residential buildings | ASHRAE 90.1-89 | | |
| Proportional chemical dispensers with backflow protection | | | IAPMO PS 75-95 |

PROPOSED

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Ballcock or flushometer valve tailpiece trap primers and trap primer receptors/adapters | | | IAPMO PS 76-95 |
| Multiport electronic trap primer | | | IAPMO PS 79-95 |
| Diverters for faucets with antisiphon | ASSE 1025-78 | | |
| Hand-held water connected shower devices | ASSE 1014-90 | | |
| Water closet flush tank ballcocks | ASSE 1002-86 | | |
| Fixture mounted hot water dispensers | ASSE 1023-79 | | |
| Dishwasher drain air gap | AHAM DW-1-92 | | ASSE 1021-77 |
| Accessible and usable buildings and facilities | CABO A117.1-92 | | |
| General requirements for wrought seamless copper and copper-alloy tube | | B 251-93 | |
| Welded Copper Tube | | B 447-93 | |
| Copper sheet and strip for building construction | | B 370-92 | |
| Copper sheet, strip, plate, and rolled bar | | B 152-94 | |
| General requirements for steel sheet, zinc-coated (galvanized) by the hot-dip process | | A 525-93 | |
| Seamless copper tube for air conditioning and refrigeration field service | | B 280-93a | |
| Schemes for identification of piping systems | A13.1-81(R93) | | |
| Threaded joints | B2.1-90 | | |
| Drinking water treatment units - aesthetic effects | NSF 42-88 | | |
| Drinking water treatment units - health effects | NSF 53-94 | | |
| Reverse osmosis drinking water treatment systems | NSF 58-96 | | |
| Liquified petroleum gases, storage and handling | NFPA 58-92 | | |
| Welded and seamless carbon steel and austenitic stainless steel pipe nipples | | A 733-89 | |
| Brass-, copper-, and chromium-plated pipe nipples | | B 687-88$_{e1}$ | |
| Thermoplastic gas pressure pipe tubing and fittings | | D 2513-94a[1] | IAPMO IS 12-93 |
| Anodeless transition riser for use with polyethylene and PVC gas yard piping | | | IAPMO PS 40-91 |

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Thermoplastic well casing pipe and couplings made in standard dimension ratios (SDR) schedule 40 and schedule 80 | | F 480-94 | |
| Asbestos cement pressure pipe for water service and yard piping (Installation) | | | IAPMO IS 15-82 |
| Special cast iron fittings | | | IAPMO PS 5-84 |
| Tubing trap wall adapters | | | IAPMO PS 7-84 |
| Diversion tees and twin waste elbows | | | IAPMO PS 9-84 |
| Pipe flashings | | | IAPMO PS 64-93 |
| Smoothwall polyethylene (PE) pipe for use in drainage and waste disposal absorption fields | | F 810-93 | |
| **PUMPS** | | | |
| **Sump Pumps** | | | |
| Sewage pumps | | | MIL-P-21251B-81 (D) SSPMA-85 |
| Vertical sump pumps | | | MIL-P-21214B-92 SSPMA-85 |
| **Pumps - Water** | | | |
| Motor-operated water pumps | UL 778-91 | | |
| Centrifugal - general service | | | |
| Submersible, axial flow, electric motor driven | | | MIL-P-62156 (1)-1983 (D) |
| Shallow-well pumps | | | MIL-P-52407 (A)-1976 (D) |
| **BUILDING SEWER - COMBINED** | | | |
| Cast iron soil pipe and fittings hub and spigot | | A 74-93[1] | CISPI HSN-85 |
| Hubless cast iron sanitary system | | C 564-95a | CISPI 301-90[1] IAPMO IS 6-95 CISPI 310-90 |
| Ductile iron pipe centrifugally cast in sand-lined or metal molds | AWWA C151/ A21.51-91 | A 377-89 | |
| Ductile iron or grey iron fittings | AWWA C110/ A21.10-93 | A 377-89 | |
| Ductile iron compact fittings | AWWA C153/ A21.53-88 | | |
| Clay pipe | | C 700-91 C 425-90a | IAPMO IS 1-91 IAPMO IS 18-85 |

PROPOSED

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Copper alloy sand casting for general applications | | B 584-93b[5] | |
| Seamless copper water tube (types K, L and M) | | B 88-93a | IAPMO IS 3-93 |
| Copper drainage tube (DWV) | | B 306-92 | IAPMO IS 3-93 |
| Cast bronze solder joint drainage fittings | ASME B16-23-92 | | IAPMO IS 3-93 |
| Wrought copper and copper alloy-solder joint drainage fittings | ASME B16.29-86[1] | | IAPMO IS 3-93 |
| **Plastic, ABS** | | | |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe and fittings | | D 2661-94a[1] | IAPMO IS 5-92<br>IAPMO IS 1-91 |
| Acrylonitrile-Butadiene-Styrene (ABS) sewer pipe and fittings | NSF 14-90 | D 2751-93[1] | IAPMO IS11-87<br>IAPMO IS 1-91 |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe having a foam core | NSF 14-90 | F 628-93[1,3] | IAPMO IS 1-91<br>IAPMO IS 5-92 |
| Acrylonitrile-Butadiene-Styrene (ABS) composite sewer pipe | | D 2680-93 | IAPMO IS 1-91 |
| **Plastic, PVC** | | | |
| Poly (vinyl chloride) (PVC) plastic drain waste and vent pipe and fittings | NSF 14-90 | D 2665-94 (D) | IAPMO IS 9-95<br>IAPMO IS 1-91 |
| Coextruded poly (vinyl chloride) (PVC) plastic pipe with a cellular core | | F 891-93a | IAPMO IS 1-91<br>IAPMO IS 9-95 |
| Type PSP poly (vinyl gravity flow chloride) (PVC) sewer pipe and fittings | NSF 14-90 | D 3033-85 (D) | IAPMO IS 1-91 |
| Type PSM poly (vinyl chloride) (PVC) sewer pipe and fittings | NSF 14-90 | D 3034-94 | IAPMO IS 1-91 |
| Type PS-46 poly (vinyl chloride) (PVC) plastic gravity flow sewer pipe and fittings | NSF 14-90 | F 789-89[1] | IAPMO IS 1-91 |
| **INTERIOR STORM DRAINS - ABOVE GROUND** | | | |
| Cast iron soil pipe and fitting hub and spigot | | C 564-95a<br>A 74-93[1] | CISPI HSN-85 |
| Shielded couplings joining hubless cast iron soil pipe and fittings | | C 1277-94 | |
| Hubless cast iron sanitary systems | | C 564-95a | CISPI 310-90<br>CISPI 301-90[1]<br>IAPMO IS 6-95 |

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Ductile iron pipe centrifugally cast in sand-lined or metal molds | AWWA C151/ A21.51-91 | A 377-89 | |
| Ductile iron or grey iron fittings | AWWA C110/ A21.10-93 | A 377-89 | |
| Ductile iron compact fittings | AWWA C153/ A21.53-88 | | |
| Copper alloy sand casting for general applications | | B 584-93b[5] | |
| Seamless copper water tube (types K, L and M) | | B 88-93a | IAPMO IS 3-93 |
| Copper drainage tube (type DWV) | | B 306-92 | IAPMO IS 3-93 |
| Cast copper alloy solder joint drainage fittings | ASME B16.23-92 | | IAPMO IS 3-93 |
| Wrought copper and copper alloy solder-joint drainage fittings | ASME B16.29-86[1] | | IAPMO IS 3-93 |
| Lead pipe | | | WW-P-325B -76 |
| Steel pipe (galvanized) | ASME B36.10M-85 | A 53-93a<br>A 120-84 (D) | |
| Cast iron threaded drainage fittings | ASME B16.12-91[1] | | |
| ABS and PVC piston driven DWV expansion joints | | | IAPMO PS 51-92 |
| **Plastic, ABS** | | | |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2661-94a[1] | IAPMO IS 5-92 |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe having a foam core | NSF 14-90 | F 628-93[1] | IAPMO IS 5-92 |
| **Plastic, PVC** | | | |
| Poly (vinyl chloride) (PVC) plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2665-94 | IAPMO IS 9-95 |
| Coextruded poly (vinyl chloride) (PVC) plastic pipe with a cellular core | | F 891-93a | IAPMO IS 9-95 |
| **BUILDING STORM DRAINS – BELOW GROUND** | | | |
| Cast iron soil pipe and fittings hub and spigot | | C 564-95a<br>A 74-93[1] | CISPI HSN-85 |
| Hubless cast iron sanitary system | | C 564-95a | CISPI 301-90[1]<br>CISPI 310-90<br>IAPMO IS 6-95 |
| Ductile iron pipe centrifugally cast in sand-lined or metal molds | AWWA C151/ A21.51-91 | A 377-89 | |

PROPOSED

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Ductile iron or grey iron fittings | AWWA C110/ A21.10-93 | A 377-89 | |
| Ductile iron compact fittings | AWWA C153/ A21.53-88 | | |
| Clay pipe | | C 700-91<br>C 425-90a | IAPMO IS 18-85 |
| Copper alloy sand casting for general applications | | B 584-93b[5] | |
| Seamless copper water tube (types K, L, and M) | | B 88-93a | IAPMO IS 3-93 |
| Copper drainage tube (type DWV) | | B 306-92 | IAPMO IS 3-93 |
| Cast copper alloy solder-joint drainage fittings | ASME B16.23-92 | | IAPMO IS 3-93 |
| Wrought copper and copper alloy solder-joint drainage fittings | ASME B16.29-86[1] | | IAPMO IS 3-93 |
| Lead pipe and bends | | | WW-P-325B-76 |
| **Plastic, ABS** | | | |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2661-94a[1] | IAPMO IS 5-92 |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe having a foam core | NSF 14-90 | F 628-93[1,3] | IAPMO IS 5-92 |
| **Plastic, PVC** | | | |
| Poly (vinyl chloride) (PVC) plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2665-94 | IAPMO IS 9-95 |
| Coextruded poly (vinyl chloride)(PVC) plastic pipe with a cellular core | | F 891-93a | IAPMO IS 9-95 |
| **JOINING MATERIALS AND METHODS - STORM DRAIN** | | | |
| Type "F" clamps for plumbing applications | SAE J1670-93 | | |
| Cast iron soil pipe and fittings hub and spigot | | | CISPI HSN-85 |
| Neoprene gaskets, compression | | C 564-95a | |
| Caulking, lead wool and lead pig | | B 29-92 | CISPI 301-85[1] |
| Hubless cast iron sanitary systems neoprene | | C 564-95a | CISPI 301-90[1]<br>CISPI 310-90<br>IAPMO IS 6-95 |
| Shielded transition couplings for use with dissimilar DWV pipe and fittings above ground | | | IAPMO PS 44-92 |
| Clay pipe | | C 425-90a | IAPMO IS 18-85 |

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Brazing filler metals | AWS A5.8-92 | | |
| Solder metal and wiping solder | | B 32-95a[4] | |
| Silver brazing joints for wrought and cast iron-solder joint fillings | | | MSS-SP-73-91 |
| Flux, brazing | | | O-F-499d-85 |
| Flux, soldering | | | O-F-506C-72 (D) |
| Seal, compound pipe joint and thread | | | TT-S-1732-71 |
| Rubber gasket joints for ductile-iron and gray-iron pressure pipe and fittings | AWWA C111/ A21.11-90 | | |
| **Plastic DWV, ABS** | | | |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2661-94a[1] | IAPMO IS 5-92 |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe having a foam core | NSF 14-90 | F 628-93[1,3] | IAPMO IS 5-92 |
| Solvent cement for Acrylonitrile-Butadiene-Styrene (ABS) plastic pipe and fittings | NSF 14-90 | D 2235-93a | IAPMO IS11-87 |
| Solvent Cements for Acrylonitrile-Butadiene-Styrene (ABS) plastic pipe and fittings | NSF 14-90 | D 2564-93 | IAPMO IS 8-95 |
| Joints for drain and sewer plastic pipes using flexible elastomeric seals | | D 3212-92 | |
| Safe handling of solvent cements and primers used for joining thermoplastic pipe and fittings | | F 402-93 | IAPMO IS 8-95 |
| **Plastic DWV, PVC** | | | |
| Poly (vinyl chloride) (PVC) plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2665-94 | IAPMO IS 9-95 |
| Primers for use in solvent cement joints of poly (vinyl chloride) (PVC) plastic pipe and fittings | NSF 14-90 | F 656-93 | IAPMO IS 9-95 |
| Safe handling of solvent cements and primers used for joining thermoplastic pipe and fittings | | F 402-93 | IAPMO IS 9-95 |
| Making solvent-cemented joints with poly (viny chloride) (PVC) pipe and fittings | | D2855-93 | IAPMO IS 9-95 |
| Joints for drain and sewer plastic pipes using flexible elastomeric seals | | D 3212-92 | |

PROPOSED

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| **Plastic Sewer, ABS** | | | |
| Solvent cement for Acrylonitrile-Butadiene-Styrene (ABS) plastic pipe and fittings | NSF 14-90 | D 2235-93a | IAPMO IS11-87 |
| Joints for drain and sewer plastic pipes using flexible elastomeric seals | | D 3212-92 | |
| Safe handling of solvent cements and primers used for joining thermoplastic pipe and fittings | | F 402-93 | |
| Underground installation of flexible thermoplastic sewer pipe | | D 2321-89 | |
| Joints for drain and sewer plastic pipes using flexible elastomeric seals | | D 3212-92 | |
| **Plastic Sewer, PVC** | | | |
| Solvent cements for poly (vinyl chloride) (PVC) plastic pipe and fittings | NSF 14-90 | D 2564-93 | |
| Primers for use in solvent cement joints of poly (vinyl chloride) (PVC) plastic pipe and fittings | NSF 14-90 | F 656-93 | |
| Safe handling of solvent cements and primers used for joining thermo-plastic pipe and fittings | | F 402-93 | |
| Underground installation of flexible thermo-plastic sewer pipe | | D 2321-89 | |
| Joints for drain and sewer plastic pipes using flexible elastomeric seals | | D 3212-92 | |
| Making solvent-cemented joints joints with poly (vinyl chloride) (PVC) pipe and fittings | | D 2855-93 | |
| **Plastic Sewer, SR** | | | |
| Safe handling of solvent cements and primers used for joining thermoplastic pipe and fittings | | F 402-93 | |
| Joints for drain and sewer plastic pipe using flexible elastomeric seals | | D 3212-92 | |
| Underground installation of flexible thermo-plastic sewer pipe | | D 2321-89 | |
| **TRAPS AND CLEANOUTS** | | | |
| **Traps** | | | |
| P-Trap, supply stop and riser insulated protector | | | IAPMO PS 94-96 |

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Copper alloy | ASME B16.23-92<br>ASME A112.18.1M-94 | | *IAPMO PS 2-89<br>*Applies to bronze trap<br>IAPMO IS 3-93 |
| Cast iron | | A 74-93[1] | CISPI 301-90[1] |
| Lead | | | WW-P-325B-76 |
| Malleable iron | ASME B16.3-92 | A 197-87 (R-92) | |
| Plastic | NSF 14-90 | F 409-93[1] | |
| Plastic, ABS | | | |
| Thermoplastic accessible and replaceable plastic tube and tubular fittings | NSF 14-90 | F 409-93[1] | |
| Drain, waste, and vent (DWV) plastic fittings patterns | | D 3311-92 | |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste, and vent pipe and fittings | NSF 14-90 | D 2661-94a[1] | IAPMO IS 5-92 |
| Acrylonitrile-Butadiene-Styrene (ABS) plastic drain, waste, and vent pipe having a foam core | NSF 14-90 | F 628-93[1,3] | IAPMO IS 5-92 |
| Plastic, PP | | | |
| Thermoplastic accessible and replaceable plastic tube and tubular fittings | NSF 14-90 | F 409-93[1] | |
| Plastic, PVC | | | |
| Thermoplastic accessible and replaceable plastic tube and tubular fittings | NSF 14-90 | F 409-93[1] | |
| Drain, waste, and vent (DWV) plastic fittings patterns | | D 3311-92[1] | |
| Poly (vinyl chloride) (PVC) plastic drain, waste, and vent pipe and fittings | NSF 14-90 | D 2665-94 | IAPMO IS 9-95 |
| **Cleanouts – Plugs** | | | |
| Metal | ASME A112.36.2M-91[1] | | |
| Cast iron | | A 74-93[1] | CISPI 301-85[1] |
| Copper alloy | ASME B16.23-92 | | |
| Copper alloy sand casting for general applications | | B 584-93b[5] | |
| Plastic, ABS | | | |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste, and vent pipe and fittings | NSF 14-90 | D 2661-94a[1] | IAPMO IS 5-92 |

PROPOSED

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste, and vent pipe having a foam core | NSF 14-90 | F 628-93[1,3] | IAPMO IS 5-92 |
| Drain, waste, and vent (DWV) plastic fittings patterns | | D 3311-92[1] | |
| Plastic, PVC | | | |
| Poly (vinyl chloride) (PVC) plastic drain, waste, and vent pipe and fittings | NSF 14-90 | D 2665-94 | IAPMO IS 9-95 |
| Wrought copper and copper alloy solder-joint drainage fittings | ASME B16.23-92 | ASME B16.29-86[1] | IAPMO IS 3-93 |
| Cast bronze solder-joint fittings for solvent drainage systems | ASME B16.32-92 | | |
| Lead pipe | | | WW-P-325B-76 |
| Steel pipe (galvanized) | B125.1-84<br>B125.2 | A 53-93a<br>A 120-84 (D) | |
| Malleable iron threaded fittings | ASME B16.3-92 | A 197-87(R-92) | |
| Cast iron threaded fittings | ASME B16.12-91[1] | A 126-93 | |
| Elastomeric test caps/cleanout caps | | | IAPMO PS 90-95 |
| Plastic, ABS | | | |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe and fittings | | D 2661-94a[1] | IAPMO IS 5-92 |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe having a foam core | | F 628-93[1,3] | IAPMO IS 5-92 |
| Plastic, PVC | | | |
| Poly (vinyl chloride) (PVC) plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2665-94 | |
| **VENTS AND VENTING** | | | |
| **Vents – Below Ground** | | | |
| Cast iron soil pipe and fittings hub and spigot | | C 564-95a<br>A 74-93[1] | CISPI HSN-85 |
| Hubless cast iron sanitary system | | | CISPI 310-90<br>CISPI 301-90[1]<br>IAPMO IS 6-95 |
| Ductile iron pipe centrifugally cast in sand-lined or metal molds | AWWA C151/ A21.51-91 | A 377-89 | |
| Ductile iron or grey iron fittings | AWWA C110/ A21.10-93 | A 377-89 | |
| Ductile iron compact fittings | AWWA C153/ A21.53-88 | | |

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Copper alloy sand casting for general applications | | B 584-93b[5] | |
| Seamless copper water tube (types K, L and M) | | B 88-93a | IAPMO IS 3-93 |
| Copper drainage tube (type DWV) | | B 306-92 | IAPMO IS 3-93 |
| Wrought copper and copper alloy solder-joint drainage fittings | ASME B16.29-86[1] | | IAPMO IS 3-93 |
| Cast copper alloy solder-joint fittings for solvent drainage systems | ASME B16.32-92 | | |
| Lead pipe | | | WW-P-325B-76 |
| Cast iron threaded fittings | ASME B16.12-91[1] | A 126-93 | |
| Plastic, ABS | | | |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2661-94a[1] | IAPMO IS 5-92 |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe having a foam core | NSF 14-90 | F 628-93[1,3] | IAPMO IS 5-92 |
| Plastic, PVC | | | |
| Poly (vinyl chloride) (PVC) plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2665-94 | IAPMO IS 9-95 |
| Coextruded poly (vinyl chloride)(PVC) plastic pipe with a cellular core | | F 891-93a | IAPMO IS 9-95 |
| **JOINING MATERIALS AND METHODS - SANITARY VENTS** | | | |
| Type "F" clamps for plumbing applications | SAE J1670-93 | | |
| Cast iron soil pipe and fittings hub and spigot neoprene compression gaskets, caulking, lead wool and lead pig | | C 564-95a<br>B 29-92 | CISPI HSN-85 |
| Rubber gasket joints for ductile-iron and gray and iron pressure pipe and fittings | AWWA C111/A21.11-90 | | |
| Hubless cast iron sanitary systems neoprene gasket and stainless steel shield | | C 564-95a | CISPI 310-90<br>CISPI 301-90[1]<br>IAPMO IS 6-95 |
| Brazing filler metals | AWS A5.8-92 | | |
| Solder metal and wiping solder | | B 32-95a[4] | |
| Silver brazing joints for wrought and cast solder joint | | | MSS-SP-73-91<br>0-F-499D-85 |
| Flux, brazing | | | |
| Flux, soldering | | | |

PROPOSED

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Seal compound pipe joint and thread | | | TT-S-1732-71 |
| Threaded joints (IPS) | ASME B1.20.1-83(R-92) | | |
| Dryseal Pipe Threads (Inch) | ASME B1.20.3-91 | | |
| **Plastic, ABS** | | | |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2661-94a[1] | IAPMO IS 5-92 |
| Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 plastic drain, waste and vent pipe having a foam core | NSF 14-90 | F 628-93[1,3] | IAPMO IS 5-92 |
| Safe handling of solvent cements and primers used for joining thermoplastic pipe and fittings | | F 402-93 | |
| Solvent cement for Acrylonitrile-Butadiene-Styrene (ABS) plastic pipe and fittings | NSF 14-90 | D 2235-93a | IAPMO IS 5-92 |
| **Plastic, PVC** | | | |
| Poly (vinyl chloride) (PVC) plastic drain, waste and vent pipe and fittings | NSF 14-90 | D 2665-94 | IAPMO IS 9-95 |
| Coextruded poly (vinyl chloride)(PVC) plastic pipe with a cellular core | | F 891-93a | IAPMO IS 9-95 |
| Solvent cement for poly (vinyl chloride) (PVC) plastic pipe and fittings | NSF 14-90 | D 2564-93 | IAPMO IS 9-95 |
| Primers for use in solvent cement joints of poly (vinyl chloride) (PVC) plastic pipe and fittings | NSF 14-90 | F 656-93 | IAPMO IS 9-95 |
| Making solvent-cemented joints with poly (vinyl chloride) (PVC) pipe and fittings | | D 2855-93 | IAPMO IS 9-95 |
| Safe handling of solvent cements and primers used for joining thermoplastic pipe and fittings | | F 402-93 | IAPMO IS 9-95 |
| **WATER SUPPLY SYSTEMS** | | | |
| **Water Service** | | | |
| Asbestos-cement pressure pipe | | C 296-93 | |
| Asbestos-cement distribution pipe, 4 in. through 16 in. (100 mm through 400 mm) for water distribution systems | AWWA C400-93 | | |
| Ductile iron pipe centrifugally cast in metal or sand-lined molds | AWWA C151/ A21.51-91 | A 377-89 | |

PROPOSED

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Ductile iron or grey iron fittings | AWWA C110/ A21.10-93 | A 377-89 | |
| Ductile iron compact fittings | AWWA C153/ A21.53-88 | | |
| Gray Iron Threaded Fittings | ASMEB16.4-92 | | |
| Grooved-type mechanical couplings and fittings for cast iron pipe and ductile iron pipe | AWWA C606-87 | | |
| Copper alloy sand casting for general applications | | | |
| Seamless copper pipe | | B 42-93 | |
| Seamless red brass pipe | | B 43-94 | |
| Seamless copper water tube | | B 88-93a | IAPMO IS 3-93 |
| Reinforced thermo setting resin pipe | NSF 14-90 | D 2996-88 | |
| Threadless copper pipe | | B 302-92 | |
| Cast copper alloy threaded fittings, 125 and 250 class | ASME B16.15-85 | | |
| Cast copper alloy threadless fittings | | | MIL-F-1183-83[D] |
| Cast copper alloy solder-joint pressure fittings | ASME B16.18-84[1] | | IAPMO IS 3-93 |
| Cast copper alloy fittings for flared copper tubes | ASME B16.26-88 | | IAPMO IS 3-93 |
| Wrought copper and copper alloy solder-joint pressure fittings | ASME B16.22-95 | | IAPMO IS 3-93 |
| Copper alloy flanges and flanged fittings 150-300 class | ASME B16.24-91 | | |
| Steel pipe (galvanized) | B125.1-84 B125.2-72 | A 53-93a | IAPMO IS 13-91 |
| Malleable iron threaded fittings | ASME B16.3-92 | A 197-87 (R-92) | IAPMO IS 13-91 |
| Stainless steel | A312-93 A40.3-93 | | |
| Plastic, ABS | | | |
| Acrylonitrile-Butadiene-Styrene (ABS) plastic pipe Sch. 40 and 80 | NSF 14-90 | D 1527-89 | |
| Socket-type (ABS) plastic pipe fittings (Sch. 40) | NSF 14-90 | D 2468-93 | |
| Socket-type Acrylonitrile-Butadiene-Styrene (ABS) plastic pipe fittings, Sch. 80 | NSF 14-90 | D 2469-76[D] | |
| Threaded Acrylonitrile-Butadiene-Styrene (ABS) plastic pipe fittings, Sch. 80 | NSF 14-90 | D 2465-73[D] | |
| Acrylonitrile-Butadiene-Styrene (ABS) plastic pipe (SDR-PR) | NSF 14-90 | D 2282-89 | |

PROPOSED

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Plastic, CPVC | | | |
| Chlorinated poly (vinyl chloride) (CPVC) plastic pipe, Sch. 40 and 80 | NSF 14-90 | F 441-94 | IAPMO IS 20-96 |
| Socket-type chlorinated poly (vinyl chloride) (CPVC) plastic pipe fittings, Sch. 40 | NSF 14-90 | F 438-93 | IAPMO IS 20-96 |
| Chlorinated poly (vinyl chloride) (CPVC) plastic pipe (SDR-PR) | NSF 14-90 | F 442-93 | IAPMO IS 20-96 |
| Threaded chlorinated poly (vinyl chloride) (CPVC) plastic pipe fittings, Sch. 80 | NSF 14-90 | F 437-93 | IAPMO IS 20-96 |
| Socket-type chlorinated poly (vinyl chloride) (CPVC) plastic pipe fittings, Sch. 80 | NSF 14-90 | F 439-93a | IAPMO IS 20-96 |
| Bell-end chlorinated poly (vinyl chloride) (CPVC) pipe, Sch. 40 | NSF 14-90 | F 443-77$_{e1}$[D] | IAPMO IS 20-96 |
| Chlorinated poly (vinyl chloride) (CPVC) plastic pipe, tubing and fittings | NSF 14-90 | D 2846-93 | IAPMO IS 20-96 |
| Plastic, PB | | | |
| Polybutylene (PB) plastic pipe based on outside diameter | NSF 14-90 | D 3000-93 | |
| Polybutylene piping | AWWA C902-88<br>NSF 14-90 | | |
| Plastic, PE | | | |
| Polyethylene (PE) plastic pipe, (SDR-PR) | NSF 14-90 | D 2239-93 | IAPMO IS 7-90 |
| Polyethylene (PE) plastic pipe, Sch. 40 | NSF 14-90 | D 2104-93 | IAPMO IS 7-90 |
| Polyethylene (PE) plastic tubing | NSF 14-90 | D 2737-93 | IAPMO IS 7-90 |
| Polyethylene (PE) plastic pipe, Sch. 40 and 80 based on controlled outside diameter | NSF 14-90 | D 2447-93 | IAPMO IS 7-90 |
| Polyethylene (PE) piping | AWWA C901-88<br>NSF 14-90 | | IAPMO IS 7-90 |
| Plastic, PEX | | | |
| Cross linked Polyethylene (PEX) Tubing | ASTM F 876-93 | | |
| Crosslinked Polyethylene (PEX) Plastic hot- and cold-water distribution systems | ASTM F 877-93 | | |

PROPOSED

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Plastic, PVC | | | |
| Poly (vinyl chloride) (PVC) plastic pipe Sch. 40, 80 and 120 | NSF 14-90 | D 1785-93 | IAPMO IS 8-95 |
| Socket-type poly(vinyl chloride) (PVC) plastic pipe fittings, Sch. 40 | NSF 14-90 | D 2466-94[1] | IAPMO IS 8-95 |
| Socket-type poly (vinyl chloride) (PVC) plastic pipe fittings, Sch. 80 | NSF 14-90 | D 2467-94[1] | IAPMO IS 8-95 |
| Threaded poly (vinyl chloride) (PVC) plastic pipe fittings, Sch. 80 | NSF 14-90 | D 2464-94[1] | IAPMO IS 8-95 |
| Socket-type poly (vinyl chloride) (PVC) plastic line couplings | NSF 14-90 | D 3036-73[D] | IAPMO IS 8-95 |
| Poly vinyl chloride (PVC) plastic pipe (SDR-PR) | NSF 14-90 | D 2241-93 | IAPMO IS 8-95 |
| Joints for IPS PVC pipe using solvent cement | NSF 14-90 | D 2672-94 | IAPMO IS 8-95 |
| Poly (vinyl chloride) (PVC) plastic tubing | NSF 14-90 | D 2740-89$_{e1}$[D] | IAPMO IS 8-95 |
| Poly (vinyl chloride) (PVC) pressure pipe 4 in. to 12 in. (100 mm to 300 mm) for water | NSF 14-90<br>AWWA C900-89 | | IAPMO IS 8-95 |
| **Water Distribution Piping – Above Ground** | | | |
| Welded Copper water tube | | B 716-93 | IAPMO IS 21-89 |
| Copper alloy sand casting for general applications | | B 584-93b[5] | |
| Seamless copper pipe | | B 42-93 | IAPMO IS 3-93 |
| Seamless red brass pipe | | B 43-94 | |
| Seamless copper water tube | | B 88-93a | IAPMO IS 3-93 |
| Seamless and welded copper distribution tube (Type D) | | B 641-93 | IAPMO IS 3-93 |
| Threadless copper pipe | | B 302-92 | IAPMO IS 3-93 |
| Cast copper alloy threaded fittings, 125 and 150 class | ASME B16.15-85 | | |
| Cast copper alloy threadless fittings | | | MIL-F-1183 H(1)-83 [D] |
| Cast copper alloy solder-joint pressure fittings | ASME B16.18-84[1] | | IAPMO IS 3-93 |
| Cast copper alloy fittings for flared copper tubes | ASME B16.26-88 | | |
| Wrought copper and bronze solder-joint pressure fittings | ASME B16.22-95 | | IAPMO IS 3-93 |

PROPOSED

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Copper alloy flanges and flanged fittings 150-300 class | ASME B16.24-91 | | |
| Steel pipe (galvanized) | ASME B36.10M-85 | A 53-90a<br>A 120-84[D] | |
| Malleable iron threaded fittings (galvanized) | ASME B16.3-92<br>A 197-87(R-92) | | |
| Grooved-type mechanical couplings and fittings for steel pipe | | A 47-93<br>A 536-84(R93) | |
| Ductile iron pipe centrifugally cast in metal or sand-lined molds | AWWA C151/<br>A21.51-91 | A 377-89 | |
| Ductile iron or gray iron fittings | AWWA C110/<br>A21.10-93 | A 377-89 | |
| Ductile iron compact fittings | AWWA C153/<br>A21.53-88 | | |
| Plastic, CPVC | | | |
| Chlorinated poly (vinyl chloride) (CPVC) plastic pipe, (SOR-PR) (cold water only) | NSF 14-90 | F 442-93 | IAPMO IS 20-96 |
| Socket-type chlorinated poly (vinyl chloride) (CPVC) plastic pipe fittings, Sch. 40 | NSF 14-90 | F 438-93 | IAPMO IS 20-96 |
| Threaded chlorinated poly (vinyl chloride) (CPVC) plastic pipe fittings, Sch. 80 | NSF 14-90 | F 437-93 | IAPMO IS 20-96 |
| Socket-type chlorinated poly (vinyl chloride) (CPVC) plastic pipe fittings, Sch. 80 | NSF 14-90 | F 439-93a | IAPMO IS 20-96 |
| Bell-end chlorinated poly (vinyl chloride) (CPVC) pipe, Sch. 40 (cold water only) | NSF 14-90 | F 443-77$_{c1}$[D] | IAPMO IS 20-96 |
| Chlorinated poly (vinyl chloride) (CPVC) plastic pipe, tubing and fittings | NSF 14-90 | D 2846-93 | IAPMO IS 20-96 |
| Plastic, PEX | | | |
| Cross linked Polyethylene (PEX) Tubing | ASTM F 876-93 | | |
| Crosslinked Polyethylene (PEX) Plastic hot and cold-water distribution systems | ASTM F 877-93 | | |
| **Water Distribution Piping – Below Ground** | | | |
| Welded Copper water tube | | B 716-93 | IAPMO IS 21-89 |
| Asbestos-cement pressure pipe | | C 296-93 | |
| Copper alloy sand casting for general applications | | B 584-93b[5] | |

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Seamless copper water tube (types K, L and M only) | | B 88-93a | IAPMO IS 3-93 |
| Threadless copper pipe | | B 302-92 | IAPMO IS 3-93 |
| Seamless copper tube | | B 75-93 | IAPMO IS 3-93 |
| Seamless copper alloy tube | | B 135-91 | IAPMO IS 3-93 |
| Seamless and welded copper distribution tube (Type D) | | B 641-93 | IAPMO IS 3-93 |
| Cast copper alloy threaded fittings, 125 and 250 class | ASME B16.15-85 | | |
| Cast copper alloy threadless fittings | | | MIL-F-1183 H(I)-83[D] |
| Cast copper alloy solder-joint pressure fittings | ASME B16.18-84[1] | | IAPMO IS 3-93 |
| Cast copper alloy fittings for flared copper tubes | ASME B16.26-88 | | IAPMO IS 3-93 |
| Wrought copper and copper alloy solder-joint pressure fittings | ASME B16.22-95 | | IAPMO IS 3-93 |
| Copper alloy flanges and flanged fittings - 150-300 class | ASME B16.24-91 | | |
| Steel pipe (galvanized) | ASME B36.10M-85 | A 53-93a<br>A 120-84[D] | IAPMO IS 13-91 |
| Malleable iron threaded fittings (galvanized) | ASME B16.3-92 | A 197-87(R-92) | IAPMO IS 13-91 |
| Ductile iron pipe centrifugally cast in metal or sand-lined molds | AWWA C151/ A21.51-91 | A 377-89 | |
| Ductile iron or gray iron fittings | AWWA C110/ A21.10-93 | A 377-89 | |
| Ductile iron compact fittings | AWWA C153/ A21.53-88 | | |
| Plastic, CPVC | | | |
| Chlorinated poly (vinyl chloride) (CPVC) plastic pipe, Sch. 40 and 80 (cold water only) | NSF 14-90 | F 441-94 | IAPMO IS 20-96 |
| Socket-type chlorinated poly(vinyl chloride) (CPVC) plastic pipe fittings, Sch. 40 | NSF 14-90 | F 438-93 | IAPMO IS 20-96 |
| Chlorinated poly (vinyl chloride) (CPVC) plastic pipe (SDR-PR) (cold water only) | NSF 14-90 | F 442-93 | IAPMO IS 20-96 |
| Threaded chlorinated poly (vinyl chloride) (CPVC) plastic pipe fittings, Sch. 80 (cold water only) | NSF 14-90 | F 437-93 | IAPMO IS 20-96 |
| Socket-type chlorinated poly (vinyl chloride) (CPVC) plastic pipe fittings, Sch. 80 | NSF 14-90 | F 439-93a | IAPMO IS 20-96 |

PROPOSED

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Bell-end chlorinated poly (vinyl chloride) (CPVC) pipe, Sch. 40 (cold water only) | NSF 14-90 | F 443-77$_{e1}$[D] | IAPMO IS 20-96 |
| Chlorinated poly (vinyl chloride) (CPVC) plastic pipe, tubing and fittings hot and cold water | NSF 14-90 | D 2846-93 | IAPMO IS 20-96 |
| Plastic PEX | | | |
| Crosslinked polyethylene (PEX) tubing | | F 876-93 | |
| Crosslinked polyethylene (PEX) plastic hot- and cold-water distribution systems | | F 877-93 | |
| **Valves and Appurtenances** | | | |
| Angle, globe and check | | | MSS-SP-71-90<br>MSS-SP-80-87 |
| Gate (bronze) steel flanged and butt welded | ASME B16.34-88 | | |
| Corrosion-resistant cast flanged valves | | | MSS-SP-42-90 |
| Gate (cast iron bodies brass mounted) | AWWA C500-93 | | MSS-SP-70-90 |
| Ball | | | MSS-SP-72-92 |
| Butterfly | AWWA C504-88 | | MSS-SP-67-90 |
| Cocks, balancing, stop and check MSS standard marking system for valves, fittings, flanges and unions | | | MSS-SP-25-93 |
| Cast iron plug valves | | | MSS-SP-78-87 |
| Pressure reducing and regulating | ASSE 1003-95 | | |
| Relief valves, pressure, temperature, temperature/pressure | Z21.22-a-90 | | |
| Thermostatic mixing valve | ASSE 1017-86 | | |
| Valves with atmospheric vacuum breakers | | | IAPMO PS 72-93 |
| Pre-Pressurized potable water tanks | | | IAPMO PS 88-95 |
| **Unions** | | | |
| Carbon steel pipe unions | | | MSS-SP-83-87 |
| Malleable iron | ASME B16.39-86 | | |
| Copper alloy (bronze) | | | WW-U-516A-74(b)<br>WW-P-521F-77 |
| **Flanges** | | | |
| Cast iron | ASME B16.1-89 | | |
| Steel | ASME B16.5-88<br>ASME B16.47-90 | MSS-SP-44-91 | |

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Copper alloy flanges and flanged fittings 150 lb. and 300 lb. | ASME B16.24-91 | | |
| Flared or compression connection non-ferrous pipe flanges | ASME B16.26-88 | | |
| Copper alloy (bronze) | ASME B16.24-91 | | |
| Flanged gaskets | ASME B16.21-92 | | |
| **Backflow Preventers** | AWWA C510-92<br>AWWA C511-92 | | IAPMO PS 31-95 |
| Pipe applied atmospheric vacuum breakers | ASSE 1001-90 | | |
| Hose-connected vacuum breakers | ASSE 1011-95 | | |
| Hose connection backflow preventers | ASSE 1052-93 | | |
| Back siphonage vacuum breakers | ASSE 1056-95 | | |
| Reduced pressure principle backflow preventer | | | ASSE 1013-93 |
| Double check valve assembly | | | ASSE 1015-93 |
| Pressure type vacuum breaker | ASSE 1020-90 | | |
| Water hammer arrestors | ASME A112.26.1M-84 | | ASSE 1010-82<br>PDI WH-201-92 |
| Air gaps | ASME A112.1.2-91 | | IAPMO PS-23-89 |
| Airgap units for water conditioning equipment installation | | | IAPMO PS 65-93 |
| Trap primer valve (water distribution type) | ASSE 1018-86 | | |
| Freezeless automatic draining and backflow wall hydrant | A112.21.3M-85[1]<br>ASSE 1019-95 | | |
| Dual check valve type backflow preventers for carbonated beverage dispensers-post mix types | | | ASSE 1032-80 |
| Laboratory faucet vacuum breakers | ASSE 1035-95 | | |
| **JOINING MATERIAL AND METHODS - WATER SUPPLY SYSTEMS** | | | |
| Reinforced flexible water connectors | | | IAPMO PS 74-95 |
| Tools for mechanically formed tee connections in copper tubing | | | IAPMO PS 85-95 |
| Asbestos-cement pressure pipe | | C 296-93 | |
| Rubber rings for asbestos-cement pipe | | D 1869-94 | |
| Rubber gasket joint for ductile iron and gray cast iron pressure pipe fittings | AWWA C111/ A21.11-90 | | |
| Copper and nickel alloys (rods) | | | QQ-R-571C-69 [D] |
| Brazing filler metals | AWS A5.8-92 | | |

PROPOSED

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Grooved-type mechanical couplings and fittings | | A 47-91<br>A 536-84(R-93) | |
| Grooved mechanical pipe couplings and grooved end fittings | | | IAPMO PS 53-92 |
| Dielectric waterway fittings | | | IAPMO PS 66-93 |
| Solder metal | | B 32-95a[4] | |
| Lead-free sealing compounds for threaded joints | | | IAPMO PS 36-90 |
| Making capillary joints by soldering of copper and copper alloy tube and fittings | | B 828-92$_{e1}$ | |
| Liquid and paste fluxes for soldering applications of copper and copper alloy tube | | B 813-93 | |
| Silver brazing joints for wrought and cast solder joint fittings | | | MSS-SP-73-91 |
| Caulking, lead wool and lead pig | | B 29-92 | |
| Plastic, ABS | | | |
| Solvent cement for Acrylonitrile Butadiene-Styrene (ABS) plastic pipe and fittings | NSF 14-90 | D 2235-93a | |
| Joints for plastic pressure pipes using flexible elastomeric seals | | D 3139-89 | |
| Safe handling of solvent cements and primers used for joining thermoplastic pipe and fittings | | F 402-93 | |
| Plastic, CPVC | | | |
| Solvent cements for chlorinated poly (vinyl chloride) (CPVC) plastic pipe and fittings | | F 493-93a | IAPMO IS 20-96<br>NSF No. 14 |
| Joints for plastic pressure pipes using flexible elastomeric seals | | D 3139-89 | IAPMO IS 20-96<br>NSF No. 14 |
| Safe handling of solvent cements and primers used for joining thermoplastic pipe and fittings | | F 402-93 | IAPMO IS 20-96 |
| Chlorinated poly (vinyl chloride) (CPVC) plastic pipe, tubing and fittings | NSF 14-90 | D 2846-93 | IAPMO IS 20-96 |
| Plastic, PB | | | |
| Metal insert fittings for polybutylene (PB) tubing | | F 1380-94 | |
| Plastic, PE | | | |
| Polyethylene (PE) piping | AWWA C901-88<br>NSF 14-90 | | IAPMO IS 7-90 |

PROPOSED

| Item | ANSI | ASTM | Other |
|---|---|---|---|
| Heat-joining poly-olefin pipe and fittings | | D 2657-90 | |
| Flaring polyolefin pipe and tubing | | D 3140-90 | IAPMO IS 7-90 |
| Plastic insert fittings for polyethylene (PE) plastic pipe | | D 2609-93[1] | IAPMO IS 7-90 |
| Plastic, PEX | | | |
| Cross linked Polyethylene (PEX) Tubing | ASTM F 876-93 | | |
| Crosslinked Polyethylene (PEX) Plastic hot and cold-water distribution systems | ASTM F 877-93 | | |
| Plastic, PVC | | | |
| Solvent cement for poly (vinyl chloride) (PVC) plastic pipe and fittings | NSF 14-90 | D 2564-93 | IAPMO IS 8-95 |
| Primers for use in solvent cement joints of poly (vinyl chloride) (PVC) plastic pipe and fittings | NSF 14-90 | F 656-93 | IAPMO IS 8-95 |
| Safe handling of solvent cements and primers used for joining thermoplastic pipe and fittings | | F 402-93 | IAPMO IS 8-95 |
| Joints for plastic pressure pipes using flexible elastomeric seals | | D 3139-89 | IAPMO IS 8-95 |
| Making solvent-cemented joints with poly (vinyl chloride) (PVC) pipe and fittings | | D 2855-93 | IAPMO IS 8-95 |
| Poly (vinyl chloride) (PVC) piping | AWWA C900-89<br>NSF 14-90 | | IAPMO IS 8-95 |
| **WRAPPING AND COATING** | | | |
| Protectively coated pipe (Installation) | | | IAPMO IS 13-91<br>IAPMO PS 37-90 |
| Black plastic poly (vinyl chloride) (PVC) or polyethylene (PE) pressure-sensitive corrosion preventive tape | | | |
| Coal-tar protective coatings and linings for steel water pipelines - enameled and tape - hot applied | AWWA C203-91 | | |
| Extruded polyolefin coatings for the exterior of steel water pipelines | AWWA C215-88 | | |

PROPOSED

## Footnotes for Table 14-1

1 Although this standard is referenced in Table 14-1, some of the pipe, tubing, fittings, valves, or fixtures included in the standard are not acceptable for use under the provisions of the Uniform Plumbing Code.

2 PDI Standard G101 by reference.

3 Additional Requirements for Inner and Outer Layers.

4 See Section 316.1.3 for restriction.

5 Alloy C85200 for cleanout plugs.

6 Limited to domestic sewage.

7 Type II only.

### ABBREVIATIONS IN TABLE 14-1

| | |
|---|---|
| AHAM | Association of Home Appliance Manufacturers, 20 North Wacker Drive, Chicago, IL 60606. |
| ANSI | American National Standards Institute, Inc., W. 42nd Street, New York, NY 10036. |
| ASME | The American Society of Mechanical Engineering, 345 East 47th Street, New York, NY 10017. |
| ASSE | American Society of Sanitary Engineering, P.O. Box 40362, Bay Village, OH 44140. |
| ASTM | American Society of Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959. |
| AWS | American Welding Society, 550 NW LeJuene Road, Miami, FL 33126. |
| AWWA | American Water Works Association, 6666 W. Quincy Avenue, Denver, CO 80235. |
| CABO | Council of American Building Officials, 5203 Leesburg Pike, Suite 708, Falls Church, VA 22041. |
| CISPI | Cast Iron Soil Pipe Institute, 5959 Shallowford Road, Suite 419, Chattanooga, TN 37421. |
| (D) or [D] | Discontinued. |
| e1 | An editorial change since the last revision or reapproval. |
| FS | Federal Specifications, Federal Supply Service, Standards Division, General Services Administration, 7th and D Streets, Washington, DC 20407. |
| IAPMO | International Association of Plumbing and Mechanical Officials, 20001 Walnut Drive S., Walnut, CA 91789-2825. |
| MSS | Manufacturers Standardization Society of the Valve and Fittings Industry, 127 Park Street, N.E., Vienna, VA 22180. |
| NEMA | National Electrical Manufacturers Association, 2101 L Street, N.W., Suite 300, Washington, DC 20037. |
| NFPA | National Fire Protection Association, P.O. Box 9101, 1 Batterymarch Park, Quincy, MA 02269-9101. |
| NSF | NSF International, 3475 Plymouth Road, P.O. Box 1468, Ann Arbor, MI 48106. |
| PDI | Plumbing and Drainage Institute, 1106 W. 77th Street, South Drive, Indianapolis, IN 46208. |
| SSPMA | Sump and Sewage Pump Manufacturers Association, P.O. Box 298, Winnetka, IL 60093-0298. |
| UL | Underwriters' Laboratories, Inc., 333 Pfingsten Road, Northbrook, IL 60062. |

**Reviser's note:** The brackets and enclosed material in the text of the above section occurred in the copy filed by the agency and appear in the Register pursuant to the requirements of RCW 34.08.040.

NEW SECTION

**WAC 51-46-97120 Appendix M—Storm drainage.**

NEW SECTION

**WAC 51-46-97121 General.**

**M 1.0 General.**

**M 1.1 Where Required.** All roofs, paved areas, yards, courts, and courtyards shall be drained into a separate storm sewer system, or into a combined sewer system where a separate storm sewer system is not available, or to some other place of disposal satisfactory to the Administrative Authority. In the case of one- and two-family dwellings, storm water may be discharged on flat areas such as streets or lawns so long as the storm water shall flow away from the building and away from adjoining property, and shall not create a nuisance.

**M 1.2 Storm Water Drainage to Sanitary Sewer Prohibited.** Storm water shall not be drained into sewers intended for sanitary drainage only.

**M 1.3 Material Uses.** Rainwater piping placed within the interior of a building or run within a vent or shaft shall be of cast iron, galvanized steel, wrought iron, brass, copper, lead, Schedule 40 ABS DWV, Schedule 40 PVC DWV, or other approved materials, and changes in direction shall conform to the requirements of Section 706.0.

**M 1.4 Expansion Joints Required.** Expansion joints or sleeves shall be provided where warranted by temperature variations or physical conditions.

**M 1.5 Subsoil Drains.**

**M 1.5.1** Subsoil drains shall be provided around the perimeter of buildings having basements, cellars, or crawl spaces or floors below grade. Such subsoil drains may be positioned inside or outside of the footing, shall be of perforated, or open-jointed approved drain tile or pipe not less than three (3) inches (76 mm) in diameter, and shall be laid in gravel, slag, crushed rock, approved three-quarter (3/4) inch (19.1 mm) crushed recycled glass aggregate, or other approved porous material with a minimum of four (4) inches (102 mm) surrounding the pipe on all sides. Filter media shall be provided for exterior subsoil piping.

**M 1.5.2** Subsoil drains shall be piped to a storm drain, to an approved water course, to the front street curb or gutter, or to an alley; or the discharge from the subsoil drains shall be conveyed to the alley by a concrete gutter. Where a continuously flowing spring or groundwater is encountered, subsoil drains shall be piped to a storm drain or an approved water course.

**M 1.5.3** Where it is not possible to convey the drainage by gravity, subsoil drains shall discharge to an accessible sump pit provided with an approved automatic electric pump. A sump pit shall be at least fifteen (15) inches (381 mm) in diameter, eighteen (18) inches (457 mm) in depth, and provided with a fitted cover. The sump pump shall have an adequate capacity to discharge all water coming into the sump as it accumulates to the required discharge point, and the capacity of the pump shall not be less than fifteen (15) gpm (1.0 L/s). The discharge piping from the sump pump shall be a minimum of one and one-half (1-1/2) inches (38 mm) in diameter and have a union to make the pump accessible for servicing.

**M 1.5.4** For separate dwellings not serving continuously flowing springs or groundwater, the sump discharge pipe may discharge onto a concrete splash block with a minimum length of twenty-four (24) inches (610 mm). This pipe shall be within four (4) inches (102 mm) of the splash block and positioned to direct the flow parallel to the recessed line of the splash block.

**M 1.5.5** Subsoil drains subject to backflow when discharging into a storm drain shall be provided with a backwater valve in the drain line so located as to be accessible for inspection and maintenance.

**M 1.5.6** Nothing in Section M 1.5 shall prevent drains that serve either subsoil drains or areaways of a detached building from discharging to a properly graded open area, provided that:

(1) They do not serve continuously flowing springs or groundwater;

(2) The point of discharge is at least ten (10) feet (3048 mm) from any property line; and

(3) It is impracticable to discharge such drains to a storm drain, to an approved water course, to the front street curb or gutter, or to an alley.

**M 1.6 Building Subdrains.** Building subdrains located below the public sewer level shall discharge into a sump or receiving tank, the contents of which shall be automatically lifted and discharged into the drainage system as required for building sumps.

**M 1.7 Areaway Drains.** All open subsurface space adjacent to a building, serving as an entrance to the basement or cellar of a building, shall be provided with a drain or drains. Such areaway drains shall be two (2) inches (51 mm) minimum diameter for areaways not exceeding one hundred (100) square feet (9.3 $m^2$) in area, and shall be discharged in the manner provided for subsoil drains not serving continuously flowing springs or ground water (see Section M 1.5.2). Areaways in excess of one hundred (100) square feet (9.3 $m^2$) shall not drain into subsoil. Areaway drains for areaways exceeding one hundred (100) square feet (9.3 $m^2$) shall be sized according to Table M-2.

**M 1.8 Window Areaway Drains.** Window areaways not exceeding ten (10) square feet (0.9 $m^2$) in area may discharge to the subsoil drains through a two (2) inch (51 mm) pipe. However, window areaways exceeding ten (10) square feet (0.9 $m^2$) in area shall be handled in the manner provided for entrance areaways (see Section M 1.7).

**M 1.9 Filling Stations and Motor Vehicle Washing Establishments.** Public filling stations and motor vehicle washing establishments shall have the paved area sloped toward sumps or gratings within the property lines. Curbs not less than six (6) inches (152 mm) high shall be placed where required to direct water to gratings or sumps.

**M 1.10 Paved Areas.** Where the occupant creates surface water drainage, the sumps, gratings or floor drains shall be piped to a storm drain or an approved water course.

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**M 1.11 Roof Drainage.**

**M 1.11.1 Primary Roof Drainage.** Roof areas of a building shall be drained by roof drains or gutters. The location and sizing of drains and gutters shall be coordinated with the structural design and pitch of the roof. Unless otherwise required by the Administrative Authority, roof drains, gutters, vertical conductors or leaders, and horizontal storm drains for primary drainage shall be sized based on a storm of sixty (60) minutes duration and 100-year return period (see Appendix D).

**M 1.11.2 Secondary Roof Drainage.**

**M 1.11.2.1** Where parapet walls or other construction extend above the roof and create areas where storm water would become trapped if the primary roof drainage system failed to provide sufficient drainage, an independent secondary roof drainage system consisting of scuppers, standpipes, or roof drains shall be provided. Secondary roof drainage systems shall be sized in accordance with Section M 1.11.1 of this Code. Overflow drains shall be the same size as the roof drains with the inlet flow line two (2) inches (51 mm) above the low point of the roof and shall be installed independent from the roof drains.

**M 1.11.2.2** Where secondary roof drainage is provided by means of roof drains or standpipes, the secondary system shall be separate from the primary system and shall discharge independently at grade or other approved point of discharge.

EXCEPTION: Storm drain overflows may be connected to the vertical riser for the roof drain.

**M 1.11.2.3** Where secondary roof drainage is provided, the overflow level(s) into the secondary system shall be determined by the structural design of the roof, including roof deflection, at a level not less than two (2) inches (51 mm) above the level of the primary drain. An allowance shall be made to account for the required overflow head of water above the secondary inlets. The elevation of the secondary inlet plus the required overflow head shall not exceed the maximum allowable water level on the roof.

**M 1.11.2.4** Scuppers shall be sized as rectangular weirs, using hydraulic principles to determine the required length and resulting overflow head (see Appendix D). Secondary roof drains and standpipes shall be sized according to Table M-1. Where standpipes are used, the head allowance required under Section M 1.11.2.3 shall be not less than one and one-half (1-1/2) inches (38 mm).

**M 1.11.3 Equivalent Systems.** When approved by the Administrative Authority, the requirements of Sections M 1.11.1 and M 1.11.2 shall not preclude the installation of an engineered roof drainage system that has sufficient capacity to prevent water from ponding on the roof in excess of that allowed in the roof structural design with a rainfall rate of at least twice that for a 100-year, 60-minute storm and with a blockage in any single point in the storm drainage system.

**M 1.12 Cleanouts.**

**M 1.12.1** Cleanouts for building storm drains shall comply with the requirements of this Section. Rain leaders and conductors connected to a building storm sewer shall have a cleanout installed at the base of the outside leader or outside conductor before it connects to the horizontal drain. Cleanouts shall be placed inside the building near the connection between the building drain and the building sewer or installed outside the building at the lower end of the building drain and extended to grade.

**M 1.12.2** Each cleanout shall be installed so that it opens to allow cleaning in the direction of flow of the soil or waste or at right angles thereto, and except in the case of wye branch and end-of-line cleanouts, shall be installed vertically above the flow line of the pipe.

**M 1.12.3** Cleanouts installed under concrete or asphalt paving shall be made accessible by yard boxes, or extending flush with paving with approved materials and be adequately protected.

**M 1.12.4** Approved manholes may be installed in lieu of cleanouts when first approved by the Administrative Authority. The maximum distance between manholes shall not exceed three hundred (300) feet (91.4 m).

The inlet and outlet connections shall be made by the use of a flexible compression joint no closer than twelve (12) inches (305 mm) to, and not farther than three (3) feet (914 mm) from the manhole. No flexible compression joints shall be embedded in the manhole base.

**M 1.13** All rainwater sumps serving "public use" occupancy buildings shall be provided with dual pumps arranged to function alternately in case of overload of mechanical failure.

NEW SECTION

**WAC 51-46-97122 Materials.**

**M 2.0 Materials.**

**M 2.1 Conductors.**

**M 2.1.1** Conductors installed aboveground in buildings shall be constructed of materials specified in Table 14-1.

**M 2.1.2** The inside of conductors installed above ground level shall be of seamless copper water tube, Type K, L or M; Schedule 40 copper pipe or Schedule 40 copper alloy pipe; Type DWV copper drainage tube; service weight cast iron soil pipe or hubless cast iron soil pipe; standard weight galvanized steel pipe; or Schedule 40 ABS or Schedule 40 PVC plastic pipe.

**M 2.2 Leaders.**

**M 2.2.1** Leaders shall be constructed of materials specified in Table 14-1.

**M 2.2.2** Leaders shall be of seamless copper water tube, Type K, L or M; Schedule 40 copper pipe; Schedule 40 copper alloy pipe; type DWV copper drainage tube; service weight cast iron soil pipe or hubless cast iron soil pipe; galvanized steel sheet metal or copper sheet metal; standard weight galvanized steel pipe; Class DL or XL lead pipe; or Schedule 40 ABS or Schedule 40 PVC plastic pipe.

**M 2.3 Underground Building Storm Drains.** All underground building storm drains shall be constructed of materials specified in Table 14-1.

**M 2.4 Building Storm Sewers.** Building storm sewers shall be constructed of materials specified in Table 14-1.

**M 2.5 Subsoil Drains.**

**M 2.5.1** Subsoil drains shall be constructed of materials specified in Table 14-1.

**M 2.5.2** Subsoil drains shall be open-jointed or of perforated pipe, vitrified clay, plastic, cast iron, or porous concrete.

NEW SECTION

**WAC 51-46-97123 Traps on storm drains and leaders.**

**M 3.0 Traps on Storm Drains and Leaders.**

**M 3.1 Where Required.** Leaders and storm drains, when connected to a combined sewer, shall be trapped. Floor and area drains connected to a storm drain shall be trapped.

EXCEPTION: Traps shall not be required where roof drains, rain leaders and other inlets are at locations allowed under Section 906.0, Vent Terminals.

**M 3.2 Where Not Required.** No trap shall be required for a leader(s) or conductor(s) which is connected to a sewer carrying storm water exclusively.

**M 3.3 Trap Size.** Traps, when installed for individual conductors, shall be the same size as the horizontal drain to which they are connected.

**M 3.4 Method of Installation of Combined Sewer.** Individual storm-water traps shall be installed on the storm-water drain branch serving each storm-water inlet, or a single trap shall be installed in the main storm drain just before its connection with the combined building sewer. Such traps shall be provided with an accessible cleanout on the outlet side of the trap.

NEW SECTION

**WAC 51-46-97124 Leaders, conductors, and connections.**

**M 4.0 Leaders, Conductors, and Connections.**

**M 4.1 Improper Use.** Leaders or conductors shall not be used as soil, waste, or vent pipes, nor shall soil, waste, or vent pipes be used as leaders or conductors.

**M 4.2 Protection of Leaders.** Leaders installed along alleyways, driveways, or other locations where they may be exposed to damage shall be protected by metal guards, recessed into the wall, or constructed from ferrous pipe.

**M 4.3 Combining Storm with Sanitary Drainage.** The sanitary and storm drainage system of a building shall be entirely separate, except where a combined sewer is used, in which case the building storm drain shall be connected in the same horizontal plane through single wye fittings to the combined building sewer at least ten (10) feet (3048 mm) downstream from any soil stack.

NEW SECTION

**WAC 51-46-97125 Roof drains.**

**M 5.0 Roof Drains.**

**M 5.1 Material.**

**M 5.1.1** Roof drains shall be constructed of materials specified in Table 14-1.

**M 5.1.2** Roof drains shall be of cast iron, copper or copper alloy, lead or plastic.

**M 5.2 Dome or Strainer for General Use.** All roof drains and overflow drains, except those draining to hanging gutters, shall be equipped with strainers extending not less than four (4) inches (102 mm) above the surface of the roof immediately adjacent to the drain. Strainers shall have a minimum inlet area above the roof level of not less than one and one-half (1-1/2) times the area of the conductor or leader to which the drain is connected.

**M 5.3 Strainers for Flat Decks.** Roof drain strainers for use on sun decks, parking decks, and similar areas which are normally serviced and maintained may be of the flat surface-type. Such roof drain strainers shall be level with the deck and shall have an available inlet area of no less than two (2) times the area of the conductor or leader to which the drain is connected.

**M 5.4 Roof Drain Flashings.** Connection between the roof and roof drains which pass through the roof and into the interior of the building shall be made watertight by the use of proper flashing material.

**M 5.4.1** Where lead flashing material is used, it shall be a minimum of four (4) pounds per square foot (19.5 kg/$m^2$).

**M 5.4.2** Where copper flashing material is used, it shall be a minimum of twelve (12) ounces per square foot (3.7 kg/$m^2$).

NEW SECTION

**WAC 51-46-97126 Size of leaders, conductors, and storm drains.**

**M 6.0 Size of Leaders, Conductors, and Storm Drains.**

**M 6.1 Vertical Conductors and Leaders.** Vertical conductors and leaders shall be sized on the basis of the maximum projected roof area and Table M-1.

**M 6.2 Size of Horizontal Storm Drains and Sewers.** The size of building storm drains or building storm sewers or any of their horizontal branches shall be based upon the maximum projected roof or paved area to be handled and Table M-2.

**M 6.3 Size of Roof Gutters.** The size of semicircular gutters shall be based on the maximum projected roof area and Table M-3.

**M 6.4 Side Walls Draining onto a Roof.** Where vertical walls project above a roof so as to permit storm water to drain to the roof area below the adjacent roof area may be computed from Table M-1 as follows:

(1) For one (1) wall – add fifty (50) percent of the wall area to the roof area figures.

PROPOSED

(2) For two (2) adjacent walls – add thirty-five (35) percent of the total wall areas.

(3) Two (2) walls opposite of same height – add no additional area.

(4) Two (2) walls opposite of differing heights – add fifty (50) percent of wall area above top of lower wall.

(5) Walls on three (3) sides – add fifty (50) percent of area of the inner wall below the top of the lowest wall, plus allowance for the area of wall above top of lowest wall, per (2) and (4) above.

(6) Walls on four (4) sides – no allowance for wall areas below top of lowest wall – add for areas above the top of the lowest wall per (1), (2), (4) and (5) above.

NEW SECTION

**WAC 51-46-97127 Values for continuous flow.**

**M 7.0 Values for Continuous Flow.**

Where there is a continuous or semi-continuous discharge into the building storm drain or building storm sewer, as from a pump, ejector, air-conditioning plant, or similar device, one (1) gpm (3.8 L/min.) of such discharge shall be computed as being equivalent to twenty-four (24) square feet (2.2 $m^2$) of roof area, based upon a rate of rainfall of four (4) inches (102 mm) per hour.

NEW SECTION

**WAC 51-46-97128 Testing.**

**M 8.0 Testing.**

**M 8.1 Testing Required.** New building storm drainage systems and parts of existing systems that have been altered, extended or repaired shall be tested as described in Section M 8.2.1 to disclose leaks and defects.

**M 8.2 Methods of Testing Storm Drainage Systems.** Except for outside leaders and perforated or open jointed drain tile, the piping of storm drain systems shall be tested upon completion of the rough piping installation by water or air, and proved tight. The Administrative Authority may require the removal of any cleanout plugs to ascertain if the pressure has reached all parts of the system. Either of the following test methods shall be used:

**M 8.2.1 Water Test.** After piping has been installed, the water test shall be applied to the drainage system, either in its entirety or in sections. If applied to the entire system, all openings in the piping shall be tightly closed except for the highest opening, and the system shall be filled with water to the point of overflow. If the system is tested in sections, each opening shall be tightly plugged except for the highest opening of the section under test, and each section shall be filled with water, but no section shall be tested with less than a ten (10) foot (3048 mm) head of water. In testing successive sections, at least the upper ten (10) foot (3048 mm) of the next preceding section shall be tested so that no joint of pipe in the building (except the uppermost ten (10) foot (3048 mm) of a roof drainage system, which shall be filled with water to the flood level of the uppermost roof drain) shall have been submitted to a test of less than a ten (10) foot (3048 mm) head of water. The water shall be kept in the system or in the portion under test for at least fifteen (15) minutes before inspection starts; the system shall then be tight at all points.

**M 8.2.2 Air Test.** The air test shall be made by attaching an air compressor testing apparatus to any suitable opening after closing all other inlets and outlets to the system, forcing air into the system until there is a uniform gage pressure of five (5) psi (34.5 kPa) or sufficient to balance a column of mercury ten (10) inches (254 mm) in height. This pressure shall be held without introduction of additional air for a period of at least fifteen (15) minutes.

**M 8.2.3 Exceptions.** When circumstances exist that make air and water tests, described in Sections M 8.2.1 and M 8.2.2 above, impractical, and for minor maintenance, repairs and installations, the Administrative Authority may perform the inspection as considered advisable by said authority to assure that the work has been in accordance with provisions of this Code.

NEW SECTION

**WAC 51-46-97129 Tables M-1 through M-3.**

Table M-1 - Sizing roof drains, leaders and vertical rainwater piping.

TABLE M-1

Sizing Roof Drains, Leaders, and Vertical Rainwater Piping

| Size of Drain, Leader or Pipe, Inches | Flow, gpm | Maximum Allowable Horizontal Projected Roof Areas Square Feet at Various Rainfall Rates | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1"/hr | 2"/hr | 3"/hr | 4"/hr | 5"/hr | 6"/hr |
| 2 | 23 | 2176 | 1088 | 725 | 544 | 435 | 363 |
| 3 | 67 | 6440 | 3220 | 2147 | 1610 | 1288 | 1073 |
| 4 | 144 | 13,840 | 6920 | 4613 | 3460 | 2768 | 2307 |
| 5 | 261 | 25,120 | 12,560 | 8373 | 6280 | 5024 | 4187 |
| 6 | 424 | 40,800 | 20,400 | 13,600 | 10,200 | 8160 | 6800 |
| 8 | 913 | 88,000 | 44,000 | 29,333 | 22,000 | 17,600 | 14,667 |

Table M-1 (Metric) - Sizing roof drains, leaders and vertical rainwater piping.

TABLE M-1 (Metric)

Sizing Roof Drains, Leaders, and Vertical Rainwater Piping

| Size of Drain Leader or Pipe, mm | Flow, L/s | Maximum Allowable Horizontal Projected Roof Areas Square Meters at Various Rainfall Rates | | | | | |
|---|---|---|---|---|---|---|---|
| | | 25mm/hr | 50mm/hr | 75mm/hr | 100mm/hr | 125mm/hr | 150mm/hr |
| 50 | 1.5 | 202 | 101 | 67 | 51 | 40 | 34 |
| 75 | 4.2 | 600 | 300 | 200 | 150 | 120 | 100 |
| 100 | 9.1 | 1286 | 643 | 429 | 321 | 257 | 214 |
| 125 | 16.5 | 2334 | 1117 | 778 | 583 | 467 | 389 |
| 150 | 26.8 | 3790 | 1895 | 1263 | 948 | 758 | 632 |
| 200 | 57.6 | 8175 | 4088 | 2725 | 2044 | 1635 | 1363 |

Notes

1. The sizing data for vertical conductors, leaders, and drains is based on the pipes flowing 7/24 full.
2. For rainfall rates other than those listed, determine the allowable roof area by dividing the area given in the 1 inch/hour (25 mm/hour) column by the desired rainfall rate.
3. Vertical piping may be round, square, or rectangular. Square pipe shall be sized to enclose its equivalent round pipe. Rectangular pipe shall have at least the same cross-sectional area as its equivalent round pipe, except that the ratio of its side dimensions shall not exceed 3 to 1.

PROPOSED

Table M-2 Sizing of horizontal rainwater piping.

TABLE M-2
Sizing of Horizontal Rainwater Piping

PROPOSED

| Size of Pipe, Inches | Flow at 1/8"/ft. Slope, gpm | Maximum Allowable Horizontal Projected Roof Areas Square Feet at Various Rainfall Rates | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1"/hr | 2"/hr | 3"/hr | 4"/hr | 5"/hr | 6"/hr |
| 3 | 34 | 3288 | 1644 | 1096 | 822 | 657 | 548 |
| 4 | 78 | 7520 | 3760 | 2506 | 1880 | 1504 | 1253 |
| 5 | 139 | 13,360 | 6680 | 4453 | 3340 | 2672 | 2227 |
| 6 | 222 | 21,400 | 10,700 | 7133 | 5350 | 4280 | 3566 |
| 8 | 478 | 46,000 | 23,000 | 15,330 | 11,500 | 9200 | 7670 |
| 10 | 860 | 82,800 | 41,400 | 27,600 | 20,700 | 16,580 | 13,800 |
| 12 | 1384 | 133,200 | 66,600 | 44,400 | 33,300 | 26,650 | 22,200 |
| 15 | 2473 | 238,000 | 119,000 | 79,333 | 59,500 | 47,600 | 39,650 |

| Size of Pipe, Inches | Flow at 1/4"/ft. Slope, gpm | Maximum Allowable Horizontal Projected Roof Areas Square Feet at Various Rainfall Rates | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1"/hr | 2"/hr | 3"/hr | 4"/hr | 5"/hr | 6"/hr |
| 3 | 48 | 4640 | 2320 | 1546 | 1160 | 928 | 773 |
| 4 | 110 | 10,600 | 5300 | 3533 | 2650 | 2120 | 1766 |
| 5 | 196 | 18,880 | 9440 | 6293 | 4720 | 3776 | 3146 |
| 6 | 314 | 30,200 | 15,100 | 10,066 | 7550 | 6040 | 5033 |
| 8 | 677 | 65,200 | 32,600 | 21,733 | 16,300 | 13,040 | 10,866 |
| 10 | 1214 | 116,800 | 58,400 | 38,950 | 29,200 | 23,350 | 19,450 |
| 12 | 1953 | 188,000 | 94,000 | 62,600 | 47,000 | 37,600 | 31,350 |
| 15 | 3491 | 336,000 | 168,000 | 112,000 | 84,000 | 67,250 | 56,000 |

| Size of Pipe, Inches | Flow at 1/2"/ft. Slope, gpm | Maximum Allowable Horizontal Projected Roof Areas Square Feet at Various Rainfall Rates | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1"/hr | 2"/hr | 3"/hr | 4"/hr | 5"/hr | 6"/hr |
| 3 | 68 | 6576 | 3288 | 2192 | 1644 | 1310 | 1096 |
| 4 | 156 | 15,040 | 7520 | 5010 | 3760 | 3010 | 2500 |
| 5 | 278 | 26,720 | 13,360 | 8900 | 6680 | 5320 | 4450 |
| 6 | 445 | 42,800 | 21,400 | 14,267 | 10,700 | 8580 | 7140 |
| 8 | 956 | 92,000 | 46,000 | 30,650 | 23,000 | 18,400 | 15,320 |
| 10 | 1721 | 165,600 | 82,800 | 55,200 | 41,400 | 33,150 | 27,600 |
| 12 | 2768 | 266,400 | 133,200 | 88,800 | 66,600 | 53,200 | 44,400 |
| 15 | 4946 | 476,000 | 238,000 | 158,700 | 119,000 | 95,200 | 79,300 |

Notes

1. The sizing data for horizontal piping is based on the pipes flowing full.
2. For rainfall rates other than those listed, determine the allowable roof area by dividing the area given in the 1 inch/hour (25 mm/hour) column by the desired rainfall rate.

Table M-2 (Metric) Sizing of horizontal rainwater piping.

TABLE M-2 (Metric)
Sizing of Horizontal Rainwater Piping

| Size of Pipe, mm | Flow at 10 mm/m Slope, L/s | Maximum Allowable Horizontal Projected Roof Areas Square Meters at Various Rainfall Rates | | | | | |
|---|---|---|---|---|---|---|---|
| | | 25mm/hr | 50mm/hr | 75mm/hr | 100mm/hr | 125mm/hr | 150mm/hr |
| 75 | 2.1 | 305 | 153 | 102 | 76 | 61 | 51 |
| 100 | 4.9 | 700 | 350 | 233 | 175 | 140 | 116 |
| 125 | 8.8 | 1241 | 621 | 414 | 310 | 248 | 207 |
| 150 | 14.0 | 1988 | 994 | 663 | 497 | 398 | 331 |
| 200 | 30.2 | 4273 | 2137 | 1424 | 1068 | 855 | 713 |
| 250 | 54.3 | 7692 | 3846 | 2564 | 1923 | 1540 | 1282 |
| 300 | 87.3 | 12,375 | 6187 | 4125 | 3094 | 2476 | 2062 |
| 375 | 156.0 | 22,110 | 11,055 | 7370 | 5528 | 4422 | 3683 |

| Size of Pipe, mm | Flow at 20 mm/m Slope, L/s | Maximum Allowable Horizontal Projected Roof Areas Square Meters at Various Rainfall Rates | | | | | |
|---|---|---|---|---|---|---|---|
| | | 25mm/hr | 50mm/hr | 75mm/hr | 100mm/hr | 125mm/hr | 150mm/hr |
| 75 | 3.0 | 431 | 216 | 144 | 108 | 86 | 72 |
| 100 | 6.9 | 985 | 492 | 328 | 246 | 197 | 164 |
| 125 | 12.4 | 1754 | 877 | 585 | 438 | 351 | 292 |
| 150 | 19.8 | 2806 | 1403 | 935 | 701 | 561 | 468 |
| 200 | 42.7 | 6057 | 3029 | 2019 | 1514 | 1211 | 1009 |
| 250 | 76.6 | 10,851 | 5425 | 3618 | 2713 | 2169 | 1807 |
| 300 | 123.2 | 17,465 | 8733 | 5816 | 4366 | 3493 | 2912 |
| 375 | 220.2 | 31,214 | 15,607 | 10,405 | 7804 | 6248 | 5202 |

| Size of Pipe, mm | Flow at 40 mm/m Slope, L/s | Maximum Allowable Horizontal Projected Roof Areas Square Meters at Various Rainfall Rates | | | | | |
|---|---|---|---|---|---|---|---|
| | | 25mm/hr | 50mm/hr | 75mm/hr | 100mm/hr | 125mm/hr | 150mm/hr |
| 75 | 4.3 | 611 | 305 | 204 | 153 | 122 | 102 |
| 100 | 9.8 | 1400 | 700 | 465 | 350 | 280 | 232 |
| 125 | 17.5 | 2482 | 1241 | 827 | 621 | 494 | 413 |
| 150 | 28.1 | 3976 | 1988 | 1325 | 994 | 797 | 663 |
| 200 | 60.3 | 8547 | 4273 | 2847 | 2137 | 1709 | 1423 |
| 250 | 108.6 | 15,390 | 7695 | 5128 | 3846 | 3080 | 2564 |
| 300 | 174.6 | 24,749 | 12,374 | 8250 | 6187 | 4942 | 4125 |
| 375 | 312.0 | 44,220 | 22,110 | 14,753 | 11,055 | 8853 | 7367 |

Notes

1. The sizing data for horizontal piping is based on the pipes flowing full.
2. For rainfall rates other than those listed, determine the allowable roof area by dividing the area given in the 1 inch/hour (25 mm/hour) column by the desired rainfall rate.

PROPOSED

Table M-3 Size of gutters.

TABLE M-3
Size of Gutters

| Diameter of Gutter in Inches | Maximum Rainfall in Inches per Hour | | | | |
|---|---|---|---|---|---|
| 1/16"/ft. Slope | 2 | 3 | 4 | 5 | 6 |
| 3 | 340 | 226 | 170 | 136 | 113 |
| 4 | 720 | 480 | 360 | 288 | 240 |
| 5 | 1250 | 834 | 625 | 500 | 416 |
| 6 | 1920 | 1280 | 960 | 768 | 640 |
| 7 | 2760 | 1840 | 1380 | 1100 | 918 |
| 8 | 3980 | 2655 | 1990 | 1590 | 1325 |
| 10 | 7200 | 4800 | 3600 | 2880 | 2400 |

| Diameter of Gutter in Inches | Maximum Rainfall in Inches per Hour | | | | |
|---|---|---|---|---|---|
| 1/8"/ft. Slope | 2 | 3 | 4 | 5 | 6 |
| 3 | 480 | 320 | 240 | 192 | 160 |
| 4 | 1020 | 681 | 510 | 408 | 340 |
| 5 | 1760 | 1172 | 880 | 704 | 587 |
| 6 | 2720 | 1815 | 1360 | 1085 | 905 |
| 7 | 3900 | 2600 | 1950 | 1560 | 1300 |
| 8 | 5600 | 3740 | 2800 | 2240 | 1870 |
| 10 | 10,200 | 6800 | 5100 | 4080 | 3400 |

| Diameter of Gutter in Inches | Maximum Rainfall in Inches per Hour | | | | |
|---|---|---|---|---|---|
| 1/4"/ft. Slope | 2 | 3 | 4 | 5 | 6 |
| 3 | 680 | 454 | 340 | 272 | 226 |
| 4 | 1440 | 960 | 720 | 576 | 480 |
| 5 | 2500 | 1668 | 1250 | 1000 | 834 |
| 6 | 3840 | 2560 | 1920 | 1536 | 1280 |
| 7 | 5520 | 3680 | 2760 | 2205 | 1840 |
| 8 | 7960 | 5310 | 3980 | 3180 | 2655 |
| 10 | 14,400 | 9600 | 7200 | 5750 | 4800 |

| Diameter of Gutter in Inches | Maximum Rainfall in Inches per Hour | | | | |
|---|---|---|---|---|---|
| 1/2"/ft. Slope | 2 | 3 | 4 | 5 | 6 |
| 3 | 960 | 640 | 480 | 384 | 320 |
| 4 | 2040 | 1360 | 1020 | 816 | 680 |
| 5 | 3540 | 2360 | 1770 | 1415 | 1180 |
| 6 | 5540 | 3695 | 2770 | 2220 | 1850 |
| 7 | 7800 | 5200 | 3900 | 3120 | 2600 |
| 8 | 11,200 | 7460 | 5600 | 4480 | 3730 |
| 10 | 20,000 | 13,330 | 10,000 | 8000 | 6660 |

Table M-3 (Metric) Size of gutters.

TABLE M-3 **(Metric)**
Size of Gutters

| Diameter of Gutter in mm | Maximum Rainfall in Millimeters per Hour | | | | |
|---|---|---|---|---|---|
| **5.2 mm/m Slope** | **50.8** | **76.2** | **101.6** | **127.0** | **152.4** |
| 76.2 | 31.6 | 21.0 | 15.8 | 12.6 | 10.5 |
| 101.6 | 66.9 | 44.6 | 33.4 | 26.8 | 22.3 |
| 127.0 | 116.1 | 77.5 | 58.1 | 46.5 | 38.7 |
| 152.4 | 178.4 | 119.1 | 89.2 | 71.4 | 59.5 |
| 177.8 | 256.4 | 170.9 | 128.2 | 102.2 | 85.3 |
| 203.2 | 369.7 | 246.7 | 184.9 | 147.7 | 123.1 |
| 254.0 | 668.9 | 445.9 | 334.4 | 267.6 | 223.0 |

| Diameter of Gutter in mm | Maximum Rainfall in Millimeters per Hour | | | | |
|---|---|---|---|---|---|
| **10.4 mm/m Slope** | **50.8** | **76.2** | **101.6** | **127.0** | **152.4** |
| 76.2 | 44.6 | 29.7 | 22.3 | 17.8 | 14.9 |
| 101.6 | 94.8 | 63.3 | 47.4 | 37.9 | 31.6 |
| 127.0 | 163.5 | 108.9 | 81.8 | 65.4 | 54.5 |
| 152.4 | 252.7 | 168.6 | 126.3 | 100.8 | 84.1 |
| 177.8 | 362.3 | 241.5 | 181.2 | 144.9 | 120.8 |
| 203.2 | 520.2 | 347.5 | 260.1 | 208.1 | 173.7 |
| 254.0 | 947.6 | 631.7 | 473.8 | 379 | 315.9 |

| Diameter of Gutter in mm | Maximum Rainfall in Millimeters per Hour | | | | |
|---|---|---|---|---|---|
| **20.9 mm/m Slope** | **50.8** | **76.2** | **101.6** | **127.0** | **152.4** |
| 76.2 | 63.2 | 42.2 | 31.6 | 25.3 | 21.0 |
| 101.6 | 133.8 | 89.2 | 66.9 | 53.5 | 44.6 |
| 127.0 | 232.3 | 155.0 | 116.1 | 92.9 | 77.5 |
| 152.4 | 356.7 | 237.8 | 178.4 | 142.7 | 118.9 |
| 177.8 | 512.8 | 341.9 | 256.4 | 204.9 | 170.9 |
| 203.2 | 739.5 | 493.3 | 369.7 | 295.4 | 246.7 |
| 254.0 | 133.8 | 891.8 | 668.9 | 534.2 | 445.9 |

| Diameter of Gutter in mm | Maximum Rainfall in Millimeters per Hour | | | | |
|---|---|---|---|---|---|
| **41.7 mm/m Slope** | **50.8** | **76.2** | **101.6** | **127.0** | **152.4** |
| 76.2 | 89.2 | 59.5 | 44.6 | 35.7 | 29.7 |
| 101.6 | 189.5 | 126.3 | 94.8 | 75.8 | 63.2 |
| 127.0 | 328.9 | 219.2 | 164.4 | 131.5 | 109.6 |
| 152.4 | 514.7 | 343.3 | 257.3 | 206.2 | 171.9 |
| 177.8 | 724.6 | 483.1 | 362.3 | 289.9 | 241.4 |
| 203.2 | 1040.5 | 693.0 | 520.2 | 416.2 | 346.5 |
| 254.0 | 1858.0 | 1238.4 | 929.0 | 743.2 | 618.7 |

PROPOSED

## Chapter 51-47 WAC
## STATE BUILDING CODE ADOPTION OF APPENDIX I OF THE 1997 EDITION OF THE UNIFORM PLUMBING CODE

PROPOSED

NEW SECTION

**WAC 51-47-001 Authority.** These rules are adopted under the authority of chapter 19.27 RCW.

NEW SECTION

**WAC 51-47-002 Purpose.** The purpose of these rules is to implement the provisions of chapter 19.27 RCW, which provides that the State Building Code council shall maintain the State Building Code in a status which is consistent with the purpose as set forth in RCW 19.27.020. In maintaining the codes, the council shall regularly review updated versions of the codes adopted under the act, and other pertinent information, and shall amend the codes as deemed appropriate by the council.

NEW SECTION

**WAC 51-47-003 Uniform plumbing code standards.** The 1997 edition of the Uniform Plumbing Code Standards (Appendix I), published by the International Association of Plumbing and Mechanical Officials is hereby adopted by reference.

NEW SECTION

**WAC 51-47-007 Exceptions.** The exceptions and amendments to the Uniform Codes contained in the provisions of chapter 19.27 RCW shall apply in cases of conflict with any of the provisions of these rules.

NEW SECTION

**WAC 51-47-008 Implementation.** The Uniform Plumbing Code Standards adopted by chapter 19.27 RCW shall become effective in all counties and cities of this state on July 1, 1998, unless local government residential amendments have been approved by the State Building Code council.

## WSR 97-16-115
### PROPOSED RULES
### BUILDING CODE COUNCIL
[Filed August 6, 1997, 10:36 a.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 97-05-065.

Title of Rule: Repeal of chapter 51-32 WAC, adoption and amendment of the 1994 Edition of the Uniform Mechanical Code and adoption of chapter 51-42 WAC, adoption and amendment of the 1997 Edition of the Uniform Mechanical Code.

Purpose: To consider whether to adopt, or amend and adopt, the 1997 Edition of the Uniform Mechanical Code, published by the International Conference of Building Officials, and to repeal the 1994 edition of the code.

Statutory Authority for Adoption: RCW 19.27.031, 19.27.074.

Statute Being Implemented: Chapters 19.27 and 34.05 RCW.

Summary: The proposed rule includes adoption of the 1997 Edition of the Uniform Mechanical Code with amendments and repeal of the 1994 edition of this code. The adoption includes fuel gas piping.

Reasons Supporting Proposal: RCW 19.27.031, 19.27.074.

Name of Agency Personnel Responsible for Drafting and Implementation: Judith Darst, P.O. Box 48300, Olympia, WA 98504-8300, (360) 586-2251; and Enforcement: Local jurisdictions.

Name of Proponent: Washington State Building Code Council, governmental.

Agency Comments or Recommendations, if any, as to Statutory Language, Implementation, Enforcement, and Fiscal Matters: The council seeks comments on the issues and options proposed in the rules shown below.

Rule is not necessitated by federal law, federal or state court decision.

Explanation of Rule, its Purpose, and Anticipated Effects: The proposed rule will adopt by reference and amend the 1997 Edition of the Uniform Mechanical Code (UMC), published by the International Conference of Building Officials (ICBO). The purpose is to replace the 1994 UMC (chapter 51-32 WAC), which will then be repealed. The 1997 UMC (proposed chapter 51-42 WAC) will be amended to provide greater safety and flexibility than the published version for its application in Washington state.

**Regulatory Review:** In compliance with Executive Order 97-02, Regulatory improvement, the following criteria for regulatory review will be considered at the time of final adoption of the rule.

1. **Need.** This rule is necessary to comply with the requirements of RCW 19.27.074. The council must regularly review updated versions of the Uniform Mechanical Code, and amend and adopt as deemed appropriate by the council. An updated, 1997 version of the Uniform Mechanical Code has been published. The purpose and objective of this review, as given in RCW 19.27.020, is to promote the health, safety and welfare of the occupants or users of buildings; to require minimum construction standards for the state of Washington; to permit the use of modern technical methods; to eliminate restrictive, obsolete, conflicting, duplicating and unnecessary regulations; and to provide standards to make buildings accessible to and usable by physically disabled persons. The technical advisory groups appointed by the council have identified rules that are obsolete, duplicative or ambiguous, and have proposed amendments and revisions.

2. **Effectiveness and Efficiency.** The mission of the council is to adopt building codes for uniform application throughout the state. In the course of the regular rule review, the council examined regulatory alternatives and new technologies. The council has identified where alternatives can be used effectively and efficiently. The council efficiently achieves uniform state building codes by serving as

the central administrative agency for state-wide adoption of building codes.

3. **Clarity.** The council is revising their filing procedure for state amendments to the national uniform codes. To enhance clarity, only those subsections with a state amendment will be filed under the main section number. The balance of the main section will remain as written in the national uniform code, as adopted by reference, unless otherwise noted. This reformatting change reorganizes and shortens the WACs, and necessitates new WAC number assignments.

4. **Intent and Statutory Authority.** The proposed rule is consistent with the legislative intent of the statute chapter 19.27 RCW. The statute gives the council sufficient authority to maintain the state building code, and to amend and adopt new editions of the Uniform Mechanical Code. The Uniform Mechanical Code is published every three years.

5. **Coordination.** The council rule-making process has included participation by national, state, and local building, fire, mechanical and plumbing officials, as well as state agency representatives for the Departments of Social and Health Services, Health, Labor and Industries, and the state Fire Marshal. The council actively seeks participation from other state agencies to assure that duplication and inconsistency is eliminated.

6. **Cost.** The council appointed technical advisory groups and an Economic and Regulatory Assessment Committee to examine the costs and benefits associated with the revisions to the building codes.

7. **Fairness.** The state amendments to the Uniform Mechanical Code proposed by the council are intended to mitigate disproportionate impact on the regulated community. The council is made up of representatives from the regulated community, as well as public and regulatory officials. In addition, the council enlisted the assistance of technical advisory groups, made up of the individuals, organizations and businesses impacted by the building codes, to review code changes and proposals.

Proposal Changes the Following Existing Rules: **Summary of Changes Proposed in Amendments to the 1997 UMC:**

**1. Sections 001, 002, 004, 005, 007, 223, 504.3.1, 601.1, 605.2, and Chapter 11**, these state amendments are maintained from chapter 51-32 WAC.

**2. Sections 003, 008, 601.1.1**, these changes correct Uniform Code and WAC references.

**3. Section 303.1.1 (exception 1)**, a cross reference to Section 909 is added for clarity in distinguishing between unvented or direct fired fuel burning equipment and direct gas-fired makeup air heaters.

**4. Sections 303.1.1 (exception 2), 901.4 and 601.3 (were 1994 Sections 327.6 and 601.2)**, these state amendments are maintained from the 1994 edition. The section numbers change to reflect the 1994 to 1997 Uniform Code changes.

**5. Section 1002.2**, this new amendment prohibits using water heaters for space heating only.

**6. Section 1004**, UMC Section 1004 - Safety Devices, is not adopted. For safety devices and installation of water heaters, see the Plumbing Code.

**7. Sections 1005 through 1029, Tables 10A through 10-C**, UMC Chapter 10, Part II - Steam and Hot-water Boilers, is not adopted. Boilers and Unfired Pressure Vessels are regulated by chapter 70.79 RCW and chapter 296-104 WAC.

**8. Sections 1311.1, 1311.3, 1312.1, 1312.17 and 1312.18**, new amendments to these sections allow copper piping and tubing.

**9. Section 1312.3**, this new amendment requires existing foundation or basement walls to be core drilled and sealed with an approved mechanical seal when underground piping is installed through an existing wall.

**10. Sections 1312.6 and 1312.7**, these new amendments requires cathodic protection, in accordance with NACE RP-01-69, for metallic gas piping systems in exterior underground installations.

A small business economic impact statement has been prepared under chapter 19.85 RCW.

Small Business Economic Impact Statement

**Purpose:** The purpose of this analysis is to comply with the requirements of chapter 19.85 RCW, to examine whether these proposed rules will have a disproportionate impact on small businesses.

**Introduction:** The state Building Code Council (council) is proposing to adopt the 1997 Edition of the Uniform Mechanical Code published by the International Conference of Building Officials (chapter 51-42 WAC). WAC 51-42-1312.6 (Corrosion and Covering Protection) and WAC 51-42-1312.7 (Corrosion Isolation) have been identified by the council's Economic and Regulatory Assessment Committee (ERAC) as having a potential disproportionate cost impact to small business.

The council appointed Technical Advisory Groups (TAGs) to do a comprehensive review and comparison of the 1994 Uniform Mechanical Code and the 1997 Uniform Mechanical Code. The TAGs held meetings over a three year period. All national and state-wide code changes were examined. The TAG findings were reviewed by ERAC. Based on this review, the council found that all changes proposed other than the measures specified in this report are editorial in nature and clarifications of nationally recognized standards, which have minimal economic impact beyond codes currently in effect.

The council members and TAG participants are a representative sample of individuals involved in the building construction industry. The makeup of the participants were: Architects, home builders, building officials, contractors, fire officials, energy professionals, manufacturers, engineers, plumbers, state and local officials, inspectors, industry associations and organizations, companies and business, electricians, and the general public.

**Summary of Proposed Rule:** WAC 51-42-1312.6 (Corrosion and Covering Protection) and 51-42-1312.7 (Corrosion Isolation); WAC 51-42-1312.6 and 51-42-1312.7.

These proposed code changes would require all underground metallic gas piping not provided by utility districts to be cathodically protected. State and federal regulations found in WAC 480-93-110 and 49 CFR, Part 192, require utility districts to cathodically protect underground metallic piping at all locations, for corrosion control. Gas leakage near occupied buildings could be a potential safety hazard.

PROPOSED

The goal of this proposal is to slow down this rate of corrosion of underground metallic gas pipes, therefore extending the life and usage of these pipes.

**Industry Analysis:** The four-digit Standard Industrial Classification (SIC) codes for the industries potentially impacted for the two identified code change proposals are listed below:

| SIC # | DESCRIPTION |
|---|---|
| 1521 | Single-family housing construction |
| 1522 | Residential construction |
| 1541 | Industrial buildings and warehouses |
| 1542 | Nonresidential construction |
| 1711 | Plumbing, heating, air-conditioning |
| 1731 | Electrical work |
| 1761 | Roofing, siding, and sheet metal work |

Within each four-digit SIC, data from December 31, 1996, (the most recent) were analyzed to determine the number of small and large businesses, and the number of employees per business. Industry data at the four-digit level, provided by the Employment Security Department, were broad in scope and anonymous. Due to confidentiality laws in the state, the council was not able to analyze businesses on a "per business" or "per employee" basis as established in chapter 19.85 RCW, Regulatory Fairness Act. Therefore, an analysis was prepared based solely on the number of employees per employers within each four-digit SIC.

**Example:** SIC 1521 (Single-family housing construction) has a total of 5,410 employers and 15,490 employees. Of those 5,410 employers, 5,398 of them were small businesses as defined in chapter 19.85 RCW (fifty employees or less) and twelve were large businesses (fifty-one or more employees). A survey was prepared that described these proposed changes and asked businesses to estimate what they believed the cost impact of these changes would be on their business and how they arrived at that figure. The survey also asked businesses how many workers they employed. The council sent surveys to ten percent of businesses within these identified industries to assess the economic impact of the proposals.

The council is able to provide the following detailed information regarding the potentially impacted businesses.

**Number of businesses potentially impacted** 10,529
**Number of employees potentially impacted** 63,258
**Average number of employees/business** 6
*Source: Employment Security Dec. 31, 1996 data.*

**Cost of Compliance:** To determine the costs of reporting and compliance requirements for the identified code change proposals, the council used the results of the surveys along with the committee's economical evaluation as an informational resource. However, of the 1171 surveys sent out only four percent were returned. The returned surveys break down as follows:

**Number of small businesses responding (50 or less employees)** 25 (57%)
**Average number of employees** 7
**Estimated average cost of compliance per employee** $196.00

**Number of large businesses responding (51 or more employees)** 2 (5%)
**Average number of employees** 69
**Estimated average cost of compliance per employee** $435.00 *

**Number of returned surveys with no responses** 17 (39%)

* *Average cost of compliance for large businesses is high due to inadequate sample size. Large businesses costs are also hire [higher] due to the volume of jobs performed annually. The committee estimates that the cost of compliance falls between $100 - $2000.*

**Compliance Cost I: Reporting and compliance requirements:** There are no reporting and/or compliance requirement costs involved with this proposal.

**Compliance Cost II: Associated costs:**

| | Description | Initial Costs | Cost over 20 years life of protection |
|---|---|---|---|
| **Materials:** | magnesium anode, voltmeter, exothermic welder, exothermic welder thermite charges, primer, poly-ethylene tape, shovel | $421 | $21.05 per year |
| **Labor:** | one hour of labor and one technician. | $45 | $2.25 per year |
| **Totals:** | | **$466** | **$23.30 per year** |
| **Training** | No costs in training, employees usually come with the skills needed to do this process. | | |

*Note: These costs are derived from the council's committees estimation.*

**Compliance Cost III: Lost sales or revenue:** This proposal does not have an effect on businesses sales or revenues. Typically, all building and structures that use gas have metallic pipe underground provided and maintained by the utility companies. This rule is to address those applications not maintained by the utility districts. That usually applies to a very small percentage of businesses and residences. Traditionally it is the purchaser of this service that carries the final costs. However, as stated before, the utility provider covers the costs of a majority of underground metallic gas pipe installations.

**Compliance Cost IV: Possible disproportionate affect on small businesses:** The Regulatory Fairness Act requires, when possible, a comparison of the compliance costs for small and large businesses required to comply with the proposed rule.

While the results of the survey were limited, they offered some insight in whether the proposed rules will have a disproportionate economic impact on small businesses. Thus, compliance costs based on the survey results were analyzed. **The results of this comparison concluded that small businesses would pay approximately forty-five percent of the average cost to large businesses.** This was calculated on a "per employee" basis for all industries surveyed.

| | Large | Small |
|---|---|---|
| Number of businesses | 2 | 25 |
| Number of employees | 138 | 169 |
| Average number of employees/business | 69 | 7 |
| Average cost/business | $30,000* | $1,375 |
| Average cost/employee | $435 | $196 |

** Average cost of compliance for large businesses is high due to inadequate sample size. Large businesses costs are also higher due to the volume of jobs performed annually. The committee estimates that the cost of compliance falls between $100 - $2000.*

**Average Cost/Employee Ratio (Small vs. Large): $196/$435 = .45 (45%)**

**Involvement of Small Businesses: The council has included small businesses in the drafting of this language and the preparation of the small business economic impact study (SBEIS). Small businesses were represented on the technical advisory groups and council committees. Ten percent of each of the identified SIC industries were solicited for information regarding the potential economic impact of the proposed rules.**

**Mitigation:** Through a formal and established method of negotiated rule making, the council and the affected industries have considered and mitigated costs associated with the proposed rules. The council solicited feedback from industry. Industry representation has been involved at all public meetings.

The council and its committees are of the opinion that many of the potentially impacted businesses will experience

minimal or no extra cost of compliance. Language was drafted so that industry would have adequate time to comply with those sections of the rule that may impose an economic impact on business. Sections or wording of the proposed rules were omitted in an effort to minimize the costs. Again, business representation was an integral part of the review and development of this negotiated rule-making process.

Since the proposed rules have been negotiated into their current form with input from the council and industry, the council is of the opinion that adequate mitigation efforts have been put forth.

**Conclusion:** Based on the results of the survey and the council's economic evaluation, the council recognized that the proposed rules may impose minimal economic impact on businesses in the building construction industry. However, the council also realizes its obligation to ensure the health, safety and welfare of the occupants or users of buildings and structures and the general public through the provisions of the building codes throughout the state, as stated in the council's legislative mandate.

The fact that the proposed rule was industry-initiated and drafted by the committees is indicative of an industry that is also concerned with the health, safety and welfare of the citizens in this state. The council has negotiated the proposed rules into their current form in an effort to achieve a minimum safety standard that meets the needs of the building construction industry and the citizens of this state.

Again, the council appointed Technical Advisory Groups (TAGs) to do a comprehensive review and comparison of the 1994 Uniform Mechanical Code and the 1997 Uniform Mechanical Code. The TAGs held meetings over a three year period. All national and state-wide code changes were examined. The TAG findings were reviewed by ERAC. Based on this review, the council found that all changes proposed other than the measures specified in this report are editorial in nature and clarifications on nationally recognized standards which have minimal to no economic impact.

In accordance with the Regulatory Fairness Act, the above analysis demonstrates that the proposed rule would not place a disproportionate economic impact on small business when compared to large business. Based on the data received from the survey and the council's economic evaluation of potentially-impacted businesses, this analysis has determined that the "per-employee" cost of compliance for small business is approximately forty-five percent of the cost of compliance for large businesses.

A copy of the statement may be obtained by writing to Tim Nogler, Managing Director, State Building Code Council, P.O. Box 48300, Olympia, WA 98504-8300, phone (360) 586-0486, or FAX (360) 586-5880.

Section 201, chapter 403, Laws of 1995, does not apply to this rule adoption. The state Building Code Council is not listed in this section as one of the agencies required to comply with this regulation.

Hearing Location: On Friday, September 12, 1997, at 9:00 a.m., at the Radisson Hotel, Flight Lounge, 17001 Pacific Highway South, SeaTac, WA; and on Friday, October 10, 1997, at 9:00 a.m., at the Spokane City Hall, City Council Chambers, West 808 Spokane Falls Boulevard, Spokane, WA.

Assistance for Persons with Disabilities: Contact Krista Braaksma by September 1, 1997, TDD (360) 753-2200, or (360) 753-5927.

Submit Written Comments to: Mike McEnaney, Chair, State Building Code Council, P.O. Box 48300, Olympia, WA 98504-8300, FAX (360) 586-5880, by October 8, 1997.

Date of Intended Adoption: November 14, 1997.

August 8, 1997
Mike McEnaney
Chair

## Chapter 51-42 WAC
## STATE BUILDING CODE ADOPTION AND AMENDMENT OF THE 1997 EDITION OF THE UNIFORM MECHANICAL CODE

NEW SECTION

**WAC 51-42-001 Authority.** These rules are adopted under the authority of chapter 19.27 RCW.

NEW SECTION

**WAC 51-42-002 Purpose.** The purpose of these rules is to implement the provisions of chapter 19.27 RCW, which provides that the State Building Code council shall maintain the State Building Code in a status which is consistent with the purpose as set forth in RCW 19.27.020. In maintaining the codes the council shall regularly review updated versions of the codes adopted under the act, and other pertinent information, and shall amend the codes as deemed appropriate by the council.

NEW SECTION

**WAC 51-42-003 Uniform Mechanical Code.** The 1997 edition of the Uniform Mechanical Code published by the International Conference of Building Officials is hereby adopted by reference with the exceptions noted in this chapter of the Washington Administrative Code.

NEW SECTION

**WAC 51-42-004 Conflict between uniform mechanical code and state energy code chapter 51-11 WAC.** In the case of conflict between the duct sealing or insulation requirements of Section 601 or Section 604 of this code and the duct sealing or insulation requirements of chapter 51-11 WAC, the Washington State Energy Code, or where applicable, a local jurisdiction's energy code, the provisions of such energy codes shall govern.

NEW SECTION

**WAC 51-42-005 Conflict between uniform mechanical code and state ventilation and indoor air quality code chapter 51-13 WAC.** In the case of conflict between the Group R ventilation requirements of this code and the Group R ventilation requirements of chapter 51-13 WAC, the Washington State Ventilation and Indoor Air Quality Code, the provisions of the Ventilation and Indoor Air Quality Code shall govern.

NEW SECTION

**WAC 51-42-007 Exceptions.** The exceptions and amendments to the Uniform Mechanical Code contained in the provisions of chapter 19.27 RCW shall apply in case of conflict with any of the provisions of these rules.

The provisions of this code do not apply to temporary growing structures used solely for the commercial production of horticultural plants including ornamental plants, flowers, vegetables, and fruits. "Temporary growing structure" means a structure that has the sides and roof covered with polyethylene, polyvinyl, or similar flexible synthetic material and is used to provide plants with either frost protection or increased heat retention. A temporary growing structure is not considered a building for purposes of this code.

NEW SECTION

**WAC 51-42-008 Implementation.** The Uniform Mechanical Code adopted by chapter 51-42 WAC shall become effective in all counties and cities of this state on July 1, 1998.

NEW SECTION

**WAC 51-42-0200 Chapter 2—Definitions.**

NEW SECTION

**WAC 51-42-0223 Section 223—U. UNUSUALLY TIGHT CONSTRUCTION** is construction where:

1. Walls and ceilings exposed to the outside atmosphere have a continuous water vapor retarder with a rating of one perm or less with any openings gasketed or sealed, and

2. Weatherstripping on openable windows and doors, and

3. Caulking or sealants are applied to areas such as joints around window and door frames, between sole plates and floors, between wall-ceiling joints, between wall panels and at penetrations for plumbing, electrical, and gas lines and at other openings, or

4. Buildings built in compliance with the 1986 or later editions of the Washington State Energy Code WAC 51-11, Northwest Energy Code, or Super Good Cents weatherization standards or equivalent.

NEW SECTION

**WAC 51-42-0303 Section 303—Installation.**

**303.1.1 Prohibited installations.** No unvented or direct fired fuel-burning equipment shall be installed or used to provide comfort heating within any occupancy group other than Group F, S or U.

EXCEPTIONS: 1. Direct gas-fired makeup air heaters may be installed in accordance with Section 909.

2. Approved, unvented portable oil-fueled heaters may be used as a supplemental heat source in any Group B, F-2, M, R, or U Occupancy provided that such heaters shall not be located in any sleeping room or bathroom, and shall comply with RCW 19.27A.080, 19.27A.090, 19.27A.100, 19.27A.110, and 19.27A.120.

NEW SECTION

**WAC 51-42-0504 Environmental air ducts.**

**504.3.1 Moisture exhaust ducts.** Moisture exhaust ducts for domestic clothes dryers shall terminate on the outside of the building and shall be equipped with a back-draft damper. Screens shall not be installed at the duct termination. Ducts for exhausting clothes dryers shall not be connected or installed with sheet metal screws or other fasteners which will obstruct the flow. Clothes dryer moisture exhaust ducts shall not be connected to a gas vent connector, gas vent or chimney. Clothes dryer moisture exhaust ducts shall not extend into or through ducts or plenums. Clothes dryer exhaust ducts shall be protected by a steel plate or clip not less than 1/16 inch (1.59 mm) in thickness and of sufficient width to fully protect the duct. Plates or clips shall be placed on the finish face of all framing members which the clothes dryer exhaust duct passes through when there is less than one-and-one-quarter inch (1¼") (32 mm) of framing material between the duct and the finish face. Plates or clips shall also be placed where nails or screws from finish or other work are likely to penetrate the clothes dryer exhaust duct.

NEW SECTION

**WAC 51-42-0600 Chapter 6—Duct systems.**

NEW SECTION

**WAC 51-42-0601 Scope.**

**601.1 Material.** Supply air, return air, and outside air for heating, cooling, or evaporative cooling systems shall be conducted through duct systems constructed of metal as set forth in Tables 6-A, 6-B and 6-C; metal ducts complying with the U.M.C. Standard 6-2 with prior approval; or factory-made air ducts complying with U.M.C. Standard 6-1. Ducts, plenums, and fittings may be constructed of concrete, clay, ceramics, or other approved nonmetallic materials when installed in the ground or in a concrete slab, provided the joints are tightly sealed.

**601.1.1 Use of corridor as plenum.** Corridors shall not be used to convey air to or from rooms if the corridor is required to be of fire-resistive construction by Section 1005 of the Building Code.

EXCEPTIONS: 1. Where such air is part of an engineered smoke control system.

2. Corridors conforming to Section 1007.5 of the Uniform Building Code in Group I occupancies.

3. Corridors serving residential occupancies may be supplied without specific mechanical exhaust subject to the following:

3.1 The supply air is 100% outside air, and

3.2 The units served by the corridor have conforming ventilation independent of the air supplied to the corridor, and

3.3 For other than high-rise buildings, the supply fan will automatically shut off upon activation of corridor smoke detectors which shall be spaced at no more than 30 feet (9144 mm) on center along the corridor, or

3.4 For high-rise buildings, corridor smoke detector activation will close required smoke/fire dampers at the supply inlet to the corridor at the floor receiving the alarm.

PROPOSED

**601.3 Contamination Prevention.** Exhaust ducts under positive pressure and venting systems shall not extend into or pass through ducts or plenums. For appliance vents and chimneys, see Chapter 8.

EXCEPTION: Exhaust ducts conveying environmental air may pass through a duct or plenum provided that:

1. The duct is maintained under sufficient negative pressure to prevent leakage of the exhaust air to the surrounding duct or plenum; or
2. If maintained under a positive pressure with respect to the surrounding duct or plenum, the exhaust duct will be sealed to prevent leakage; or
3. The surrounding air stream is an exhaust air stream not intended for recirculation to the building and cross contamination of the two air streams will not create a hazardous condition.

NEW SECTION

**WAC 51-42-0605 Dampers in duct systems.**

**605.2 Fire Dampers.** Fire dampers complying with recognized standards in Chapter 16, Part III, shall be installed in accordance with approved manufacturer's instructions when required by Chapter 7 of the Building Code. Fire dampers shall have been tested for closure under airflow conditions and shall be labeled for both maximum airflow permitted and direction of flow. When more than one damper is installed at a point in a single air path, the entire airflow shall be assumed to be passing through the smallest damper area. Fire dampers shall be labeled by an approved agency. Only fire dampers labeled for use in dynamic systems shall be installed in heating, ventilation and air-conditioning systems which are intended to operate with fans "on" during a fire; see U.B.C. Section 713.12.

EXCEPTION: Fire dampers need not be installed in air ducts passing through the wall, floor, or ceiling separating a Group R, Division 3 Occupancy from a Group U Occupancy, provided such ducts within the Group U Occupancy are constructed of steel having a thickness not less than 0.019 inch (0.48 mm) (No. 26 galvanized sheet gage) and have no openings into the Group U Occupancy.

Ductwork shall be connected to damper sleeves or assemblies in such a way that collapse of the ductwork will not dislodge the damper or impair its proper operation.

NEW SECTION

**WAC 51-42-0901 Vented decorative appliances, decorative gas appliances for installation in solid-fuel-burning fireplaces, gas-fired log lighters, unvented decorative gas logs and decorative fireplaces.**

**901.4 Unvented decorative gas logs and decorative fireplaces.** Approved, unvented decorative gas logs and decorative fireplaces may be installed, used, maintained, and permitted to exist in any Group I or R Occupancy, except bathrooms and bedrooms. An unvented decorative gas log is a listed natural or liquefied petroleum gas burning log with an open flame consisting of a metal frame or base supporting simulated logs which is designed so that its primary function lies in the aesthetic effect of the logs and flame. An unvented decorative fireplace is a listed unvented gas log permanently installed in a freestanding enclosure or zero clearance enclosure designed and approved for installation in walls or other building structures. Unvented decorative gas logs and fireplaces shall:

1. Be equipped with an approved oxygen-depletion sensor;

2. Be listed;

3. Not be installed in any room which does not have an alternative primary source of heat;

4. Have free air volume of at least 50 cubic feet(1.4 $m^3$) for each 1,000 Btus (2.2 $mm^2/W$) of thermal output;

5. Be permanently installed; and

6. Not be equipped with or connected to any automatic ignition or shut-off device except the oxygen-depletion sensor.

NEW SECTION

**WAC 51-42-1000 Chapter 10—Boiler/water heaters.**

NEW SECTION

**WAC 51-42-1002 General.**

**1002.2 Water Heater Used for Space Heating.** The potability of the domestic water system shall be maintained when a water heater is used as a part of a space heating system.

Water heaters used for space heating only are prohibited.

NEW SECTION

**WAC 51-42-1004 Safety devices. This section is not adopted.**

For safety devices and installation of water heaters, see the Plumbing Code.

NEW SECTION

**WAC 51-42-1005 Steam and hot-water boilers. Part II—Steam and Hot-water Boilers, Sections 1005 through 1029 and Table 10-A through Table 10-C, are not adopted.**

Boilers and Unfired Pressure Vessels are regulated by chapter 70.79 RCW and chapter 296-104 WAC.

NEW SECTION

**WAC 51-42-1100 Chapter 11—Refrigeration.**

NEW SECTION

**WAC 51-42-1101 General.**

**1101.1 Scope.** This chapter shall govern the design, installation, construction and repair of refrigeration systems that vaporize and liquefy a fluid during the refrigerating cycle. Refrigerant piping design and installation, including pressure vessels and pressure relief devices, shall conform to this code. Permanently installed refrigerant storage systems and other components shall be considered as part of the refrigeration system to which they are attached.

**1101.2 Factory-built equipment.** Listed and labeled self-contained, factory-built equipment shall be tested in accordance with UL 207, 303, 412, 465, 471 or 1995.

**1101.3 Protection.** Any portion of a refrigeration system that is subject to physical damage shall be protected in an approved manner.

**1101.4 Water connection.** Water supply and discharge connections associated with refrigeration systems shall be made in accordance with this code and the plumbing code.

**1101.5 Gas connection.** Gas fuel devices and equipment used with refrigeration systems shall be installed in accordance with this code.

**1101.6 General.** Refrigeration systems shall comply with the requirements of this code and, except as modified by this code, ASHRAE 15-1994. Ammonia-refrigerating systems shall comply with this code and, except as modified by this code, ASHRAE 15-1994 and IIAR 2-1992.

NEW SECTION

**WAC 51-42-1102 System requirements.**

**1102.1 General.** The system classification, allowable refrigerants, the maximum quantity, enclosure requirements, location limitations and field pressure test requirements, shall be determined as follows:

1. Determine the refrigeration system's classification in accordance with Section 1103.

2. Determine the refrigerant classification in accordance with Table 1104.1.

3. Determine the maximum allowable quantity of refrigerant in accordance with Table 1104.2(1), based on type of refrigerant, system classification and occupancy.

4. Determine the system enclosure requirements in accordance with Table 1104.2(1).

5. Refrigeration equipment location and installation shall be subject to the limitations of Chapter 3.

6. Nonfactory-tested, field-erected equipment shall be pressure tested in accordance with Section 1108.

**1102.2 Refrigerants.** Refrigerants not identified in Table 1104.1 shall be appr ved before use. Refrigerants (including refrigerant blends) with different designations in ASHRAE 34-1992, with addenda through 1995, shall not be mixed in a system.

**1102.2.1 New refrigerants.** Refrigerants used in new equipment shall be of a type and purity level specified or approved by the equipment manufacturer.

**1102.2.2 Recovered refrigerants.** Refrigerants that are recovered from refrigeration and air-conditioning systems shall not be reused in other than the system from which they were recovered and in other systems of the same owner. Recovered refrigerants shall be filtered and dried before reuse. Recovered refrigerants that show clear signs of contamination shall not be reused unless reclaimed in accordance with Section 1102.2.3.

**1102.2.3 Reclaimed refrigerants.** Used refrigerants shall not be reused in a different owner's equipment unless reclaimed and found to meet the purity requirements of ARI 700-1993. Contaminated refrigerants shall not be used in the same owner's equipment or in a different owner's equipment unless reclaimed and found to meet the purity requirements of ARI 700-1993.

NEW SECTION

**WAC 51-42-1103 Refrigeration system classification.**

**1103.1 General.** For the purposes of applying Tables 1104.1, 1104.2(1), and 1104.2(2), refrigeration systems shall be classified as high-probability or low-probability system based on the potential hazard resulting from a leakage of refrigerant into an occupancy-classified area other than the machinery room.

**1103.2 High-probability systems.** Direct systems and indirect open-spray systems shall be classified as high-probability systems.

EXCEPTION: An indirect open-spray system shall not be required to be classified as a high-probability system if the pressure of the secondary coolant is at all times (operating and standby) greater than the pressure of the refrigerant.

**1103.3 Low-probability systems.** Double-indirect open-spray systems, indirect closed systems and indirect-vented closed systems shall be classified as low-probability systems, provided that all refrigerant-containing piping and fittings are isolated when the quantities in Table 1104.1 are exceeded.

PROPOSED

PROPOSED

NEW SECTION

**WAC 51-42-1104 Refrigerant classification and system requirements.**

**1104.1 Refrigerant classification.** Refrigerants shall be classified in accordance with ASHRAE 34-1992, with addenda through 1995, as listed in Table 1104.1.

TABLE 1104.1
REFRIGERANT[a] CLASSIFICATION, AMOUNT[b,c,e] AND TLV-TWA[f]

| REFRIGERANT DESCRIPTION | | | AMOUNT OF REFRIGERANT PER OCCUPIED SPACE | | | TLV[f] TWA ppm |
|---|---|---|---|---|---|---|
| Refrigerant Classification | Name or Blend | Chemical Formula | Lb per 1,000 ft³[d] | ppm | g/m³[c] | |
| **Group A1** | | | | | | |
| R-11 | Trichlorofluoromethane | $CCl_3F$ | 1.6 | 4,000 | 250 | C1,000 |
| R-12 | Dichlorodifluoromethane | $CCl_2F_2$ | 12 | 40.000 | 200 | 1,000 |
| R-13 | Chlorotrifluoromethane | $CClF_3$ | 18 | 67,000 | 290 | 1,000 |
| R-13B1 | Bromotrifluoromethane | $CBrF_3$ | 22 | 57.000 | 350 | 1,000 |
| R-14 | Tetrafluoromethane (Carbon Tetrafluoride) | $CF_4$ | 15 | 67,000 | 240 | 1,000 |
| R-22 | Chlorodifluoromethane | $CHClF_2$ | 9.4 | 42,000 | 150 | 1,000 |
| R-113 | 1,1,2-trichloro-1, 2, 2-trifluoroethane | $CCl_2FCClF_2$ | 1.9 | 4,000 | 31 | 1,000 |
| R-114 | 1,2-dichloro-1,1, 2, 2-tetrafluoroethane | $RCClF_2CClF_2$ | 9.4 | 21,000 | 150 | 1,000 |
| R-115 | Chloropentafluoroethane | $CClF_2CF_3$ | 27 | 67,000 | 430 | 1,000 |
| R-134a | 1,1,1,2-Tetrafluoroethane | $CH_2FCF_3$ | 16 | 60,000 | 250 | 1,000 |
| R-C318 | Octafluorocyclobutane | $-CF_2-CF_2-CF_2-CF_2-$ | 35 | 67,000 | 550 | 1,000 |
| R-400 | R-12/R-114 | $CCL_2F_2/CCl_2FCClF_2$ | Note d | Note d | Note d | 1,000 |
| R-500 | R-12/152a(73.8/26.2) | $CCl_2F_2/CH_3CHF_2$ | 12 | 47,000 | 200 | 1,000 |
| R-502 | R-22/115(48.8/51.2) | $CHClF_2/CC\,lF_2CF_3$ | 19 | 65,000 | 300 | 1,000 |
| R-503 | R-23/13(40.1/59.9) | $CHF_3/CClF_3$ | 15 | 67,000 | 240 | 1,000 |
| R-744 | Carbon Dioxide | $CO_2$ | 5.7 | 50,000 | 91 | 5,000 |
| **Group A2** | | | | | | |
| R-142b | 1-chloro-1, 1 -Difluoroethane | $CH_3CClF_2$ | 3.7 | 14,000 | 60 | 1,000 |
| R-152a | 1, 1-Difluoroethane | $CH_3CHF_2$ | 1.2 | 7,000 | 20 | 1,000 |
| **Group A3[g]** | | | | | | |
| R-170 | Ethane | $CH_3CH_3$ | 0.50 | 6,400 | 8.0 | 1,000 |
| R-290 | Propane | $CH_3CH_2CH_3$ | 0.50 | 4,400 | 8.0 | 1,000 |
| R-600 | Butane | $CH_3CH_2CH_2CH_3$ | 0.51 | 3,400 | 8.2 | 800 |
| R-600a | 2-Methyl propane (Isobutane) | $CH(CH_3)_2-CH_3$ | 0.51 | 3,400 | 8.2 | 800 |
| R-1150 | Ethene (Ethylene) | $CH_2=CH_2$ | 0.38 | 5,200 | 6.0 | 1,000 |
| R-1270 | Propene (Propylene) | $CH_3CH=CH_2$ | 037 | 3,400 | 5.0 | 1,000 |
| **Group B1** | | | | | | |
| R-123 | 2, 2-Dichloro-1, 1, 1-Trifluorethane | $CHCl_2CF_3$ | 0.4 | 1,000 | 6.3 | 30 |
| R-764 | Sulfur Dioxide | $SO_2$ | 0.016 | 100 | 0:26 | 2 |
| **Group B2** | | | | | | |
| R-40 | Chloromethane (methyl chloride) | $CH_3Cl$ | 1.3 | 10,000 | 21.0 | C50 |
| R-611 | Methyl Formate | $HCOOCH_3$ | 0.78 | 5,000 | 12.0 | 100 |
| R-717 | Ammonia | $NH_3$ | 0.022 | 500 | 0.35 | 25 |
| **Group B3[g]** | — | — | — | — | — | — |

For SI: 1 pound = 0.454 kg, 1 cubic foot = 0.0283 m³.

[a] Other refrigerants shall be approved.

[b] To be used only in conjunction with footnotes from Table 1104.2(1).

[c] To correct for height, $H$ (feet), above sea level, multiply these values by $(1 - 2.42 \times 10^{-6}H)$. To correct for height, $h$ (km), above sea level, multiply these values by $(1 - 7.94 \times 10^{-2}h)$. Do not adjust volume percent or TLV-TWA (ppm) for altitude.

[d] The quantity of each component shall comply with the limits set in Table 1104.1 for the pure compound and the total volume percent of all components shall not exceed 6.7 volume percent.

[e] The basis of the table amounts is given as follows:

| | |
|---|---|
| Group A1 | Eighty percent of the cardiac sensitization level for R-11, R-12, R-13B1, R-22, R-113, R-114, R-134a, R-500 and R-502. One-hundred percent of the IDLH for R-744. Others are limited by levels where oxygen deprivation begins to occur. |
| Group A2, A3 | Approximately 20 percent of LFL. |
| Group B1 | One hundred percent of IDLH for R-764, and 100 percent of the measure consistent with the IDLH for R-123. |
| Group B2, B3 | One hundred percent of IDLH or 20 percent of LFL, whichever is lower. |

[f] TLV-TWA or measure consistent therewith to be used with Section 1104. The values shown for R-11 and R-40 are TLV-C (TLV-ceiling) values not to be exceeded.

[g] Group A3 and B3 refrigerants as listed in Table 1104.1 shall not be used in a refrigerating system in excess of 1,000 pounds, unless approved by the code official.

**1104.2 System requirements.** The maximum allowable refrigerant quantities shall be in accordance with Table 1104.2(1). To use Table 1104.2(1), determine the occupancy class, refrigerant group in accordance with Table 1104.1 and type of system in accordance with Section 1103, and then locate the notes that apply.

**1104.2.1 Occupancy classification.** Locations of refrigerating systems are described by occupancy classifications that consider the ability of people to respond to potential exposure to refrigerant. Where equipment, other than piping, is located outside a building and within 20 feet (6096 mm) of any building opening, such equipment shall be governed by the occupancy classification of the building. Occupancy classifications shall be defined as follows:

1. Institutional occupancy is that portion of premises from which, because they are disabled, debilitated or confined, occupants cannot readily leave without the assistance of others. Institutional occupancies include, among others, hospitals, nursing homes, asylums and spaces containing locked cells.
2. Public assembly occupancy is that portion of premises where large numbers of people congregate and from which occupants cannot quickly vacate the space. Public assembly occupancies include, among others, auditoriums, ballrooms, classrooms, passenger depots, restaurants and theaters.
3. Residential occupancy is that portion of premises that provides the occupants with complete independent living facilities, including permanent provisions for living, sleeping, eating, cooking and sanitation. Residential occupancies include, among others, dormitories, hotels, multi-unit apartments and private residences.
4. Commercial occupancy is that portion of premises where people transact business, receive personal service or purchase food and other goods. Commercial occupancies include, among others, office and professional buildings, markets (but not large mercantile occupancies) and work or storage areas that do not qualify as industrial occupancies.
5. Large mercantile occupancy is that portion of premises where more than 100 persons congregate on levels above or below street level to purchase personal merchandise.
6. Industrial occupancy is that portion of premises that is not open to the public, where access by authorized persons is controlled, and that is used to manufacture, process or store goods such as chemicals, food, ice, meat or petroleum.
7. Mixed occupancy occurs when two or more occupancies are located within the same building. When each occupancy is isolated from the rest of the building by tight walls, floors and ceilings and by self-closing doors, the requirements for each occupancy shall apply to its portion of the building. When the various occupancies are not so isolated, the occupancy having the most stringent requirements shall be the governing occupancy.

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TABLE 1104.2(1)
SYSTEM APPLICATION REQUIREMENTS
(Letters in the table under "Occupancy" refer to footnotes.
Where more than one footnote exists, each footnote is a limitation on the other.)
(For system and refrigerant classifications see Section 1103 and Table 1104.1.)

| REFRIGERANT GROUP | SYSTEM CLASSIFICATION | OCCUPANCY[d] | | |
|---|---|---|---|---|
| | | Institutional | Public assembly, residential, commercial and large mercantile | Industrial |
| A1 | High<br>Low | a<br>d | b<br>d | c<br>d |
| A2 | High<br>Low | e<br>g | e<br>g | c, f, h<br>g |
| A3 | High<br>Low | i<br>i | i<br>i | c, f, h<br>g |
| B1 | High<br>Low | a, f<br>d | b, f<br>d | c<br>d |
| B2 | High<br>Low | e, f<br>g | e, f<br>g | c, f, h<br>g |
| B3 | High<br>Low | i<br>i | i<br>i | c, f, h<br>g |

For SI: 1 square foot = 0.0929 $m^2$, 1 pound = 0.454 kg.

[a] The refrigerant amount is limited to 50 percent of those listed in Table 1104.1, except Footnote b applies in kitchens, laboratories and mortuaries. If any portion of a refrigerant system containing more than 1 pound of refrigerant (except R-744) is in a room with a flame-sustaining device, this device shall be provided with a hood to exhaust combustion products to the outside air. Otherwise Footnotes e and f shall be followed.

[b] The refrigerant amount shall be limited as listed in Table 1104.1.

[c] The refrigerant amount shall be unlimited when all of the following are satisfied:

1. The area containing machinery is separated from the areas of the building not containing machinery by tight construction with tight-fitting doors;
2. Egress from the room is directly outdoors;
3. The number of persons in a machinery-containing space on any floor above the first floor (ground level or deck level) is equal to or less than one person per 100 square feet of floor area or, if the number exceeds one person per 100 square feet, the machinery-containing space shall be provided with the required number of doors opening directly into approved building exits; and
4. Detectors are located in areas where refrigerant vapor from a leak will concentrate so as to provide warning at levels not exceeding the TLV-TWA quantities given in Table 1104.1. Otherwise, the footnotes for other occupancies shall apply.

**Exception:** For ammonia, see Section 1106.8.

[d] When the quantity of refrigerant in the largest system exceeds the amounts in Table 1104.1, all refrigerant-containing parts, except piping and those parts outside the building, shall be installed in a machinery room meeting the general requirements of Section 1105.

[e] Refrigerant amounts and types of systems shall be limited as shown in Table 1104.2(2).

[f] Applications involving air conditioning for human comfort are prohibited.

[g] When the quantity of refrigerant in the largest system exceeds the amounts in Table 1104.1, all refrigerant-containing parts, except piping and those parts outside the building, shall be installed in a special requirements machinery room in accordance with Section 1106 with limitations on refrigerant quantities as follows:

550 pounds — Institutional

No limit except Footnote h — Public Assembly

No limit except Footnote h — Residential

No limit except Footnote h — All other occupancies

No limit except Footnote h — Industrial

Otherwise, Footnote e applies to the amount of Group A2, A3, B2 or B3 refrigerant in the system.

[h] When the quantity of refrigerant exceeds Table 1104.1 amounts, all refrigerant-containing parts, except piping, low-side components, condensers, and parts outside the building, shall be installed in a machinery room meeting the general requirements in Section 1105. For refrigerants of Groups A2, A3, B2 and B3:

1. The machinery room shall also meet the special requirements of Section 1106.
2. Except for ammonia, amounts in excess of 1,100 pounds shall be approved by the code official.

[i] Use of these refrigerants is prohibited, except in laboratories in commercial occupancies. Only unit systems containing not more than 6.6 pounds of Group A3 or B3 refrigerant shall be used unless the laboratory is occupied by less than one person per 100 square feet of floor area, in which case the requirements of industrial occupancies shall apply.

TABLE 1104.2(2)
MAXIMUM PERMISSIBLE QUANTITIES OF REFRIGERANTS
[For Use With Footnote e of Table 1104.2(1)]

| TYPE OF REFRIGERATION SYSTEM | MAXIMUM POUNDS FOR VARIOUS OCCUPANCIES | | | |
|---|---|---|---|---|
| | Institutional | Assembly | Residential | All other occupancies |
| **Sealed Absorption System** | | | | |
| In exit access | 0 | 0 | 3.3 | 3.3 |
| In adjacent outdoor locations | 0 | 0 | 22 | 22 |
| In other than exit access | 0 | 6.6 | 6.6 | 22 |
| **Unit Systems** | | | | |
| In other than exit access | 0 | 0 | 6.6 | 22 |

For SI: 1 pound = 0.454 kg.

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**1104.3 Volume calculations.** Volume calculations shall be in accordance with Sections 1104.3.1 through 1104.3.3.

**1104.3.1 Unventilated spaces.** Where the refrigerant-containing parts of a system are located in one or more unventilated spaces, the volume of the smallest, enclosed occupied space, other than a machinery room, shall be used to determine the permissible quantity of refrigerant in the system. Where a building consists of several stories of unpartitioned space, such as a mezzanine or an atrium, the story having the smallest occupied space shall be deemed to be the enclosed space.

**1104.3.2 Ventilated spaces.** Where an evaporator or condenser is located in an air duct system, the volume of the smallest occupied space or unpartitioned building story, served by the duct shall be used to determine the maximum allowable quantity of refrigerant in the system.

EXCEPTION: If airflow to any enclosed space cannot be reduced below one-quarter of its maximum, the entire space served by the air duct system shall be used to determine the maximum allowable quantity of refrigerant in the system.

**1104.3.3 Plenums.** Where the space above a suspended ceiling is continuous and part of the supply or return air plenum system, this space shall be included in calculating the volume of the enclosed space.

NEW SECTION

**WAC 51-42-1105 Machinery room, general requirements.**

**1105.1 General.** Where required by Table 1104.2(1), a machinery room shall be provided to enclose refrigeration systems located indoors. Access to the machinery room shall be restricted to authorized personnel. For rooms where occupational exposure could occur, see WAC 296-62-07515 and 296-62-3112.

**1105.2 Dimensions.** A machinery room shall be dimensioned so as to provide clearances required by Chapter 3. There shall be clear head room of not less than 7 feet 3 inches (2210 mm) below equipment located over passageways.

**1105.3 Doors.** Each machinery room shall have self-closing, weather-stripped doors opening in the direction of egress travel. Doors and door openings shall comply with the requirements of the Building Code.

**1105.4 Openings.** Openings to other parts of the building that permit passage of escaping refrigerant to other parts of the building are prohibited. Ducts and air handlers in the machinery room that operate at a lower pressure than the room shall be sealed to prevent any refrigerant leakage from entering the airstream.

EXCEPTIONS: 1. Egress doors serving the machinery room.
2. Access doors and panels in air ducts and air-handling units, provided that such openings are gasketed and tight fitting.

**1105.5 Refrigerant vapor detector.** Machinery rooms shall contain a refrigerant vapor detector with an audible and visual alarm. The detector, or a sampling tube that draws air to the detector, shall be located in an area where refrigerant vapor from a leak will concentrate. The alarm shall be actuated at a value not greater than the corresponding TLV-TWA values shown in Table 1104.1. Detectors and alarms shall be placed in approved locations. Detection and alarm systems shall be powered and supervised, monitored and annunciated, and installed and maintained as required by Section 6313 of the Fire Code.

EXCEPTION: Detectors are not required for ammonia systems complying with Section 1106.8.

**1105.6 Tests.** Periodic tests of the detector, alarm and mechanical ventilating system shall be performed in accordance with manufacturer's specifications and as required by the code official.

**1105.7 Fuel-burning equipment.** Open flames that use combustion air from the machinery room shall not be installed in a machinery room.

EXCEPTIONS: 1. Matches, lighters, halide leak detectors and similar devices.
2. Where the refrigerant is carbon dioxide or water.
3. Fuel-burning equipment shall not be prohibited in the same machinery room with refrigerant-containing equipment where combustion air is ducted from outside the machinery room and sealed in such a manner as to prevent any refrigerant leakage from entering the combustion chamber, or where a refrigerant vapor detector is employed to automatically shut off the combustion process in the event of refrigerant leakage.

**1105.8 Sign.** A sign shall be posted on the machinery room door prohibiting access of unauthorized personnel.

**1105.9 Ventilation.** Machinery rooms shall be mechanically ventilated to the outdoors. Mechanical ventilation shall be capable of exhausting the minimum quantity of air both at the normal operating and emergency conditions. Multiple

fans or multispeed fans shall be allowed in order to produce the emergency ventilation rate and to obtain a reduced airflow for normal ventilation. Fans providing refrigeration machinery room temperature control or automatic response to refrigerant vapor are allowed to be automatically controlled to provide intermittent ventilation as conditions require.

EXCEPTION: Where a refrigerating system is located outdoors more than 20 feet (6096 mm) from any building opening and is enclosed by a penthouse, lean-to or other open structure, natural or mechanical ventilation shall be provided. Location of the openings shall be based on the relative density of the refrigerant to air. The free-aperture cross section for the ventilation of the machinery room shall be not less than:

$$F = \ddot{O}G$$

For SI: $F = 0.138\ddot{O}G$

where:

F = the free opening area in square feet ($m^2$).

G = the mass of refrigerant in pounds (kg) in the largest system, any part of which is located in the machinery room.

**1105.9.1 Discharge location.** The discharge of the air shall be to the outdoors in accordance with Chapter 5. Exhaust from mechanical ventilation systems shall be discharged not less than 20 feet (6096 mm) from a property line or openings into buildings.

**1105.9.2 Supply air.** Provisions shall be made for supply air to replace that being exhausted. Openings for supply air shall be located to avoid intake of exhaust air. Air supply and exhaust ducts to the machinery room shall serve no other area, shall be constructed in accordance with Chapter 5 and shall be covered with corrosion-resistant screen of not less than 1/4 inch (6.4 mm) mesh. The supply air shall be taken from directly outside the building. Intakes shall be fitted with backdraft dampers or similar approved flow control means to prevent reverse flow.

**1105.9.3 Quantity—normal ventilation.** During occupied conditions the mechanical ventilation system shall exhaust the larger of the following:

1. Not less than 0.5 cfm per square foot (0.0025 $m^3/s \cdot m^2$) of machinery room area or 20 cfm (0.009 $m^3/s$) per person; or
2. A volume required to maintain a maximum temperature rise of 18°F (-7.8°C) based on all of the heat-producing machinery in the room.

**1105.9.4 Quantity—emergency conditions.** Upon actuation of the refrigerant detector required in Section 1105.5, the mechanical ventilation system shall exhaust air from the machinery room in the following quantity:

$$Q = 100 \times \ddot{O}G$$

For SI: $Q = 0.07 \times \ddot{O}G$

where:

Q = the airflow in cubic feet per minute ($m^3/s$).

G = the design mass of refrigerant in pounds (kg) in the largest system, any part of which is located in the machinery room.

**1105.10 Termination of relief devices.** In the equipment room, pressure relief devices, fusible plugs and purge systems shall terminate outside of the structure at a location not less than 15 feet (4572 mm) above the adjoining grade level and not less than 20 feet (6096 mm) from any window, ventilation opening or exit.

NEW SECTION

**WAC 51-42-1106 Machinery room, special requirements.**

**1106.1 General.** Where required by Table 1104.2(1), the machinery room shall meet the requirements of this section in addition to the requirements of Section 1105.

**1106.2 Elevated temperature.** There shall not be an open flame-producing device or continuously operating hot surface over 800°F (427°C) permanently installed in the room.

**1106.3 Construction requirements.** The machinery room shall be separated from other occupied space with smoke-tight, 1-hour fire-resistance-rated construction.

**1106.4 Opening protectives.** Opening protection between the machinery room and other occupied spaces shall be approved, self-closing, tight-fitting fire doors with a minimum fire-resistance-rating of 3/4 hour.

**1106.5 Pipe penetrations.** All pipe penetrations of the interior walls, ceiling or floor of machinery rooms shall be sealed vapor tight and protected in accordance with the Building Code.

**1106.6 Exterior openings.** Openings in exterior walls of machinery rooms shall not be located under any exit, stairway or exit discharge.

**1106.7 Egress.** Means of egress shall comply with Section 1007.7 of the Building Code.

Each machinery room shall be provided with a minimum of one exit door that opens directly to the outside.

EXCEPTION: Self-closing, tight-fitting doors opening into a vestibule leading directly outside.

**1106.8 Ammonia room ventilation.** Ventilation equipment in ammonia machinery rooms shall be operated continuously.

EXCEPTIONS: 1. Machinery rooms equipped with a refrigerant vapor detector that will automatically start the ventilation system and actuate an alarm at a detection level not to exceed 1,000 ppm; or

2. Machinery rooms conforming to the Class 1, Division 2, hazardous location classification requirements of NFPA 70.

**1106.9 Flammable refrigerants.** Where refrigerants of Groups A2, A3, B2 and B3 are used, the machinery room shall conform to the Class 1, Division 2, hazardous location classification requirements of NFPA 70.

EXCEPTION: Ammonia machinery rooms.

**1106.10 Remote controls.** Remote control of the mechanical equipment located in the machinery room shall be provided at an approved location immediately outside the machinery room and adjacent to its principal entrance.

**1106.10.1 Refrigeration system.** A clearly identified switch of the break-glass-type shall provide off-only control of all electrically energized equipment in the machinery room, other than the refrigerant leak detectors and machinery room ventilation.

**1106.10.2 Ventilation system.** Mechanical ventilation systems shall have switches to control power to each fan. The switches shall be key operated or within a locked glass-covered enclosure at an approved location adjacent to and outside of the principal entrance to the machinery room. Necessary keys shall be located in a single approved location. Switches controlling fans providing intermittent or emergency ventilation shall be of the three-position, automatic/on/off type. Switches shall be labeled identifying both function and specific fan controlled. Two-colored and labeled indicator lamps responding to the differential pressure created by the air flow shall be provided for each switch. One lamp shall indicate flow, the other shall indicate no flow.

**1106.10.3 Emergency control box.** An emergency control box shall be provided as required by IIAR 2-1992 Section 5.4. Emergency control boxes shall be designed and constructed to the standards of IIAR 2-1992 Appendix A except as modified by Section 6307 of the Fire Code.

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NEW SECTION

**WAC 51-42-1107 Refrigerant piping.**

**1107.1 General.** All refrigerant piping shall be installed, tested and placed in operation in accordance with this chapter.

**1107.2 Pipe enclosures.** Rigid or flexible metal enclosures or pipe ducts shall be provided for soft, annealed copper tubing and used for refrigerant piping erected on the premises and containing other than Group A1 or B1 refrigerants. Enclosures shall not be required for connections between condensing units and the nearest riser box(es), provided such connections do not exceed 6 feet (1829 mm) in length.

**1107.3 Condensation.** All refrigerating piping and fittings, brine piping and fittings that, during normal operation, will reach a surface temperature below the dew point of the surrounding air, and are located in spaces or areas where condensation will cause a safety hazard to the building occupants, structure, electrical equipment or any other equipment, shall be protected in an approved manner to prevent such damage.

**1107.4 Materials for refrigerant pipe and tubing.** Piping materials shall be as set forth in Sections 1107.4.1 through 1107.4.5.

**1107.4.1 Steel pipe.** Carbon steel pipe with a wall thickness not less than Schedule 80 shall be used for Group A2, A3, B2 or B3 refrigerant liquid lines for sizes 1 1/2 inches (38 mm) and smaller. Carbon steel pipe with a wall thickness not less than Schedule 40 shall be used for Group A1 or B1 refrigerant liquid lines 6 inches (152 mm) and smaller, Group A2, A3, B2 or B3 refrigerant liquid lines sizes 2 inches (51 mm) through 6 inches (152 mm), and all refrigerant suction and discharge lines 6 inches (152 mm) and smaller. Type F steel pipe shall not be used for refrigerant lines having an operating temperature less than -20°F (-29°C).

**1107.4.2 Copper and brass pipe.** Standard iron-pipe size, copper and red brass (not less than 80 percent copper) pipe shall conform to ASTM B 42 and ASTM B 43.

**1107.4.3 Copper tube.** Copper tube used for refrigerant piping erected on the premises shall be seamless copper tube of Type ACR (hard or annealed) complying with ASTM B 280. Where approved, copper tube for refrigerant piping erected on the premises shall be seamless copper tube of Type K, L or M (drawn or annealed) in accordance with ASTM B 88. Annealed temper copper tube shall not be

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used in sizes larger than a 2-inch (51 mm) nominal size. Mechanical joints shall not be used on annealed temper copper tube in sizes larger than 7/8-inch (22 mm) OD size.

**1107.4.4 Copper tube joints.** Copper tubing joints used in refrigerating systems containing Group A2, A3, B2 or B3 refrigerants shall be brazed. Soldered joints shall not be used in such refrigerating systems.

**1107.4.5 Aluminum tube.** Type 3003-0 aluminum tubing with high-pressure fittings shall not be used with methyl chloride and other refrigerants known to attack aluminum.

**1107.5 Joints and refrigerant-containing parts in air ducts.** Joints and all refrigerant-containing parts of a refrigerating system located in an air duct of an air-conditioning system carrying conditioned air to and from humanly occupied space shall be constructed to withstand, without leakage, a pressure of 150 percent of the higher of the design pressure or pressure relief device setting.

**1107.6 Exposure of refrigerant pipe joints.** Refrigerant pipe joints erected on the premises shall be exposed for visual inspection prior to being covered or enclosed.

**1107.7 Stop valves.** All systems containing more than 6.6 pounds (3 kg) of a refrigerant in systems using positive-displacement compressors, shall have stop valves installed as follows:

1. At the inlet of each compressor, compressor unit or condensing unit.
2. At the discharge outlet of each compressor, compressor unit or condensing unit and of each liquid receiver.

EXCEPTIONS:
1. Systems that have a refrigerant pumpout function capable of storing the entire refrigerant charge in a receiver or heat exchanger.
2. Systems that are equipped with provisions for pumpout of the refrigerant using either portable or permanently installed recovery equipment.
3. Self-contained systems.

**1107.7.1 Liquid receivers.** All systems containing 100 pounds (45 kg) or more of a refrigerant, other than systems utilizing nonpositive displacement compressors, shall have stop valves, in addition to those required by Section 1107.7, on each inlet of each liquid receiver. Stop valves shall not be required on the inlet of a receiver in a condensing unit, nor on the inlet of a receiver which is an integral part of the condenser.

**1107.7.2 Copper tubing.** Stop valves used with soft annealed copper tubing or hard-drawn copper tubing 7/8-inch (22 mm) OD standard size or smaller shall be securely mounted, independent of tubing fastenings or supports.

**1107.7.3 Identification.** Stop valves shall be identified where their intended purpose is not obvious. Numbers shall not be used to label the valves, unless a key to the numbers is located near the valves.

NEW SECTION

**WAC 51-42-1108 Field test.**

**1108.1 General.** Every refrigerant-containing part of every system that is erected on the premises, except compressors, condensers, vessels, evaporators, safety devices, pressure gauges and control mechanisms that are listed and factory tested, shall be tested and proved tight after complete installation, and before operation. Tests shall include both the high- and low-pressure sides of each system at not less than the lower of the design pressures or the setting of the pressure-relief device(s). The design pressures for testing shall be those listed on the condensing unit, compressor or compressor unit nameplate, as required by ASHRAE 15-1994.

EXCEPTIONS:
1. Gas bulk storage tanks that are not permanently connected to a refrigeration system.
2. Systems erected on the premises with copper tubing not exceeding 5/8-inch (16 mm) OD, with wall thickness as required by ASHRAE 15-1994, shall be tested in accordance with Section 1108.1, or by means of refrigerant charged into the system at the saturated vapor pressure of the refrigerant at 70°F (21°C) or higher.
3. Limited-charge systems equipped with a pressure relief device, erected on the premises, shall be tested at a pressure not less than one and one-half times the pressure setting of the relief device. If the equipment has been tested by the manufacturer at one and one-half times the design pressure, the test after erection on the premises shall be conducted at the design pressure.
4. Where a compressor is used as a booster to obtain an intermediate pressure and discharges into the suction side of another compressor, the booster compressor shall be considered a part of the low side, provided that it is protected by a pressure relief device.
5. In field-testing systems using centrifugal or other nonpositive displacement compressors, the entire system shall be considered as the low-side pressure for field test purposes.

**1108.2 Test gases.** Tests shall be performed with an inert dried gas including, but not limited to, nitrogen or carbon dioxide. Oxygen, air, toxic or combustible gases, and mixtures containing such gases, shall not be used.

**1108.3 Test apparatus.** The means used to build up the test pressure shall have either a pressure-limiting device or a pressure-reducing device and a gauge on the outlet side.

**1108.4 Declaration.** A certificate of test shall be provided for all systems containing 55 pounds (25 kg) or more of refrigerant. The certificate shall give the name of the refrigerant and the field test pressure applied to the high side and the low side of the system. The certification of test shall be signed by the installer and shall be made part of the public record.

NEW SECTION

**WAC 51-42-1311 Material for gas piping.**

**1311.1 General.** Pipe and tubing used for the installation, extension, alteration or repair of gas piping shall be standard weight wrought iron or steel (galvanized or black), yellow brass, seamless copper tubing, threaded copper, brass, internally tinned copper tubing, or listed Corrugated Stainless Steel Tubing (CSST). Seamless copper tubing may be used for gas piping provided that it conforms with ASTM B 88 (Type K or Type L), ASTM B 280 (Type ACR), or ASTM B 837 (Type G). Copper tubing, copper and brass pipe shall not be used if the gas contains more than an average of 0.3 grains of hydrogen sulfide per 100 standard cubic feet of gas. CSST may be permitted provided that it is part of a system listed by an approved agency as complying with the

reference standard listed in Chapter 16, Part III. Approved PE pipe may be used in exterior buried piping systems.

**1311.3 Fittings.** All fittings shall be approved for gas piping systems. The fittings shall be compatible with or shall be of the same material as the pipe or tubing. Fittings used in connection with the piping shall be of malleable iron, brass, bronze, copper, or approved plastic fittings. All fittings and components used with Corrugated Stainless Steel Tubing (CSST) shall be of the same listed system. Fittings used with copper or brass pipe shall be copper, brass, bronze or 45 degree flare fittings.

NEW SECTION

**WAC 51-42-1312 Installation of gas piping.**

**1312.1 Joints.** Joints in the piping system, unless welded, brazed or flared, shall be threaded joints having approved standard threads. The threaded joints shall be made with approved pipe joint material, insoluble in fuel gas and applied to the male threads only. Welded joints in a gas-supply system shall be made by an approved, qualified welder. See Section 218. Brazing material shall have a melting point in excess of 1,000°F (520°C) and shall not contain more than 0.05 percent phosphorous.

**1312.3 Piping through foundation wall.** Underground piping, where installed below grade through the outer foundation or basement wall of a building, shall be encased in a protective pipe. The annular space between the gas piping and the sleeve shall be sealed at the foundation or basement wall to prevent entry of gas or water.

Existing walls shall be core drilled and sealed with an approved mechanical seal.

**1312.6 Corrosion and covering protection.** Metallic gas piping systems installed underground in exterior locations shall be protected from corrosion by approved coatings or wrapping materials applied in an approved manner, and cathodically protected in accordance with NACE RP-01-69. Horizontal metallic piping shall have at least 12 inches (305 mm) of earth cover or equivalent protection. Plastic gas piping shall have at least 18 inches (457 mm) of earth cover or equivalent protection. Risers, including prefabricated risers inserted with plastic pipe, shall be metallic and shall be protected in an approved manner to a point at least 6 inches (152 mm) above grade. When a riser connects to plastic pipe underground, the horizontal metallic portion underground shall be at least 30 inches (762 mm) in length before connecting to the plastic service pipe. An approved transition fitting or adaptor shall be used where the plastic joins the metallic riser.

EXCEPTION: Listed one-piece 90-degree transition fittings or risers may have less than 30 inches (762 mm) of horizontal metallic piping.

**1312.7 Electrical isolation of fuel gas piping.** Underground metallic gas piping systems shall be electrically isolated from other metallic structures or utilities with listed or approved isolation fittings installed a minimum of 6 inches (152 mm) above grade.

**1312.17 Directional changes.** Changes in direction of gas piping shall be made by use of appropriate fittings, except copper tubing, which may change direction by bending, and polyethylene gas piping and tubing, which may be bent to a radius not less than 20 times the nominal diameter of the pipe or tube.

**1312.18 Marking and labeling.** Copper tubing carrying natural gas shall be identified by yellow labels marked in black letters, "*Natural Gas*", or "*2 PSIG Natural Gas*" for medium pressure gas piping systems carrying natural gas at 2 PSIG pressure. Labels shall be affixed to the tubing on both sides of a wall, floor, or partition at a maximum of six-foot (1829 mm) intervals throughout the length of the tubing runs.

PROPOSED

## WSR 97-16-116
### PROPOSED RULES
### LOTTERY COMMISSION
[Filed August 6, 1997, 10:40 a.m.]

Continuance of WSR 97-15-123.

Preproposal statement of inquiry was filed as WSR 97-00-037 [97-02-037] and WSR 97-11-057.

Title of Rule: See previous CR-102 filed as WSR 97-15-123.

Purpose: To change the date of the hearing listed in previous filing WSR 97-15-123.

Statutory Authority for Adoption: RCW 67.70.040.

Statute Being Implemented: RCW 67.70.040.

Summary: See Purpose above.

Reasons Supporting Proposal: See Explanation of Rule below.

Name of Agency Personnel Responsible for Drafting: Michael Aoki-Kramer, Rules Coordinator, Olympia, (360) 586-6583; Implementation and Enforcement: Merritt D. Long, Director, Olympia, (360) 753-3330.

Name of Proponent: Washington State Lottery Commission, governmental.

Rule is not necessitated by federal law, federal or state court decision.

Explanation of Rule, its Purpose, and Anticipated Effects: See previous CR-102 filed as WSR 97-15-123.

Proposal Changes the Following Existing Rules: See previous CR-102 filed as WSR 97-15-123.

No small business economic impact statement has been prepared under chapter 19.85 RCW. See previous CR-102 filed as WSR 97-15-123.

Section 201, chapter 403, Laws of 1995, does not apply to this rule adoption. See previous CR-102 filed as WSR 97-15-123.

Hearing Location: Howard Johnson Plaza Hotel, 3105 Pine Street, Everett, WA, on September 12, 1997, at 10:00 a.m.

Assistance for Persons with Disabilities: Contact Michael Aoki-Kramer by September 3, 1997, (360) 586-6583.

Submit Written Comments to: Michael Aoki-Kramer, Lottery, FAX (360) 586-6586, by September 11, 1997.

Date of Intended Adoption: September 12, 1997.

August 4, 1997
Merritt D. Long
Director

PROPOSED

## WSR 97-16-118
### PROPOSED RULES
### SUPERINTENDENT OF PUBLIC INSTRUCTION
[Filed August 6, 1997, 11:45 a.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 96-21-092.

Title of Rule: Chapter 392-165 WAC, Special service programs—Chapter 2 of the Education Consolidation and Improvement Act of 1981, financial assistance to local school districts.

Purpose: To update the WAC language to reflect the changes in ESEA by the 1994 Improving America's School Act.

Statutory Authority for Adoption: RCW 28A.300.070.

Summary: All changes in the WAC reflect the changes in the Improving America's School Act. The name for chapter 2 becomes Title 6 -Innovative Education Program Strategies.

Reasons Supporting Proposal: Federal law and rules/regulations have been changed and these changes are reflected in the proposed update of chapter 392-165 WAC.

Name of Agency Personnel Responsible for Drafting and Implementation: Gayle Pauley, Old Capitol Building, 753-2858; and Enforcement: Jane Gutting, Old Capitol Building, 753-0793.

Name of Proponent: Superintendent of Public Instruction, governmental.

Rule is necessary because of federal law, Public Law 103-382, October 20, 1994, Title VI.

Explanation of Rule, its Purpose, and Anticipated Effects: See Purpose above.

Proposal does not change existing rules.

No small business economic impact statement has been prepared under chapter 19.85 RCW. The rule will have a minor or negligible economic impact.

Section 201, chapter 403, Laws of 1995, does not apply to this rule adoption.

Hearing Location: Wanamaker Conference Room, Old Capitol Building, 600 South Washington Street, Olympia, WA 98504-7200, on September 9, 1997, at 9:00 a.m.

Assistance for Persons with Disabilities: Contact Jim Rich by August 26, 1997, TDD (360) 664-3631, or (360) 753-6733.

Submit Written Comments to: Rules Coordinator, Legal Services, P.O. Box 47200, Olympia, WA 98504-7200, FAX (360) 753-4201, by September 8, 1997.

Date of Intended Adoption: September 10, 1997.

July 9, 1997
Dr. Terry Bergeson
Superintendent of
Public Instruction

## Chapter 392-165 WAC
## SPECIAL SERVICE PROGRAMS—((~~CHAPTER 2~~)) TITLE VI - INNOVATIVE EDUCATION PROGRAM STRATEGIES OF THE EDUCATION CONSOLIDATION AND ((~~IMPROVEMENT~~)) IMPROVING AMERICA'S SCHOOLS ACT OF ((~~1981~~)) 1994, FINANCIAL ASSISTANCE TO LOCAL SCHOOL DISTRICTS

AMENDATORY SECTION (Amending Order 92-06, filed 8/31/92, effective 10/1/92)

**WAC 392-165-105 Purpose.** The purpose of this chapter is to ensure compliance by the state of Washington, including the superintendent of public instruction and local school districts, with the provisions of Public Law ((~~100-297, Elementary Secondary School Improvement Amendments of 1988, Chapter 2~~)) 103-382, Improving America's Schools Act of 1994, Title VI, — and its implementing regulations, particularly 34 CFR Part 298.

AMENDATORY SECTION (Amending Order 92-06, filed 8/31/92, effective 10/1/92)

**WAC 392-165-115 Definition—((~~Chapter 2~~)) Title VI.** As used in this chapter, the term "((~~Chapter 2~~)) Title VI" shall mean that part of Public Law 100-297 which is commonly referred to as ((~~Chapter 2~~)) Title VI of the ((~~Elementary and Secondary School Improvement Amendments of 1988~~)) Improving America's Schools Act of 1994.

AMENDATORY SECTION (Amending Order 92-06, filed 8/31/92, effective 10/1/92)

**WAC 392-165-120 Definition—Accounting manual.** As used in this chapter, the term Accounting Manual shall mean the *Accounting Manual for Public School Districts* in the state of Washington issued September ((~~1989~~)) 1993, by the superintendent of public instruction and the state auditor.

AMENDATORY SECTION (Amending Order 92-06, filed 8/31/92, effective 10/1/92)

**WAC 392-165-130 Definition—Activity.** As used in this chapter, the term "activity(ies)" shall be as defined in the *Accounting Manual* glossary of terms (((~~i.e., a "specific line of work carried on by a school district in order to perform its mission"~~))). For financial accounting purposes "activity" shall be defined further as the second field of uniform expenditure classification established in the *Accounting Manual* for ((~~Chapter 2~~)) Title VI and shall include all activities listed on Form SPI F-1000B.

AMENDATORY SECTION (Amending Order 84-6, filed 2/29/84)

**WAC 392-165-135 Definition—Program.** As used in this chapter, the term "program" shall be as defined in the *Accounting Manual* glossary of terms (((~~i.e., "a plan of~~)) activities designed to accomplish a set of objectives((~~"~~))). For financial accounting purposes, "program" shall be defined further as the first field of uniform expenditure classification established in the *Accounting Manual* and for ((~~Chapter 2~~)) Title VI shall include all approved activities supported by ((~~Chapter 2~~)) Title VI moneys.

AMENDATORY SECTION (Amending Order 84-6, filed 2/29/84)

**WAC 392-165-140 Definition—Direct expenditure.** As used in this chapter, the term "direct expenditure" shall be as defined for "direct expenditure" in the *Accounting Manual* glossary of terms ((~~(i.e., "those elements of cost which can be easily, obviously and conveniently identified with specific programs, . . .")~~)).

AMENDATORY SECTION (Amending Order 84-6, filed 2/29/84)

**WAC 392-165-142 Definition—Indirect expenditure.** As used in this chapter, the term "indirect expenditure" shall be as defined in the *Accounting Manual* glossary of terms (i.e., "those expenditure elements that cannot be easily, obviously and conveniently identified with specific programs . . ."). For ((~~Chapter 2~~)) Title VI each district shall be entitled to the restricted indirect expenditure rate established and disseminated annually to school districts by the superintendent of public instruction.

AMENDATORY SECTION (Amending Order 92-06, filed 8/31/92, effective 10/1/92)

**WAC 392-165-170 Definition—Project.** As used in this chapter, the term "project" shall mean all activities supported with ((~~Chapter 2~~)) Title VI moneys in either a particular school building or combination of school buildings.

AMENDATORY SECTION (Amending Order 84-6, filed 2/29/84)

**WAC 392-165-180 Definition—((~~Children~~)) Students.** As used in this chapter, the term ((~~"children"~~)) "students" shall mean ((~~persons up to age twenty-one~~)) each enrolled student as defined in WAC ((~~392-121-170 and persons who are of preschool age~~)) 392-121-122.

AMENDATORY SECTION (Amending Order 84-6, filed 2/29/84)

**WAC 392-165-210 Definition—Instructional staff.** As used in this chapter, the term "instructional staff" shall mean certificated and classified persons whose services deal directly with or aid in the teaching of students or in improving teaching learning activities, and who are identified in the *Accounting Manual* ((~~under Activity 22, Learning Resources; Activity 23, Principals; Activity 24, Guidance and Counseling; Activity 25, Psychological, Speech and Hearing Services; and Activity 27, Teaching~~)).

AMENDATORY SECTION (Amending Order 84-6, filed 2/29/84)

**WAC 392-165-245 Definition—Supplement.** As used in this chapter, the term "supplement" shall mean an increase in the level of expenditures for a project as a result of the expenditure of ((~~Chapter 2~~)) Title VI moneys.

AMENDATORY SECTION (Amending Order 92-06, filed 8/31/92, effective 10/1/92)

**WAC 392-165-260 Definition—Consultation with parents and educators and others.** As used in this chapter, the term "consultation with parents and educators and others" shall mean planned, systematic contact two or more times a year with parents, teachers, and administrators of children being served by ((~~Chapter 2~~)) Title VI, — including parents, teachers, and administrators of served private school children, — other interested parents, teachers, administrators, librarians, school counselors, social workers, psychologists, and other pupil personnel deemed appropriate. All of these must be consulted in the allocation of funds for programs authorized by ((~~Chapter 2~~)) Title VI and in the design, planning, and implementation of these programs.

AMENDATORY SECTION (Amending Order 84-6, filed 2/29/84)

**WAC 392-165-302 Private school participation in ((~~Chapter 2~~)) Title VI—Program requirement.** Each school district that receives ((~~Chapter 2~~)) Title VI moneys shall make available for expenditure in the private schools within the district, an amount equal to the private school enrollment within the district times the average allotment per student (combined public and private enrollment) from ((~~Chapter 2~~)) Title VI moneys.

AMENDATORY SECTION (Amending Order 92-06, filed 8/31/92, effective 10/1/92)

**WAC 392-165-304 Private school ((~~Chapter 2~~)) Title VI equipment—Program requirement.** Each school district that provides equipment and materials which is purchased with ((~~Chapter 2~~)) Title VI moneys to a private school shall retain title to all such equipment and materials and keep on file an inventory supplied by the private school which indicates the location and use of such equipment and materials. The school district will monitor each private school every year to ensure that inventories are maintained according to EDGAR((~~, 34 C.F.R. Subtitle A, section 74.137-74.140~~)).

AMENDATORY SECTION (Amending Order 92-06, filed 8/31/92, effective 10/1/92)

**WAC 392-165-310 Parent, educator, and community involvement in program planning—Program requirement.** Each school district that seeks an allocation of funds under ((~~Chapter 2~~)) Title VI shall provide for systematic consultation two or more times during the year with parents((~~, teachers, administrators, and educators and other groups involved including librarians, school counselors, social workers, etc.~~)) of children attending elementary and secondary schools in the area served by the local educational agency, with teachers and administrative personnel in such schools, and with other groups involved in the implementation of Title VI such as librarians, school counselors, and other pupil services personnel, in the design, planning, implementation, and allocation of funds for programs authorized under ((~~Chapter 2~~)) Title VI. The designated local administrator will submit these program plans and budget to the school district board of directors for approval.

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Such consultation shall be documented to demonstrate compliance with this section.

AMENDATORY SECTION (Amending Order 84-6, filed 2/29/84)

**WAC 392-165-315 School district application required.** Each school district that seeks an allocation of federal funds under ((~~Chapter 2~~)) Title VI from the state shall submit an ((~~annual~~)) application that shall be for a period not to exceed three fiscal years, may provide for the allocation of funds to programs for a period of three years, and may be amended annually as may be necessary to reflect changes without filing a new application on forms provided by the superintendent of public instruction.

AMENDATORY SECTION (Amending Order 92-06, filed 8/31/92, effective 10/1/92)

**WAC 392-165-320 Substance of ((~~annual~~)) school district application.** The school district's ((~~annual~~)) application, required by WAC 392-165-315, shall contain the following:

(1) Assurances as required by WAC 392-165-322.

(2) Planned ((~~Chapter 2~~)) Title VI expenditures by program object and activity in each targeted ((~~assistance area~~)) use of funds as required by WAC 392-165-325.

(3) Description of the projects, and activities the district has designed to carry out programs under one or more of the following ((~~seven~~)) eight targeted ((~~assistance areas~~)) use of funds:

(a) ((~~Meeting needs of students at risk;~~

~~(b) Acquisition and use of instructional and educational materials;~~

~~(c) Innovative programs designed to carry out school-wide improvements and effective schools programs;~~

~~(d) Training and professional staff development;~~

~~(e) Programs of training to enhance ability of teachers and counselors to identify students with reading problems that place them at risk for illiteracy in their adult years;~~

~~(f) Programs to enhance personal excellence of students and student achievement; and~~

~~(g) Other innovative projects which would enhance the educational program and climate of a school.~~)) Technology related to the implementation of school-based reform programs, including professional development to assist teachers and other school officials regarding how to use effectively such equipment and software.

(b) Programs for the acquisition and use of instructional and educational materials including library services and material (including media materials), assessments, reference materials, computer software and hardware for instructional use, and other curricular material which are tied to high academic standards that will be used to improve student achievement and which are part of an overall education reform program.

(c) Promising education reform projects, including effective schools and magnet schools.

(d) Programs to improve higher order thinking skills of disadvantaged elementary and secondary school students and to prevent students from dropping out of school.

(e) Programs to combat illiteracy in the student and adult population, including parent illiteracy.

(f) Programs to provide for the educational needs of gifted and talented children.

(g) School reform activities that are consistent with the Goals 2000: Educate America Act.

(h) School improvement programs or activities under sections 1116 and 1117 of the ESEA.

(4) The reasons for selection of such programs, projects, and activities.

(5) Description of how assistance with ((~~Chapter 2~~)) Title VI dollars will contribute to goals of the program of improving student achievement or improving quality of education for students.

AMENDATORY SECTION (Amending Order 92-06, filed 8/31/92, effective 10/1/92)

**WAC 392-165-322 One year assurances.** Each school district that receives an allocation of federal funds under ((~~Chapter 2~~)) Title VI shall submit to the superintendent of public instruction once a year the following:

(1) An assurance of school district compliance with chapter 392-165 WAC.

(2) An assurance that funds received under ((~~Chapter 2~~)) Title VI shall supplement and not supplant funds available from nonfederal sources.

(3) An assurance that children enrolled in eligible private, nonprofit schools which have submitted a statement of intention to participate in ((~~Chapter 2~~)) Title VI programs within the district shall be provided equitable participation in benefits of funds received from ((~~Chapter 2~~)) Title VI.

(4) An assurance that the school district shall keep records and provide information to the superintendent of public instruction regarding ((~~Chapter 2~~)) Title VI programs in such manner as required by the superintendent of public instruction.

AMENDATORY SECTION (Amending Order 92-06, filed 8/31/92, effective 10/1/92)

**WAC 392-165-325 Planned expenditures by program object and activity.** Each school district's planned expenditures shall be summarized for all ((~~Chapter 2~~)) Title VI expenditures in each of the ((~~seven~~)) eight targeted ((~~assistance areas~~)) use of funds selected by program object and activity on forms provided by the superintendent of public instruction.

AMENDATORY SECTION (Amending Order 92-06, filed 8/31/92, effective 10/1/92)

**WAC 392-165-330 Board approval.** The local board of directors shall review and approve the ((~~annual~~)) application before submitting it to the office of the superintendent of public instruction.

AMENDATORY SECTION (Amending Order 92-06, filed 8/31/92, effective 10/1/92)

**WAC 392-165-340 Approved budget variance((~~—Ten percent~~)) allowed.** School districts may make annual expenditure adjustments ((~~on Form SPI F-1000B by increasing some approved activity object cell amounts of up to ten percent of and decreasing others without filing a request for a budget revision with the superintendent of public instruc-~~

~~tion provided the increases, in total, do not exceed ten percent of the grand subtotal, (i.e., the sum of all objects of expenditure shown on the subtotal line of the approved Federal Project Budget, Form SPI F-1000B) and do not increase the amount of the grand subtotal~~)) as stated in bulletins published by the superintendent of public instruction.

AMENDATORY SECTION (Amending Order 92-06, filed 8/31/92, effective 10/1/92)

**WAC 392-165-345 Budget revisions—Updating planned expenditures.** Except as provided in WAC 392-165-340, each school district shall expend ((~~Chapter 2~~)) Title VI moneys in accordance with the ((~~budget documentation~~)) planned expenditures and program description included in the application submitted to and approved by the superintendent of public instruction. A school district shall be required to file a request for a budget revision to its approved budget whenever one of the following circumstances apply:

(1) The district intends to increase expenditure beyond the approved amount;

(2) The district intends to change by more than ((~~ten percent of the grand subtotal~~)) established amounts as stated in bulletins published by the superintendent of public instruction;

(3) The district intends to expend moneys in any activity or object where no moneys were previously budgeted.

AMENDATORY SECTION (Amending Order 92-06, filed 8/31/92, effective 10/1/92)

**WAC 392-165-347 ((~~Chapter 2~~)) Title VI carryover provisions.** Local school districts may carry over unobligated ((~~Chapter 2~~)) Title VI funds to the fiscal year succeeding the year for which they were appropriated. However, local districts are not allowed to do the following:

(1) Carry over a large amount of funds that preclude the district from operating its current ((~~Chapter 2~~)) Title VI projects successfully; or

(2) Designing current projects to use only a small amount of the allocation to carry over a large amount of funds.

A school district that wishes to carry over ((~~fifty~~)) fifteen percent or more of the allocation shall submit a written plan to the superintendent of public instruction for prior approval by April 30.

AMENDATORY SECTION (Amending Order 92-06, filed 8/31/92, effective 10/1/92)

**WAC 392-165-360 Supervisory expenditures.** A school district that charges any portion of supervisory expenditures as a direct expenditure to the ((~~Chapter 2~~)) Title VI program shall document such expenditures, including the proportion of supervisory FTE so designated and will keep time and effort documentation on all staff paid in part or full time with ((~~Chapter 2~~)) Title VI funds.

AMENDATORY SECTION (Amending Order 92-06, filed 8/31/92, effective 10/1/92)

**WAC 392-165-362 Reallocation of ((~~Chapter 2~~)) Title VI funds.** The superintendent of public instruction may reallocate funds to other local districts from a district that does not choose to participate in the ((~~Chapter 2~~)) Title VI program, a district that has ((~~Chapter 2~~)) Title VI funds that exceeds the amount required to run a program, or that are recovered by the superintendent of public instruction based on a determination by the state that the local district has failed to spend local ((~~Chapter 2~~)) Title VI funds in accordance with applicable law. Reallocation of funds may be made only during the fiscal year for which funds were appropriated or during the succeeding fiscal year; must be made in accordance with the purpose of ((~~Chapter 2~~)) Title VI; and must be spent in accordance with the requirements in ((~~Chapter 2~~)) Title VI federal regulations.

AMENDATORY SECTION (Amending Order 84-6, filed 2/29/84)

**WAC 392-165-365 End-of-year report—Annual requirement.** Each school district that receives an ailocation of funds under ((~~Chapter 2~~)) Title VI shall submit to the superintendent of public instruction each year an end-of-year report on forms provided by the superintendent of public instruction. The end-of-year report shall be received by the superintendent of public instruction no later than July 20, or in the event such date is a Saturday, Sunday, or holiday, the working day immediately following such date, and shall contain all information requested.

((~~The evaluation information shall include but not be limited to:~~

~~(1) The number of students served in related Chapter 2 program areas;~~

~~(2) The number of staff served through staff development activities;~~

~~(3) The number of full-time equivalent staff funded by Chapter 2;~~

~~(4) Fiscal information as related to planned expenditures; and~~

~~(5) Other information as required consistent with the responsibilities of the superintendent of public instruction under Chapter 2.~~)) In addition, selected districts may be requested to participate in the preparation of descriptive case studies.

AMENDATORY SECTION (Amending Order 92-06, filed 8/31/92, effective 10/1/92)

**WAC 392-165-415 Budget revision requirements—Two revisions limitation.** ((~~Districts may request no more than two budget revisions per school fiscal year.~~)) Number of budget revisions allowed will be stated in the annual application procedures.

AMENDATORY SECTION (Amending Order 92-06, filed 8/31/92, effective 10/1/92)

**WAC 392-165-425 Construction.** No ((~~Chapter 2~~)) Title VI funds may be used to perform repairs, minor remodeling, or construction of private school facilities. A local school district may use ((~~Chapter 2~~)) Title VI funds to

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perform repairs, minor remodeling, or construction of public facilities as may be necessary to carry out its responsibility under this part.

AMENDATORY SECTION (Amending Order 92-06, filed 8/31/92, effective 10/1/92)

**WAC 392-165-430 Acquisition, control and disposition of equipment.** Except to purchase technology related to the implementation of school-based reform programs and computer hardware for instructional purposes listed in WAC 392-165-325 ((~~Chapter 2~~)) Title VI funds may not be used to purchase general classroom instructional equipment unless that instructional equipment is used only as a part of a specific program under one of the ((~~seven~~)) eight targeted assistance areas and has prior approval on the ((~~Chapter 2~~)) Title VI application. All equipment purchased from ((~~Chapter 2~~)) Title VI funds must be labeled "((~~Chapter 2~~)) IASA - Title VI." Inventories must be maintained and updated every two years. Districts will follow all procedures for usage, inventory, and disposition listed in the Education Department General Administration Regulations (EDGAR) 34 C.F.R. 80.32.

AMENDATORY SECTION (Amending Order 84-6, filed 2/29/84)

**WAC 392-165-440 ((~~Chapter 2~~)) Title VI audit.** Audit of ((~~Chapter 2~~)) Title VI programs shall be conducted in ((~~compliance with 34 CFR 298.17~~)) accordance with OMB curriculers A128 or A133, whichever is applicable. Local educational agencies receiving . . . . . an average of five thousand dollars each under this Title VI shall not be audited more frequently than once every five years.

AMENDATORY SECTION (Amending Order 84-6, filed 2/29/84)

**WAC 392-165-450 Compliance agreement.** Notwithstanding any of the actions prescribed by WAC 392-165-445, any school district found out of compliance with this chapter may, as a substitute for withholding or repayment actions referenced in WAC 392-165-455, be required to enter into a compliance agreement with the superintendent of public instruction to ensure that noncompliant ((~~Chapter 2~~)) Title VI program practices are corrected within a period of time specified in that agreement, as a condition to continuous receipt of ((~~Chapter 2~~)) Title VI moneys. If a district fails to achieve compliance within the specified time, the withholding and/or repayment procedures prescribed by WAC 392-165-455 and 34 CFR 298.17(d) shall be instituted by the superintendent of public instruction.

AMENDATORY SECTION (Amending Order 84-6, filed 2/29/84)

**WAC 392-165-455 Withholding of ((~~Chapter 2~~)) Title VI payments.** (1) If the superintendent of public instruction determines that a school district is not in substantial compliance with federal statute and regulation or with this chapter, the superintendent of public instruction shall have the authority to withhold payment in whole or in part of ((~~Chapter 2~~)) Title VI moneys to the offending district. In deciding whether to withhold payments, the superintendent of public instruction shall provide:

(a) Reasonable notice to the school district of the reasons for the proposed withholding; and

(b) An opportunity for the school district within thirty calendar days of such notice to give reason why the withholding should not be instituted.

(2) Pursuant to the school district response, the superintendent of public instruction shall consider the following factors:

(a) The seriousness of the noncompliance;

(b) The amount of ((~~Chapter 2~~)) Title VI moneys involved;

(c) The effect of withholding on participating children; and

(d) The need to withhold payments to prevent further misuse of ((~~Chapter 2~~)) Title VI moneys.

(3) If, after consideration of these factors and within thirty calendar days, the superintendent of public instruction decides to initiate a withholding procedure, a date shall be specified by which the school district shall have achieved compliance, or the moneys withheld shall become subject to repayment procedures specified in 34 CFR 298.16.

AMENDATORY SECTION (Amending Order 92-06, filed 8/31/92, effective 10/1/92)

**WAC 392-165-460 Approval of ((~~Chapter 2~~)) Title VI program application by the office of the superintendent of public instruction.** (1) Final approval of a ((~~Chapter 2~~)) Title VI program shall be given to a school district when the superintendent of public instruction has received a completed application in accordance with WAC 392-165-320 through 392-165-327 and 34 CFR 298.6, 298.11, 298.12-298.14 and is assured that the school district has satisfied all yearly reporting requirements and compliance agreements from the previous year.

(2) Programs shall not be implemented without approval from the superintendent of public instruction. The effective approval date shall be July 1, of each year for applications received prior to July 1, or the subsequent date on which the complete application is received by the superintendent of public instruction.

(3) Fiscal expenditures made prior to the effective approval date indicated on an application or a request for budget revision shall not be allowed.

(4) Consistent with P.L. 100.297, any school district shall have an opportunity to appeal a decision of the superintendent of public instruction, first to the superintendent of public instruction and then to the United States Secretary of Education.

(5) All districts with approved, nonprofit, private schools within their boundaries must return to the office of the superintendent of public instruction "Participation in Federal Programs" Form 829 for each school by the end of February, as part of their application. Reimbursement and approval will be withheld until all forms are received.

(6) Applications received after November 30 will not be processed and the funds will be reallocated.

NEW SECTION

**WAC 392-165-490 Allocation to school districts.** From the sums made available each year to carry out Title VI, the superintendent of public instruction shall distribute no less than eighty-five percent to school districts according to the relative enrollments in public and private, nonprofit schools within the school districts.

AMENDATORY SECTION (Amending Order 92-06, filed 8/31/92, effective 10/1/92)

**WAC 392-165-500 Allocation formula for distribution of ((~~eighty~~)) eighty-five percent ((~~Chapter 2~~)) Title VI moneys to local school districts.** For the purpose of this section, the term:

(1) "Student enrollment" shall mean the head count for public and private schools submitted by the school districts to the office of the superintendent of public instruction on October 1 of each prior year.

(2) "Low income student enrollment" shall mean those students who are eligible for a free or reduced price lunch.

The ((~~eighty~~)) eighty-five percent allocation formula to all school districts is based on sixty-seven percent enrollment and thirty-three percent low income based on the number of free and reduced price lunches served.

AMENDATORY SECTION (Amending Order 92-06, filed 8/31/92, effective 10/1/92)

**WAC 392-165-510 Program compliance review.** The superintendent of public instruction shall conduct program compliance review of all school districts receiving ((~~Chapter 2~~)) Title VI funds. Reviews shall occur at least once within a four-year plan as established by the superintendent of public instruction. If a school district is not reviewed due to exceptional or uncontrollable circumstances, these districts will have first priority for review the following year.

Following the review the school district will have thirty days to respond to the superintendent of public instruction if there are exceptions. Substantial noncompliance or failure by the school district to respond and/or initiate corrective action in a timely manner shall be subject to actions prescribed in WAC 392-165-440, 392-165-445, and 392-165-450.

## WSR 97-16-120
### PROPOSED RULES
### WASHINGTON STATE PATROL
[Filed August 6, 1997, 11:51 a.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 97-13-073.

Title of Rule: Chapter 212-17 WAC, Fireworks.

Purpose: To prescribe the state-wide standards for retail sale of fireworks.

Statutory Authority for Adoption: Chapters 70.77 and 43.43 RCW.

Summary: To ensure uniform, safe operation of retail fireworks stands throughout the state.

Reasons Supporting Proposal: Chapter 182, Laws of 1997 (effective April 23, 1997) require the chief of the Washington State Patrol through the director of fire protection to adopt rules to implement chapter 70.77 RCW, and to prescribe uniform state-wide standards for retail sale of fireworks.

Name of Agency Personnel Responsible for Drafting: Chief Deputy Les Townzen, P.O. Box 42600, Olympia, WA, (360) 753-0442; Implementation and Enforcement: Captain Mike Matlick, P.O. Box 42600, Olympia, WA, (360) 753-0404.

Name of Proponent: Washington State Patrol, governmental.

Rule is not necessitated by federal law, federal or state court decision.

Explanation of Rule, its Purpose, and Anticipated Effects: Chapter 182, Laws of 1997 (effective April 23, 1997) require the chief of the Washington State Patrol through the director of fire protection to adopt rules to implement chapter 70.77 RCW, to ensure state-wide minimum standards for enforcement of chapter 70.77 RCW, and to prescribe uniform state-wide standards for retail sale of fireworks. These rules will help to ensure uniform safe operation of retail fireworks stands throughout the state.

Proposal Changes the Following Existing Rules: Repeals and amends existing sections of, and adds new sections to chapter 212-17 WAC, Fireworks, to prescribe the state-wide standards for retail sale of fireworks.

A small business economic impact statement has been prepared under chapter 19.85 RCW.

Small Business Economic Impact Statement

This report contains the economic impact analysis used by the Washington State Patrol (WSP) in determining costs associated with proposed amendments and new sections to chapter 212-17 WAC, Fireworks.

**Background:** Prior to 1995, each local government in this state had authority to regulate the sale of fireworks within their jurisdiction, including the size, structure, operating conditions and safety requirements of retail stands. This authority resulted in differing requirements having to be met by fireworks retailers depending on where their stands were located. In 1995 the legislature amended chapter 70.77 RCW, requiring the WSP to establish uniform, state-wide standards for fireworks retail stands. A committee composed of fire service officials and a representative of the fireworks industry worked during 1995 and 1996 to develop comprehensive state-wide standards for fireworks retail stands. On May 10, 1996, the state patrol filed the rules developed by this committee as an emergency WAC to be effective during the 1996 Fourth of July fireworks selling period. The emergency rules expired by operation of law September 10, 1996. Subsequently, the state patrol convened a new committee with expanded representation of the fire service agencies and the fireworks industry to review the adequacy of the 1996 emergency rules and to develop permanent rules for fireworks retail stands. During the 1997 legislative session, the legislature amended chapter 70.77 RCW; chapter 182, Laws of 1997.

This 1997 law contained an emergency clause and became effective on April 23, 1997. It provided more specific direction with respect to the standards for retail

fireworks stands and changed other requirements in the law. Emergency rules which covered the 1997 Fourth of July fireworks season were adopted on June 20, 1997. These rules were adopted with the concurrence of members of the fireworks industry who had previously successfully challenged emergency rules adopted on May 16, 1997. On June 18, 1997, the WSP filed a CR-101 with the code reviser for adoption of permanent rules to cover retail fireworks sales. The rules which are being proposed for permanent adoption are nearly the same as the 1997 emergency rules except for the addition of a rule prohibiting sales of fireworks to children under sixteen. The proposed rules concentrate on the public safety aspect of retail fireworks sales. Aspects of the proposed rules that may have a potential economic impact for fireworks retail stands have been reviewed and found to have either a negligible or minor negative impact, or a positive impact on costs of operation in the case of elimination of local ordinance requirements.

The changes directed by the legislature in 1995 and 1997 principally concern protection of the public health and safety, and the adoption of uniform state-wide standards to replace numerous and conflicting local regulations that had been developed over the years. Without these rules there would be insufficient state-wide standards in place to regulate the safe operation of fireworks stands as the legislature intended. These regulations are necessary to ensure the people who work in retail fireworks stands and the public are provided reasonable protection against injury and death in connection with the retail sale of fireworks. They also are necessary to provide consistent standards statewide for operation of the stands.

**Summary of Amendments:** The proposed rules which are being filed with this notice are essentially the same as those filed in the 1997 emergency rule-making order, with the exception of the proposal to prohibit sales to persons under sixteen years of age. The following is a comparison of the emergency rules enforced in 1996 and emergency rules enforced in 1997 regarding the sale of fireworks:

| | 1996 | 1997 | 1998 |
|---|---|---|---|
| License and permit | May 26 filing deadline | May 1 filing deadline | May 1 filing deadline |
| Permit Fees (set by RCW) | No Change. | No Change. | No Change. |
| Sales to children | Some local ordinances prohibiting sales, no statewide prohibition. | Some local ordinances prohibiting sales, no statewide prohibition. | Fireworks sales prohibited to persons under 16 years of age. |
| Transportation | Local authority may not waive requirements. | Local authority may waive requirements. | Local authority may waive requirements. |
| Set-back requirements | Generally defined. Measurements listed in WAC table. | More clearly defined. No changes in measurements. | More clearly defined. No change in measurements. |
| Area around stands | No discharge of fireworks within 50 feet of stands. | Discharge of fireworks within 100 feet of stands prohibited. | Discharge of fireworks within 100 feet of stands prohibited. |
| Code requirements | Local ordinances governed whether structure building codes must be met. | Fireworks stands must meet fire and structure building codes if more than 400 square feet. | Fireworks stands must meet fire and structure building codes if more than 400 square feet. |
| Clean-up (Retailers are liable for clean-up costs incurred by the local jurisdiction.) | Bond required (maximum $100). Bond returned if clean-up done. | Bond required (maximum $500). Bond returned if clean-up done. | Bond required (maximum $500). Bond returned if clean-up done. |

**Economic Impact Analysis:** Cost to a Business: The entities to be regulated by the proposed rules are all small businesses although they vary in size. Input was solicited from ten percent of fireworks retailers statewide representing all areas of the state. Sixty-two retailers were surveyed, representing 125 of the 778 retail licenses. The survey responses did not vary by business size. Retailers were asked whether or to what extent prohibiting sales of fireworks to children under sixteen would impact their sales, and whether proposed retail fireworks stand rules would have an economic impact on their operation.

Few retailers indicated that banning the sale of fireworks to persons under the age of sixteen would have a significant financial impact on their business. Most reported that there should be no impact.

Most retailers indicated that the state fireworks stand standards enforced during 1997 had no additional economic impact on the cost of operation. Accordingly, the proposed permanent rules should also have minimal economic impact. Retailers stated that they experienced confusion in the past between the differences in state and local regulations and that differing local regulations did have an economic impact on their operation. These costs should be reduced or eliminated by adoption of the proposed rules. There is also a provision in each rule which authorizes a retailer to request modification of a standard to make it less restrictive for their operation.

(1) Steps Taken to Reduce Disproportionate Impact: There will be no disproportionate impact on small businesses since all of the businesses covered by the proposed rules are small businesses.

(2) Involvement of Small Businesses: A committee has been established to make recommendations to the WSP chief regarding the proposed rules. Fireworks retailers impacted by the proposed rules have been represented on the committee that developed the 1997 emergency rules and are represented on the permanent rules committee.

(3) These proposed rules apply only to persons, businesses, and groups engaged in the retail sale of fireworks.

(4) There are no extra reporting or record-keeping requirements caused by these changes.

**Costs of Compliance:** As a result of the state patrol's survey of fireworks retailers, the following is an analysis for the cost of compliance with the proposed rules:

In order to comply with the proposed rules, each retailer must construct and operate their stand to meet safety standards. These include compliance with building, electrical and fire codes in certain circumstances, locations, and marking or flagging materials. Retailers with stands that cover over 400 square feet need to contact their local building department for a determination of whether professional services such as architects are required. These requirements are necessary to protect the life and safety of the persons working in the stands, their customers, and the general public. They are consistent with code requirements which operators have complied with for the past two July 4th fireworks seasons, and for many retailers are consistent with local regulations they were required to comply with previously. The survey determined that the cost of complying with the proposed rules would be minimal since their stands already comply with pertinent codes.

Several wholesalers, who supply more the 90% of the total retail booths, furnish signage to their retailers. The cost to those retailers whose wholesaler does not furnish signage is minimal.

The proposed rules also would prohibit retail sales of fireworks to children under the age of sixteen. Similar restrictions have applied for some time to retailers in local jurisdictions such as Seattle. The majority of retailers contacted in the survey said that the prohibition should have no impact on sales. Only five retailers predicted that their sales could be significantly impacted if this prohibition is adopted.

A summary of the survey responses is shown below in Analysis as Exhibit A.

PROPOSED

1997 Fireworks Retail Survey

PROPOSED

| Permit Number | # of Stands | # of Employees/stand | 1997 Gross | 1996 Gross | % of Sales to <16 | Rules that impact | Financial Impact | Comments |
|---|---|---|---|---|---|---|---|---|
| 0014/0002-0015/0003-0546/0520-0717/0536-0788/0622-0857/0617 | 6 | Volunteer | $ 36,000 | ? | 0 | none | none | Fire Marshal requested no sales to under 16. Proposed set-back requirements would have closed 4 booths. |
| 0024/0001 | 1 | Volunteer | $ 13,000 | NA | 0 | none | none | |
| 0033/0017-0034/0018-0035/0019 | 3 | Volunteer | $ 20,000 | $ 22,000 | 0 | none | none | |
| 0036/0020 | 1 | Volunteer | $ 4,500 | $ 4,350 | 10 | none | none | |
| 0041/0025-0040/0024 | 2 | Volunteer | $ 10,000 | $ 10,000 | 5 to 15 | none | none | |
| 0068/0059 | 1 | <5 | $ 12,000 | $ 12,000 | 10 to 15 | none | none | Are mishaps from illegal or legal fireworks? |
| 0071/0053-0072/0054 | 2 | <5 | $ 46,000 | $ 46,000 | <10 | none | none | Could not use fireworks until 4th. Need consistent sales and use dates. |
| 0081/0065-0349/0341 | 2 | Volunteer | $ 20,000 | $ 18,000 | 0 | none | none | |
| 0098-0094 | 1 | Volunteer | $ 1,300 | $ 2,200 | 30 | Prohibiting sales to under 16 | 30% | Stated that their loss was due to a free fireworks display and kids under 16 being confused as to whether they could purchase. |
| 0132/0128 | 1 | Volunteer | $ 12,900 | less | 0 | none | none | Does not sell to kids due to child safety concerns. |
| 0274/0282 | 1 | Volunteer | $ 10,000 | $ 11,000 | <5 | none | none | |
| 0278/0284-0277/0285 | 2 | Volunteer | $ 20,000 | $ 18,000 | 0 | none | none | City does not allow fireworks sales to under 16. New policy won't stop reservation sales. |
| 0300/0288 | 1 | Volunteer | $ 8,000 | $ 8,000 | 20-25 | none | none | State and local rules need to be more consistent. |
| 0359/0350 | 1 | <5 | NYB | NYB | 0 | none | none | |
| 0363/0354 | 1 | <5 | $ 15,000 | $ 10,000 | 0 | none | none | |
| 0365/0356 | 1 | <5 | $ 7,000 | ? | 30 | none | none | |
| 0366/0357 | 1 | <5 | NYB | NYB | 10 | none | none | |
| 0368/0359 | 1 | <5 | NYB | NYB | 0 | none | none | |
| 0375/0365 | 1 | <5 | $ 3,000 | $ 9,000 | 0 | none | none | Restricted areas of usage had a 30% impact on sales. |
| 0377/0367 | 1 | <5 | $ 10,000 | $ 15,000 | <5 | none | none | Are mishaps from illegal or legal fireworks? Lost an estimated $5,000 due to inconsistency of sales and use dates. |
| 0380/0370 | 1 | <5 | NYB | NYB | 20 | none | none | Parents will buy for kids. |
| 0392/0381 | 1 | 1 | $ 6,500 | NA | ? | none | none | |
| 0406/0396 | 1 | <5 | $ 14,000 | $ 13,000 | 40 | none | none | |
| 0408/0380 | 1 | Volunteer | $10,000 | NA | <20 | Prohibiting sales to under 16 | 10% | King County did not allow sales to persons under 16 years of age. |
| 0410/0377 | 1 | Volunteer | $ 2,480 | $ 2,190 | 5 | none | none | Reservations sold fireworks for 10% over cost. |
| 0435/0431-0480/0706 | 2 | Volunteer | $ 4,600 | ? | 20-25 | none | none | If proposed changes in set-back requirements had passed, they would have had to close their booth. Fire Marshall made them fence booth. |
| 0449/0445 | 1 | Volunteer | $ 9,000 | $ 8,000 | 20 | Prohibiting sales to under 16 | 20% | |
| 0461/0457 | 1 | Volunteer | $ 800 | $ 800 | <5 | none | none | Concerned because children save all year to purchase fireworks. |

| Permit Number | # of Stands | # of Employees/stand | 1997 Gross | 1996 Gross | % of Sales to <16 | Rules that impact | Financial Impact | Comments |
|---|---|---|---|---|---|---|---|---|
| 0462/0458 | 1 | Volunteer | $ 9,300 | $ 9,300 | 50 | Prohibiting sales to under 16 | $4,650 | If proposed changes in set-back requirements had passed, his stand would have had to close. |
| 0465/0461 | 1 | Volunteer | $ 3,000 | NA | <5 | Costs associated with making new signs. | $50 | Expressed concern over older kids buying and reselling to other kids. How is WSP going to enforce? |
| 0486/0712 | 1 | Volunteer | $ 40,000 | $ 37,000 | <5 | none | none | Expressed concer over why some persons sell out of tents and others can't. |
| 0518/0493-0654/0680 | 2 | Volunteer | $ 9,500 | $ 9,500 | <5 | none | none | |
| 0519/0494 | 1 | Volunteer | $ 14,000 | ? | <5 | none | none | Did not sell to under 13. |
| 0530/0505 | 1 | Volunteer | $ 27,656 | $ 29,100 | 0 | none | none | |
| 0531/0506-0701/0621 | 2 | <5 | $ 8,000 | $ 11,000 | 50 | none | none | Sales dropped due to road repaving. Wholesaler had asked that they not sell to under 16. What keeps olders kids from reselling to younger? |
| 0541/0515 | 1 | Commission | $ 54,000 | $ 52,000 | 0 | none | none | Likes propsed change in sales to kids under 16. |
| 0554/0532 | 1 | Volunteer | $ 6,800 | $ 6,500 | 30 | Prohibiting sales to under 16 | $1,500 | |
| 0584/0633 | 1 | Volunteer | $ 7,300 | $ 7,100 | 0 | none | none | Wholesaler asked them not to sell to under 16. |
| 0587/0635 | 1 | Volunteer | ? | $ 3,000 | <5 | none | none | |
| 0605/0653 | 1 | <5 | ? | ? | 0 | none | none | He had a stroke 2 ys ago, others are using his permit |
| 0650/0693-0594/0642 | 2 | Volunteer | $ 10,000 | $ 8,000 | 0 | none | none | Proposed changes to set-back requirements would have closed their booths. |
| 0708/0608 | 1 | <5 | $ 13,700 | $ 12,800 | 50 | none | none | Local ordinance required changes in booth measurements. |
| 0718/0537 | 1 | Volunteer | $ 5,000 | $ 2,500 | 25 | none | none | Requiring those working in stand to be 16 makes it harder to schedule volunteers. |
| 0728/0156-0752/0594-0747/0415-0727/0155-0735/0163-0743/0398 | 6 | <5 | $ 10,000 | ? | 20 | none | none | Expressed confusion over set-back requirements. Suggested educating public on fireworks use. Are injuries from illegal or legal fireworks? Reservations sell illegal fireworks. |
| 0753/0595-0766/0606 | 2 | Volunteer | $ 6,000 | $ 12,000 | 10 | none | none | Estimates that 90-95% of sales in Pierce Co. are on Reservations. Concerned over drastic increase in federal fireworks sold. |
| 0763/0603 | 1 | family | $ 7,500 | $ 7,500 | 0 | none | none | |
| 0765/0605 | 1 | Volunteer | $ 15,000 | $ 16,600 | 60 | none | none | Specializes in novelties, King Co does not allow sales to under 16. Notified of measurement changes the day stand opened. Would like to sell out of storefront. Make rules easier to read. |

1997 Fireworks Retail Survey

| Permit Number | # of Stands | # of Employees/stand | 1997 Gross | 1996 Gross | % of Sales to <16 | Rules that impact | Financial Impact | Comments |
|---|---|---|---|---|---|---|---|---|
| 0767/0607-0762/0602-0756/0596-0760/0600-0764/0604-0741/0319-0740/0320-0725/0153-0736/0164-0748/0534-0771/0602-0908/0601-0738/0166-0723/0151-0761/0601-0911/0596-0722/0150-0724/0152-0739/0321-0757/0597 | 20 | <5 | ? | NA | 0 | none | none | Did not sell to under 16. Asked for ID. Would like to see better communication including earlier notification of requirements in a format that's easy to understand. |
| 0770/0592 | 1 | <5 | $ 9,000 | NA | <5 | none | none | State and local rules need to be more consistent. Sell dates and use dates need to be the same. Adults need supervision, not kids. |
| 0779/0525 | 1 | <5 | NYB | NYB | 15 to 20 | none | none | Proposed changes to set-back requirements would have had a negative impact on his business. |
| 0780/0528-0776/0528-0773/0551-0781/0527-0777/0699-0775/0699 | 6 | Volunteer | $ 105,000 | $ 130,000 | 15-20 | none | none | Allowing tent sales decreased their business by an estimated 50%. |
| 0787/0543 | 1 | Volunteer | $ 9,000 | $ 10,000 | 5 | none | none | |
| 0823/0584-0827/0588-0822/0583-0825/0586-0826/0587-0824/0585 | 6 | <5 | ? | ? | 35-40 | none | none | Kids will go to the reservations to buy. Estimates 40% loss due to Reservation sales. |
| 0847/0631-0846/0630 | 2 | <5 | $ 20,000 | $ 40,000 | 1 | none | none | Reservations take away sales. Concerned over storeage requirements. |
| 0848/0632 | 1 | Volunteer | $ 5,000 | $ 5,000 | <5 | none | none | |
| 0850/0589-0851-0590 | 2 | Volunteer | $ 21,000 | $ 21,000 | <10 | none | none | |
| 0852/0612 | 1 | Volunteer | $ 15,000 | NA | 5 | none | none | |

| Permit Number | # of Stands | # of Employees/stand | 1997 Gross | 1996 Gross | % of Sales to <16 | Rules that impact | Financial Impact | Comments |
|---|---|---|---|---|---|---|---|---|
| 0854/0614 | 1 | <5 | $ 5,000 | $ 5,000 | 0 | none | none | Laws are not enforced on Reservations, so would like to see a permanent statewide ban. |
| 0856/0616 | 1 | Volunteer | $ 6,000 | $ 5,300 | <5 | none | none | |
| 0858/0618 | 1 | Family | $ 18,000 | $ 13,000 | <5 | none | none | |
| 0878/0731-0883/0736-0881/0734-0874/0727-0882/0735-0877/0730-0879/0732-0884/0737-0885/0738-0880/0733-0875/0728-0876/0729 | 12 | Commission | $ 250,000 | $ 250,000 | 0 | none | none | If proposed changes in set-back requirements had passed, several of his stands would have had to close. State and local rules need to be more consistent. |
| 0897/0742 | 1 | Volunteer | NYB | NYB | <5 | none | none | Reservations take away sales. |

A copy of the statement may be obtained by writing to Kendra Hensley, P.O. Box 42602, Olympia, WA 98504-2602, phone (360) 753-0678, or FAX (360) 664-0657.

RCW 34.05.328 does not apply to this rule adoption.

Hearing Location: On September 10, 1997, at 10:00 a.m., at the (Old) DSHS Building, 313 North 5th Avenue, Yakima, WA; on September 11, 1997, at 10:00 a.m., at the Army National Guard, Hq 1st Bn 161st Inf, West 1700 Electric Avenue, Spokane, WA; on September 16, 1997, at 10:00 a.m., at the Vancouver Community Library, 1007 East Mill Plain, Vancouver, WA; on September 23, 1997, at 10:00 a.m., at the General Administration Building, 1st Floor Auditorium, Corner West 11th and Columbia, Olympia, WA; on September 24, 1997, at 10:00 a.m., at the Armory, 1601 West Armory Way, Seattle, WA; and on September 25, 1997, at 10:00 a.m., at the Skagit County Administration Building, 700 South 2nd, Hearing Room C, Mt. Vernon, WA.

Assistance for Persons with Disabilities: Contact Ms. Kendra Hensley by September 2, 1997, (360) 753-0678.

Submit Written Comments to: Chief Deputy Les Townzen, P.O. Box 42600, Olympia, WA 98504-2600, FAX (360) 753-0395, by September 2, 1997.



PROPOSED

Date of Intended Adoption: January 23, 1998.
August 6, 1997
Annette M. Sandberg
Chief

AMENDATORY SECTION (Amending Order FPS 88-01, filed 3/31/88)

**WAC 212-17-185 ((~~Retailers of fireworks—General~~)) License and permit.** (1) Persons desiring to engage in the business of selling fireworks at retail shall secure a license from the director of the Washington state patrol fire protection bureau.

(2) In addition to the state license, a permit must be obtained from the local governmental officials having jurisdiction.

(a) The application shall be made on forms provided by the director of fire protection and shall be accompanied by the license fee of ((~~ten~~)) forty dollars.

(b) License applications shall be made on or before ((~~June 10~~)) May 1 of the year for which the license is desired.

(c) The director of fire protection shall grant or deny the license within fifteen days of receipt of the application.

(d) Applicants are cautioned to first determine whether a local retail sales permit for fireworks can be obtained.

(3) A retailer's license to sell fireworks shall not authorize the licensee to engage in any other fireworks activity. Retailers are limited to selling only those fireworks which have been approved for sale to the public and appear on the list of approved fireworks published annually by the director of fire protection. A copy of the list shall be prominently posted at each retail outlet.

NEW SECTION

**WAC 212-17-21503 Definitions.** (1) "Common fireworks" means those fireworks defined as common fireworks in RCW 70.77.136.

(2) "Following year" means the year immediately following the year in which a license or permit is issued.

(3) "License" means a license as defined in RCW 70.77.170.

(4) "Magazine" means a structure as defined in Section 214 of the Uniform Building Code.

(5) "Membrane material" means a thin, flexible, impervious material capable of being supported by an air pressure of 1.5 inches of water column (373 Pa).

(6) "Permanent retail or wholesale structure" means an enclosure or shelter erected for a period of thirty days or more used for the sales, at retail or wholesale, of fireworks of any kind.

(7) "Permanent storage structure" means a building or other structure used to store any fireworks not authorized within the scope of a retail fireworks stand permit.

(8) "Permit" means a permit as defined in RCW 70.77.180.

(9) "Private way" means any privately owned driveway, lane, access way or similar parcel of land having a clear width of not less than eight feet essentially unobstructed from the ground to the sky which serves as access from private property to a public road.

(10) "Public road" means any street or alley essentially unobstructed from the ground to the sky which is deeded, dedicated or otherwise permanently appropriated to the public for public use and having a clear width of not less that ten feet.

(11) "Recognized testing laboratory" means a nationally recognized testing laboratory approved by the state fire marshal.

(12) "Temperature overheat protection" means a device which immediately interrupts the power to the heating element of a portable heating unit when the portable heating unit exceeds its designed operating temperature.

(13) "Temporary power drop" means an electrical service connection to a temporary stand.

(14) "Temporary retail fireworks stand" means a temporary structure used for the retail sales of common fireworks.

(15) "Temporary storage structure" means a building or other structure used for storage of common fireworks directly related to a retail fireworks stand and authorized within the scope of a retail fireworks stand permit.

(16) "Temporary structure" means an enclosure or shelter erected for a period of less than thirty days and not otherwise defined in the Uniform Fire Code as a tent or canopy.

(17) "Tip-over protection" means a device which immediately interrupts the power to the heating element of a portable heating unit when the portable heating unit is tipped or tilted more than forty-five degrees from its designed operating position.

(18) "Uniform Building Code" means the edition currently adopted by the state of Washington.

(19) "Uniform Fire Code" means the edition currently adopted by the state of Washington.

NEW SECTION

**WAC 212-17-21505 General provisions.** (1) The state of Washington hereby fully occupies the entire field of regulation relating to the construction and use of temporary structures for the retail sale and storage of fireworks including: The location of and areas surrounding, the operation of and the cleanup after the use of said structures, pursuant to RCW 70.77.270.

(2) The state of Washington hereby preempts the authority of local jurisdictions with respect to the retail sale and associated storage of common fireworks from temporary structures. This rule constitutes the entire and exclusive authority for regulation of all such matters. Subject to the limitations imposed by chapter 70.77 RCW, a city or county may ban fireworks; or a city or county may restrict the dates of sale, purchase, possession and use of fireworks; or a city or county may restrict the types of fireworks that may be sold and purchased within its boundaries. If a city or county allows the sale of fireworks classified as common fireworks from temporary structures these rules preempt that city's or that county's authority to enact or enforce any other regulations.

(3) Except as prescribed by this rule, the use of permanent structures or temporary structures over four hundred square feet for fireworks sales and storage shall be subject

to the provisions of the Uniform Fire Code and the Uniform Building Code, and local ordinances.

(4) The use of temporary structures for the temporary sale or storage of common fireworks are exempt from the Uniform Building Code, Uniform Fire Code and local ordinances except that where a city or county ordinance regulates the sale or use of fireworks as a part of that city's or that county's building code or fire code, those provisions of that county's or that city's building code or fire code which are not in conflict with this rule are not hereby preempted or affected.

(5) Each license and permit shall be issued and shall remain valid and effective for the thirteen-month period beginning on January 1 of the year in which application is made and ending January 31 of the following year.

(6) Only Class C common fireworks, obtained from state-licensed wholesalers, not otherwise prohibited by chapter 70.77 RCW or local ordinance, and holiday related products incidental but related to these products, may be sold in retail fireworks stands.

(7) Except as limited by local ordinance, fireworks may be sold from 12:00 noon on June 28 through 12:00 noon on July 6. Fireworks may not be sold between the hours of 11:00 p.m. and 9:00 a.m. from June 28 through July 3. Fireworks may not be sold from 12:00 midnight on July 4 through 9:00 a.m. on July 5. Fireworks may not be sold from 11:00 p.m. on July 5 through 9:00 a.m. on July 6.

(8) Except as limited by local ordinance, fireworks may be sold from 6:00 p.m. on December 31 through 1:00 a.m. on January 1 of the following year.

(9) Licensees shall familiarize all persons working in a retail fireworks stand with the provisions of these rules.

(10) The state fire marshal and the local authority having jurisdiction shall comply with the provisions of RCW 43.05.005 in the application of this rule. Failure to comply at any time with the provisions of this rule or any other applicable regulation shall constitute a violation of chapter 70.77 RCW and may result in the immediate revocation of the license or permit, closure of the fireworks sales or storage structure, the seizure of some or all of the fireworks, and other criminal penalties as specified by law.

NEW SECTION

**WAC 212-17-21507 Transportation.** When transporting fireworks, licensees shall comply with all federal, state and local transportation requirements, provided that, upon request of the licensee, the local authority having jurisdiction may waive or modify the local transportation requirements. Nothing in these rules shall restrict the right of any person to transport, in a private vehicle, fireworks which have been legally purchased from a retail fireworks licensee.

NEW SECTION

**WAC 212-17-21509 Location.** (1) Activities or uses subject to this rule shall not be limited in location except where such activities or uses are prohibited or controlled by local development regulation, traffic safety or road construction standards.

(2) Temporary retail fireworks stands shall not be located more than one hundred fifty feet from a private access way, fire department access road, public road, street or highway as measured by an approved route around the exterior of the stand. The minimum requirements for a private access way shall be determined by the local authority having jurisdiction, but shall not exceed the requirements of locally adopted street, road and access standards.

(3) Any two retail fireworks stands shall be at least one hundred feet apart or shall be separated by a road, street or highway not less than thirty feet in width.

(4) Retail fireworks stands shall be located as required by Table 1 in this section. The minimum required area surrounding the stand shall be marked or flagged, except that flagging and marking shall not block a sidewalk or pedestrian pathway.

PROPOSED

PROPOSED

Table 212-17-21509

| Retail Fireworks Stands - Minimum Clearances* | | | | | | |
|---|---|---|---|---|---|---|
| | Buildings | Combustibles | Property Line | Parking | Motor Vehicle Traffic PUBLIC ROAD** | Motor Vehicle Traffic PRIVATE WAY |
| BACK OF STAND | 20 FT. | 20 FT. | 5 FT. | 20 FT. | 20 FT. | 5 FT. |
| SIDE OF STAND | 20 FT. | 20 FT. | 5 FT. | 20 FT. | 20 FT. | 5 FT. |
| FRONT OF STAND | 20 FT. | 20 FT. | 20 FT. | 20 FT. | 20 FT. | 20 FT. |

* Clearance distances are not cumulative
**Measured from the outer edge of the nearest traffic lane.

(5) Retail fireworks stands shall not be located closer than one hundred feet from any flammable or combustible liquid or gas dispensing device, nor less than three hundred feet from any flammable or combustible liquid or gas bulk storage or dispensing facility, such as a tank farm.

(6) Upon request by a licensee, the state fire marshal, with the concurrence of the local authority having jurisdiction, may modify any portion of this section provided that any modification shall not be more restrictive than the requirements herein.

NEW SECTION

**WAC 212-17-21511 Area around the retail fireworks stand.** (1) The minimum areas around the retail fireworks stand specified in WAC 212-17-21509 shall be kept free of accumulation of dry grass, dry brush and combustible debris. No parking shall be permitted within this minimum area.

(2) No motor vehicle or trailer may be parked within twenty feet of a retail fireworks stand except when delivering, loading or unloading fireworks.

(3) Fireworks shall not be discharged within one hundred feet of a retail fireworks stand. Signs reading "NO FIREWORKS DISCHARGE WITHIN 100 FEET" in letters at least two inches high, with a principal stroke of not less than one-half inch, on contrasting background, shall be conspicuously posted on all four sides of the stand.

(4) No smoking shall be allowed within the retail fireworks stand or within the minimum flagged off area. Signs reading "NO SMOKING WITHIN 20 FEET" in letters at least two inches high, with principal stroke of not less than one-half inch, on a contrasting background, shall be conspicuously posted on all four sides of the stand.

(5) Upon request by a licensee, the state fire marshal, with the concurrence of the local authority having jurisdiction, may modify any portion of this section provided that any modification shall not be more restrictive than the requirements herein.

NEW SECTION

**WAC 212-17-21513 Stand use and construction.** (1) Fireworks may be sold from:

(a) A permanent structure which meets provisions of WAC 212-17-21505(3).

(b) Temporary, stable structures made from wood, metal, fiberglass or other material. Any temporary fireworks retail stand greater than four hundred square feet shall meet the requirements of a permanent structure, except tents or canopies as defined in the Uniform Fire Code.

(c) Tents, canopies, or structures utilizing temporary membrane material. All tents, canopies or temporary membrane materials structures shall be made from fire retardant material or treated with a fire retardant as identified in the Uniform Fire Code. Any tent, canopy or temporary membrane material structure falling within the scope of the Uniform Fire Code shall comply with those requirements. When those requirements are in conflict with other provisions of these rules, the more restrictive provisions shall apply.

(2) Battery powered equipment, electrical equipment and electrical cords which are used in conjunction with a retail fireworks stand or a temporary storage structure or location must be listed by a recognized laboratory and used in accordance with that listing. If electrical power is supplied by an extension cord, the size of the cord, the length of the cord and the amperage and the voltage supplied shall be in compliance with the requirements of the National Electrical Code, current edition. The cord shall be protected as necessary from "drive-over" and other physical damage. No additional permits from a city or county or state official having jurisdiction shall be required for these temporary uses except as specified in subsection (5) of this section.

(3) All heating units shall be listed by a recognized testing laboratory and shall be used in accordance with the listing. Heating sources shall have "tip-over" and temperature overheat protection. All heating devices shall have sealed type elements (i.e., oil filled or water filled radiator type). Open flame heating devices are prohibited.

(4) Generators which use combustible fuel and which are at least twenty feet from the retail fireworks stand or the temporary fireworks storage structure shall be allowed. Generator fuel shall be limited to not more than five gallons and stored at least twenty feet from all stands.

(5) Compliance with the National Electrical Code, current edition, shall be required for all new, permanent electrical installations, including temporary power drops, subject to possible permit fees.

(6) Retail sales of fireworks and other products which are holiday related shall be from buildings used for no other purpose.

(7) Upon request by a licensee, the state fire marshal, with the concurrence of the local authority having jurisdiction, may modify any portion of this section provided that any modification shall not be more restrictive than the requirements herein.

NEW SECTION

**WAC 212-17-21515 Operation of retail fireworks stands.** (1) A clear aisle or walkway not less than twenty-four inches wide shall be maintained inside the full length of the structure. Customers shall only be permitted inside a temporary retail fireworks stand that is greater than three hundred square feet and which meets minimum exit requirements of the Uniform Building Code and Uniform Fire Code, as now or amended hereafter.

(2) Each temporary retail fireworks stand must have at least two exits, at least twenty-eight inches in width, located at opposite ends of the structure. Exits must remain unlocked and unobstructed during the hours of operation or when the stand is occupied.

(3) Sleeping inside a retail fireworks stand or an associated temporary fireworks storage facility is prohibited.

(4) The location of the nearest permanently mounted telephone must be posted inside the retail fireworks stand and persons working in the stand shall be informed of that location.

(5) The **local** emergency telephone number shall be conspicuously posted inside the retail fireworks stand.

(6) Each retail fireworks stand shall be equipped with two approved, pressurized two and one-half gallon water-type fire extinguishers.

(7) No open flames nor any type of open flame equipment shall be allowed in any retail fireworks stand.

(8) Retail fireworks stands shall be locked when unoccupied and not open for business if fireworks are kept in the structure during these times. Retail fireworks stands shall never be locked when occupied. The fireworks may be removed and transferred to a temporary storage structure or location approved as a part of the license and permit.

(9) At least one adult person, eighteen years of age or older shall be present at all times in every retail fireworks stand during the hours of sale to the public and shall be responsible for supervision of the retail fireworks stand and its operation. No person, other than customers, under the age of sixteen shall be allowed within a retail fireworks stand when it is open to the public.

(10) Retail fireworks stands may be inspected by the state fire marshal and/or the local jurisdiction issuing the permit prior to opening for business and other inspections may occur on other days as warranted but there shall be no additional charge for all such inspections.

(11) In order to obtain return of a clean-up bond if required by the local authority having jurisdiction as a condition of permit, the cleanup of debris associated with the retail fireworks activity and the removal of all structures authorized by the license and permit shall occur on or before the last day of the storage period specified in these rules.

(12) Fireworks retailers shall not knowingly sell fireworks to persons under the age of sixteen.

(a) A sign reading "no sale of fireworks to persons under the age of sixteen years. PHOTO ID REQUIRED" in letters at least two inches high, with a principal stroke of not less than one-half inch, on contrasting background, shall be conspicuously posted on the front of each retail fireworks stand.

(b) Sellers shall require proof of age by means of display of a driver's license or photo identification card showing date of birth issued by a public or private school, state, federal or foreign government. No other forms of identification shall be accepted.

(c) Failure to comply with the provisions of this section may result in the temporary suspension of the license or permit, revocation of the license or permit in the event of multiple infractions, and civil penalties consistent with the statute in effect at the time.

(13) Upon request by a licensee, the state fire marshal, with the concurrence of the local authority having jurisdiction, may modify any portion of this section provided that any modification shall not be more restrictive than the requirements herein.

NEW SECTION

**WAC 212-17-21517 Temporary fireworks storage associated with the retail fireworks stand operation.** (1) Temporary fireworks storage is not permanent fireworks storage. Temporary fireworks storage is defined as storage associated with retail fireworks sales and may only be from June 13 through July 31 and from December 12 through January 10 of the following year. Permanent fireworks storage is associated with retail or wholesale fireworks activities when the period of time of storage is other than, or longer than that specified for temporary storage. Temporary fireworks storage shall be in accordance with this section. Permanent fireworks storage is subject to the Uniform Fire Code and the Uniform Building Code and local ordinances.

(2) Delivery of fireworks to a location, or storage of fireworks in a facility, not authorized by the license and permit is prohibited.

(3) A temporary fireworks storage facility or a temporary fireworks storage location shall be authorized as a part of a license and permit if it meets the requirements specified herein.

PROPOSED

(4) No open flames nor any type of open flame equipment shall be allowed in any temporary fireworks storage structure.

(5) Storage of fireworks authorized by a retail license and permit is legal only during the periods specified in this section.

(6) Fireworks may be stored:

(a) In a locked or secured retail fireworks stand; or

(b) In a locked or secured truck, container, trailer, other vehicle or anything similar which is not less than twenty feet from the retail fireworks stand during hours of retail sales; or

(c) In a locked or secured truck, container, trailer, other vehicle or anything similar which is not less than twenty feet from an inhabited building where the term "inhabited building" is defined as in the Uniform Building Code; or

(d) In a magazine which meets the minimum standards of Type 4 as prescribed by the Uniform Fire Code, and which is not less than ten feet from an inhabited building where the term "inhabited building" is defined as in the Uniform Building Code; or

(e) In a locked or secured metal or wooden garage, shed, barn or other accessory building, or anything similar which is not less than twenty feet from an inhabited building where the term "inhabited building" is defined as in the Uniform Building Code.

(7) The local authority having jurisdiction may reduce the minimum separation requirements of this section provided that safety of life and property is not diminished.

(8) No cooking is permitted in a retail fireworks stand or in a temporary fireworks storage structure.

(9) Temporary fireworks storage structures may be inspected prior to use and other inspections may occur on other days as warranted. There shall be no additional charge for all such inspections.

(10) Upon request by a licensee, the state fire marshal, with the concurrence of the local authority having jurisdiction, may modify any portion of this section provided that any modification shall not be more restrictive than the requirements herein.

NEW SECTION

**WAC 212-17-21519 Cleanup.** (1) At the end of the legal selling period, all fireworks must remain in the retail fireworks stand, temporary storage location authorized by the retail permit or another location approved by the local authority having jurisdiction or his or her designee until returned to the suppliers from which they were obtained, or until transferred to an approved location.

(2) Cities and counties may require a clean-up bond, not to exceed five hundred dollars, as a condition of the permit, to ensure the removal of all structures and debris from the site.

(3) In order to obtain return of a clean-up bond, cleanup of debris associated with the retail fireworks activity and the removal of all temporary structures authorized by the license and permit shall be completed no later than 11:59 p.m., July 15 for the Fourth of July selling period or no later than 11:59 p.m., January 10 for the New Year's Eve selling season.

(4) Failure of the licensee to comply with subsection (3) of this section shall constitute forfeiture of the clean-up bond and the licensee shall be liable for any clean-up costs incurred by the city or county which exceed the amount of the bond.

# NO EXPEDITED ADOPTIONS FILED IN THIS ISSUE

## WSR 97-16-008
PERMANENT RULES
## DEPARTMENT OF SOCIAL AND HEALTH SERVICES
(Public Assistance)
[Filed July 24, 1997, 10:45 a.m., effective July 24, 1997]

Date of Adoption: July 23, 1997.

Purpose: To implement increased federal poverty levels as they impact medical program standards.

Citation of Existing Rules Affected by this Order: Amending WAC 388-508-0805, 388-509-0920, 388-509-0960, 388-513-1380, 388-517-1720, 388-517-1740, and 388-517-1760.

Statutory Authority for Adoption: RCW 74.04.050, 74.04.057, 74.08.090, and 74.09.530.

Other Authority: Social Security Act, Federal Register, March 10, 1997, pgs. 10856 - 10859, 42 U.S.C. 1396 (a)(l)(m).

Adopted under notice filed as WSR 97-13-057 on June 16, 1997.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 7, repealed 0; or Recently Enacted State Statutes: New 0, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 0, amended 0, repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 0, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 7, repealed 0.

Other Findings Required by Other Provisions of Law as Precondition to Adoption or Effectiveness of Rule: Permanent adoption effective July 24, 1997, as allowed under RCW 34.05.380 (3)(a) and (c). This effective date is needed to implement increased federal poverty levels previously adopted on an emergency basis April 1, 1997.

Effective Date of Rule: July 24, 1997.

July 23, 1997
Merry A. Kogut, Manager
Rules and Policies Assistance Unit

AMENDATORY SECTION (Amending WSR 96-15-029, filed 7/10/96, effective 7/10/96)

**WAC 388-508-0805 Pregnant woman—Income standards.** (1) The department shall find a pregnant woman eligible for Medicaid as categorically needy when the pregnant woman meets the income requirements of this section.

(2) The department shall ensure total family income will not exceed one hundred eighty-five percent of the Federal Poverty Level (FPL). One hundred eighty-five percent of the current FPL is:

| Family Size | Monthly Income |
|---|---|
| (a) One | ((~~$1,194~~)) $1,217 |
| (b) Two | ((~~$1,598~~)) $1,636 |
| (c) Three | ((~~$2,002~~)) $2,056 |
| (d) Four | ((~~$2,405~~)) $2,475 |
| (e) Five | ((~~$2,809~~)) $2,894 |
| (f) Six | ((~~$3,213~~)) $3,314 |
| (g) Seven | ((~~$3,617~~)) $3,733 |
| (h) Eight | ((~~$4,021~~)) $4,152 |
| (i) Nine | ((~~$4,425~~)) $4,572 |
| (j) Ten | ((~~$4,829~~)) $4,991 |

(k) For family units with more than ten members, add ((~~$404~~)) $420 to the monthly income for each additional member.

AMENDATORY SECTION (Amending WSR 96-15-029, filed 7/10/96, effective 7/10/96)

**WAC 388-509-0920 Children's health program.** (1) The department shall consider a child seventeen years of age or younger, eligible for state-funded medical services with the same coverage as categorically needy, when:

(a) The child is not eligible for a federally-funded Medicaid program; and

(b) The child's nonexempt family income does not exceed one hundred percent of the current federal poverty level (FPL). See income guidelines as described under subsection (4) of this section.

(2) The department shall determine nonexempt family income by:

(a) Following AFDC methodology; and

(b) Applying the medical income rules as described under WAC 388-506-0610.

(3) The department shall not require a child to meet the following eligibility factors:

(a) Citizenship;

(b) Social Security number; or

(c) Resources limits.

(4) The department shall find that one hundred percent of the current FPL equals:

| Family Size | Monthly Income |
|---|---|
| (a) One | ((~~$645~~)) $658 |
| (b) Two | ((~~$864~~)) $885 |
| (c) Three | ((~~$1,082~~)) $1,111 |
| (d) Four | ((~~$1,300~~)) $1,338 |
| (e) Five | ((~~$1,519~~)) $1,565 |
| (f) Six | ((~~$1,737~~)) $1,791 |
| (g) Seven | ((~~$1,955~~)) $2,018 |
| (h) Eight | ((~~$2,174~~)) $2,245 |
| (i) Nine | ((~~$2,392~~)) $2,471 |
| (j) Ten | ((~~$2,610~~)) $2,698 |

(k) For family units with more than ten members, add ((~~$219~~)) $227 to the monthly income for each additional member.

(5) For a child determined eligible under this section, the department shall not consider a change in family income during the certification period.

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AMENDATORY SECTION (Amending WSR 96-15-029, filed 7/10/96, effective 7/10/96)

**WAC 388-509-0960 Children's income standards.** (1) The department shall determine a child meeting the eligibility requirements under WAC 388-509-0910 eligible as categorically needy when the total family countable income does not exceed two hundred percent of the federal poverty level (FPL). The department shall find that two hundred percent of the current FPL equals:

| Family Size | Monthly Income |
|---|---|
| (a) One | ((~~$1,290~~)) $1,315 |
| (b) Two | ((~~$1,727~~)) $1,769 |
| (c) Three | ((~~$2,164~~)) $2,222 |
| (d) Four | ((~~$2,600~~)) $2,675 |
| (e) Five | ((~~$3,037~~)) $3,129 |
| (f) Six | ((~~$3,474~~)) $3,582 |
| (g) Seven | ((~~$3,910~~)) $4,035 |
| (h) Eight | ((~~$4,347~~)) $4,489 |
| (i) Nine | ((~~$4,784~~)) $4,942 |
| (j) Ten | ((~~$5,220~~)) $5,395 |

(k) For family units with more than ten members, add ((~~$437~~)) $454 to the monthly income for each additional member.

(2) For a child determined eligible under WAC 388-509-0910, the department shall not consider a change in family income during the certification period.

AMENDATORY SECTION (Amending Order 3963, filed 4/10/96, effective 5/11/96)

**WAC 388-513-1380 Institutional—Participation.** (1) In reducing payment to the institution, the department shall consider the institutionalized client's:

(a) Income under WAC 388-513-1330 (3)(a), (b), (c), and (d); and

(b) Resources under WAC 388-513-1350, 388-513-1360, and 388-513-1365.

(2) In reducing payment to the institution, the department shall consider the eligible institutionalized client's excess resources available to meet the cost of care after the following allocations:

(a) Health insurance and Medicare premiums, deductions, and co-insurance not paid by a third party; and

(b) Noncovered medical bills which are the liability of the client and not paid by a third party.

(3) The department shall not use allocations used to reduce excess resources under subsection (2) of this section to reduce income under subsection (4) of this section.

(4) The department shall deduct the following amounts, in the following order, from the institutionalized client's total income, including amounts disregarded in determining eligibility:

(a) Specified personal needs allowance as follows:

(i) One hundred sixty dollars for a veteran living in a Medicaid-certified state veteran's home nursing facility;

(ii) Ninety dollars for a single veteran receiving an improved veteran's pension; or

(iii) Forty-one dollars and sixty-two cents for all other clients in medical institutions.

(b) Federal, state, or local income taxes:

(i) Mandatorily withheld from earned or unearned income for income tax purposes before receipt by the client;

(ii) Not covered by withholding, but are owed or have been paid by the client; and

(iii) Does not exceed the one-person medically needy income level less the client's personal needs allowance.

(c) Wages not to exceed the one-person medically needy income level (MNIL) less the client's personal needs allowance for a client who:

(i) Is SSI-related; and

(ii) Receives the wages as part of a department-approved training or rehabilitative program designed to prepare the client for a less restrictive placement. When determining this deduction, the department shall:

(A) Not allow a deduction for employment expenses; and

(B) Apply the client's wages not deducted under this subsection to the client's cost of care.

(d) The total amounts deducted under subsection (4)(a), (b), and (c) of this section shall not exceed the one-person MNIL.

(e) A monthly needs allowance for the community spouse not to exceed, effective January 1, ((~~1996~~)) 1997, one thousand nine hundred ((~~nineteen~~)) seventy-six dollars, unless specified in subsection (6) of this section. The department shall ensure the monthly needs allowance is:

(i) An amount added to the community spouse's gross income to provide a total community spouse's income of one thousand ((~~two~~)) three hundred ((~~ninety-five~~)) twenty-seven dollars;

(ii) Excess shelter expenses as specified under subsection (5) of this section; and

(iii) Allowed only to the extent income of the institutionalized spouse is made available to the community spouse.

(f) An amount for the maintenance needs of each dependent family member residing with the community spouse:

(i) Equal to one-third of the amount one thousand ((~~two~~)) three hundred ((~~ninety-five~~)) twenty-seven dollars exceeds the family member's income. Child support received from an absent parent is the child's income.

(ii) **"Family member"** means a:

(A) Dependent or minor child;

(B) Dependent parent; or

(C) Dependent sibling of the institutionalized or community spouse.

(g) When an institutional client does not have a community spouse, an amount for the maintenance needs of family members residing in the client's home equal to the medically needy income level for the number of legal dependents in the home less the income of the dependents.

(h) Amounts for incurred medical expenses not subject to third-party payment which are the current liability of the client including, but not limited to:

(i) Health insurance premiums, coinsurance, or deductible charges; and

(ii) Necessary medical care recognized under state law, but not covered under Medicaid.

(i) Maintenance of the home of a single person or couple:

(i) Up to one hundred percent of the one-person federal poverty level per month;

PERMANENT

(ii) Limited to a six-month period; and

(iii) When a physician has certified that the client is likely to return to the home within the six-month period; and

(iv) When social service staff documents initial need for the income exemption and reviews the person's circumstances after ninety days.

(5) For the purposes of this section, the department shall:

(a) Determine shelter expenses to be the actual required maintenance expenses for the community spouse's principal residence for:

(i) Rent;

(ii) Mortgage;

(iii) Taxes and insurance;

(iv) Any maintenance care for a condominium or cooperative; and

(v) The food stamp standard allowance for utilities, provided the utilities are not included in the maintenance charges for a condominium or cooperative.

(b) Consider the standard shelter allocation to be three hundred ((~~eighty-nine~~)) ninety-nine dollars, effective April 1, ((~~1996~~)) 1997.

(c) Consider as "excess shelter expenses" an amount equal to the actual expenses under subsection (5)(a) of this section less the standard shelter allocation under subsection (5)(b) of this section.

(6) The department shall determine the amount the institutional spouse allocates to the community spouse may only be greater than the amount in subsection (4)(e)(i) of this section when:

(a) A court enters an order against the institutionalized client for the community spouse support; or

(b) A hearings officer determines a greater amount is needed because of exceptional circumstances resulting in extreme financial duress.

(7) The client shall use the income remaining after allocations specified in subsection (4) of this section toward payment of the client's cost of care at the department rate.

(8) SSI-related clients.

(a) SSI-related clients shall continue to receive total payment under 1611 (b)(1) of the Social Security Act for the first three full calendar months of institutionalization in a public or Medicaid-approved medical institution or facility when the:

(i) Stay in the institution or facility is not expected to exceed three months; and

(ii) SSI-related clients plan to return to former living arrangements.

(b) The department shall not consider the SSI payment when computing the client's participation amount.

(9) The department shall not consider income from reparation payments made by the Federal Republic of Germany when computing the client's participation amount.

AMENDATORY SECTION (Amending WSR 96-15-029, filed 7/10/96, effective 7/10/96)

**WAC 388-517-1720 Qualified Medicare beneficiaries—Income and resources.** (1) The department shall provide Medicare cost sharing for a qualified medical beneficiary (QMB) client having:

(a) A total countable income, as determined under chapter 388-511 WAC, except as specified in subsection (2) of this section, not exceeding one hundred percent of the current federal poverty level (FPL). One hundred percent of the current FPL is:

| Family Size | Monthly |
|---|---|
| (i) One | ((~~$645~~)) $658 |
| (ii) Two | ((~~$864~~)) $885 |

(b) Resources, as determined under WAC 388-511-1110, not exceeding twice the maximum supplemental security income (SSI) resource limits.

(2) The department shall not consider a person's Social Security cost-of-living increase until April 1 of each year.

AMENDATORY SECTION (Amending WSR 96-15-029, filed 7/10/96, effective 7/10/96)

**WAC 388-517-1740 Special low-income Medicare beneficiaries (SLMB)—Income and resources.** (1) The department shall provide Medicare cost sharing for a SLMB client having:

(a) A total countable income, as determined under chapter 388-511 WAC, over one hundred percent of the current federal poverty level (FPL), but not exceeding one hundred twenty percent of the FPL. One hundred twenty percent of the current FPL is:

| Family Size | Monthly |
|---|---|
| (i) One | ((~~$ 774~~)) $789 |
| (ii) Two | ((~~$1,036~~)) $1,061 |

(b) Resources, as determined under WAC 388-511-1110, not exceeding twice the maximum supplemental security income (SSI) resource limits.

(2) The department shall not consider a person's Social Security cost-of-living increase until April 1 of each year.

AMENDATORY SECTION (Amending WSR 96-15-029, filed 7/10/96, effective 7/10/96)

**WAC 388-517-1760 Qualified disabled working individuals (QDWI) income and resources.** The department shall pay premiums for Medicare Part A for a person having:

(1) A total countable family income, as determined under chapter 388-511 WAC, not exceeding two hundred percent of the current FPL. Two hundred percent of the current FPL is:

| Family Size | Monthly |
|---|---|
| (a) One | ((~~$1,290~~)) $1,315 |
| (b) Two | ((~~$1,727~~)) $1,769 |

(2) Resources, as determined under WAC 388-511-1110, not exceeding twice the maximum supplemental security income (SSI) resource limits.

PERMANENT

## WSR 97-16-019
PERMANENT RULES
## HOUSING FINANCE COMMISSION
[Filed July 28, 1997, 10:04 a.m.]

Date of Adoption: July 24, 1997.

Purpose: Provide procedures to debar or temporarily disqualify participants in the commission's programs.

Statutory Authority for Adoption: Chapter 43.180 RCW.

Adopted under notice filed as WSR 97-11-063 on May 21, 1997.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 9, amended 0, repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 0, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 0, repealed 0.

Effective Date of Rule: Thirty-one days after filing.

July 24, 1997
Mark McLaughlin
Deputy Executive Director

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NEW SECTION

**WAC 262-03-010 Promulgation.** (This promulgation relates to WAC 262-03-010 through 262-03-090.)

I, Busse Nutley, chair, Washington State Housing Finance Commission, 1000 Second Avenue, Suite 2700, Seattle, Washington 98104-1046, after due notice as provided under chapter 34.05 RCW, and a public hearing held in Seattle, Washington on June 26, 1997, do hereby promulgate the following regulations relating to actions to debar or temporarily disqualify participants in commission programs where appropriate to further the commission's purposes and protect the public interest in doing business with responsible persons.

NEW SECTION

**WAC 262-03-020 Purpose.** (1) It is in the public interest that the commission provide affordable housing, as well as nonprofit cultural and social service facilities, administer orderly programs, and maximize use of the bond financing and Low Income Housing Tax Credit (LIHTC) programs. To protect this public interest, it is the policy of the commission to conduct business only with responsible persons.

(2) These regulations provide debarment and temporary disqualification procedures to implement this policy. To ensure that program participants receive notice and an opportunity to be heard in any debarment or temporary disqualification action against such participants, these regulations adopt RCW 34.05.482 through 34.05.494 relating to brief adjudicative proceedings. Where these regulations are inconsistent with these procedures for brief adjudicative proceedings, the provisions of RCW 34.05.482 through 34.05.494 govern.

(3) These procedures may be extended to any new program administered by the commission.

NEW SECTION

**WAC 262-03-030 Definitions.** Unless the context clearly requires otherwise, the definitions in this section apply throughout WAC 262-03-010 through 262-03-090.

(1) "Affiliate." Persons are affiliates of each other if, directly or indirectly, either one controls or has the power to control the other, or a third person controls or has the power to control both. Indicia of control include, but are not limited to: Interlocking management or ownership, identity of interests among family members, shared facilities or equipment, common use of employees, or a business entity organized following the temporary disqualification or debarment of a person which has the same or similar management, ownership, professional contractors, or principal employees as the temporarily disqualified or debarred person, or any entity closely resembling or related to those outlined above whether or not either is a partnership, corporation, trust, or other legally defined person.

(2) "Covered transactions." These procedures apply to all persons who have participated, are currently participating, or may reasonably be expected to participate, in any commission program, including but not limited to the bond financing and LIHTC programs. For the purposes of these procedures, interactions with the commission with respect to any of such programs will be referred to as covered transactions. For example, covered transactions include applications, contracts, certifications, and reports with respect to commission programs.

(3) "Debarment" means an action taken by the debarment and disqualification officer in accordance with these procedures to exclude a person from participating in any covered transaction or limit such participation in any way that the debarment and disqualification officer deems appropriate for the period specified in the debarment order.

(4) "Debarment and disqualification officer" means the Executive Director of the Housing Finance Commission or his or her designee.

(5) "Participant" means any person who submits a proposal for, enters into, or reasonably may be expected to enter into, a covered transaction. This term also includes any person who acts on behalf of, or is authorized to commit, a participant in a covered transaction.

(6) "Person" includes any individual, corporation, partnership, association, unit of government, or legal entity, however organized.

(7) "Proposal" means a solicited or unsolicited bid, application, request, invitation to consider, or similar communication by or on behalf of a person presently involved in a commission program, seeking to participate in a commission program, or seeking to receive a benefit directly or indirectly, under a commission program.

(8) "Respondent" means a person against whom a debarment or temporary disqualification action has been initiated.

(9) "Substantial and material noncompliance." A participant in a covered transaction is in substantial and material noncompliance if the participant has made a misstatement or omission, or has failed to comply with any requirement, term, condition, or obligation of the covered transaction and if the misstatement, omission, or failure is substantial and material.

(10) "Temporary disqualification" means an action taken by the debarment and disqualification officer in accordance with these procedures that immediately excludes a person from participating in any covered transaction for a temporary period or limiting such participation in any way that the debarment and disqualification officer deems appropriate for a temporary period.

(11) "Professional contractors" includes but is not limited to consultants, attorneys, or law firms, accountants or accounting firms, architects, and engineers.

NEW SECTION

**WAC 262-03-040 Temporary disqualification of participants.** (1) Any participant in any covered transaction may be immediately and temporarily disqualified from such participation:

(a) If the debarment and disqualification officer determines that adequate evidence exists to support a reasonable belief that the participant is in substantial and material noncompliance sufficient to be cause for debarment; and

(b) If the debarment and disqualification officer determines that immediate action is necessary to protect the public interest in doing business with responsible persons. Consistent with the commission's purposes, the public interest includes providing affordable housing, administering orderly programs, and maximizing use of the bond financing and LIHTC programs.

(2) By way of example but not limitation, the debarment and disqualification officer may presume that the participant is in substantial and material noncompliance and that immediate action is necessary to protect the public interest where:

(a) The participant is delinquent in payment of any fees due under any commission program, including the LIHTC program;

(b) The participant has failed to meet any deadline under any commission program, including the LIHTC program;

(c) The participant has failed to comply with the terms, conditions, or obligations of one or more covered transactions;

(d) The participant has made material misstatements or omissions in proposals or any other communication to the commission;

(e) A state or other governmental agency reports that the participant is in substantial and material noncompliance in other jurisdictional programs; or

(f) The participant has supplied insufficient or incomplete information in conjunction with any commission program.

(3) Any decision by the debarment and disqualification officer to temporarily disqualify a participant is discretionary; however, no decision will be based on unsupported allegations. The existence of adequate evidence of substantial and material noncompliance does not necessarily require that the person be temporarily disqualified. The debarment and disqualification officer may consider the seriousness of the participant's acts or omissions as well as any mitigating factors to determine whether temporary disqualification is necessary to protect the public interest.

(4) If debarment or legal proceedings are not initiated by the commission or the debarment and disqualification officer within twelve months after the date of the temporary disqualification notice, the temporary disqualification will be terminated.

(5) If the debarment and disqualification officer determines that temporary disqualification in accordance with subsections (1) or (2) of this section is appropriate, the debarment and disqualification officer will notify the respondent by personal service or certified mail of the temporary disqualification and the reasons therefor. Notice of temporary disqualification will include:

(a) A statement of the nature of the temporary disqualification action;

(b) A short and plain statement of, and the reasons for, the temporary disqualification action; and

(c) Information about the administrative review, hearings and appeals processes available to respondent pursuant to WAC 262-03-070 through 262-03-090.

(6) The temporary disqualification is effective immediately upon the respondent's receipt of the notice. Upon notification, the respondent will be entitled to the procedures set forth in WAC 262-03-070 through 262-03-090.

NEW SECTION

**WAC 262-03-050 Proposal to debar.** (1) If the debarment and disqualification officer determines that cause for the respondent's debarment can be established by a preponderance of the evidence, the debarment and disqualification officer may initiate proceedings pursuant to this section. Upon the decision to initiate proceedings pursuant to this section, the debarment and disqualification officer will notify the respondent of its proposal to debar by personal service or certified mail.

(2) The notice will inform the respondent that debarment is being considered, the effect of a debarment, and the reasons for the proposed debarment. The notice will also include information about the administrative review, hearings and appeals processes available to the respondent pursuant to WAC 262-03-070 through 262-03-090.

(3) A proposal to debar may, but need not, be preceded by a temporary disqualification. A proposal to debar by itself will not have any immediate effect on the respondent's status as a participant in any commission program.

(4) Upon notification of the commission's proposal to debar, the respondent will be entitled to the procedures set forth in WAC 262-03-070 through 262-03-090.

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NEW SECTION

**WAC 262-03-060 Debarment.** (1) If the debarment and disqualification officer determines, by a preponderance of the evidence, that the respondent has committed any act, or made any omission, that constitutes substantial and material noncompliance, the debarment and disqualification officer may issue an order of debarment.

(2) By way of example but not limitation, the debarment and disqualification officer may presume that the participant is in substantial and material noncompliance if:

(a) The participant is delinquent in payment of any fees due under any commission program, including the LIHTC program, and payment of the delinquent amount has been demanded via certified mail to the last known address of the participant;

(b) The participant has failed to meet any deadline under any commission program, including the LIHTC program;

(c) The participant has failed to comply with the terms, conditions or obligations of one or more covered transactions;

(d) The participant has made material misstatements or omissions in proposals or any other communication to the commission.

(e) A state or other governmental agency reports that the participant is in substantial and material noncompliance in other jurisdictional programs; or

(f) The participant has supplied insufficient or incomplete information in conjunction with any commission program.

(3) An order of debarment disqualifies the respondent from participating in any commission program for the period specified in the order. The debarment term will be commensurate with the seriousness of the cause(s) but generally the debarment period should not exceed three years from the date that the debarment order is issued. Consideration may be given for any period of temporary disqualification already completed by the respondent.

(4) Debarment of a person under this section constitutes debarment of all its divisions and other organizational elements from all covered transactions, unless the debarment decision is limited by its terms to one or more specifically identified individuals, divisions, or other organizational elements or to specific types of transactions. The debarment action may include any affiliate of the participant that is specifically named and given notice of the proposed debarment pursuant to subsection (5) of this section and an opportunity to oppose the debarment pursuant to WAC 262-03-070 through 262-03-090. For the purposes of WAC 262-03-070 through 262-03-090, any named affiliate will be considered a respondent.

(5) The order of debarment will be served on the respondent by personal service or certified mail. It will include notification of the effect of debarment and the reasons debarment has been ordered as well as information about the administrative review, hearing and appeals processes available to respondent pursuant to WAC 262-03-070 through 262-03-090.

(6) Upon receipt of an order of debarment, the respondent will be entitled to the procedures set forth in WAC 262-03-070 through 262-03-090.

NEW SECTION

**WAC 262-03-070 Debarment and disqualification procedures.** (1) Within thirty days of receipt of notice of temporary disqualification, of a proposal to debar, or of an order of debarment, a respondent may submit to the commission, in person or in writing, personally or through a representative, any information or argument in opposition to debarment and/or disqualification. This information may dispute the debarment and disqualification officer's formal, written findings of substantial and material noncompliance, identify any remedial measure or mitigating factors, or both.

(2) If, within thirty days of receipt of the information submitted pursuant to subsection (1) of this section, the commission or its designee(s) determine that there is a dispute regarding one or more material facts, the commission will appoint a hearing officer to hold a hearing in accordance with WAC 262-03-080 and authorize the hearing officer to grant appropriate relief upon review. Such hearing will take place within ninety days of the receipt of the information submitted pursuant to subsection (1) of this section and the respondent will receive no less than seven days' advance written notice indicating the time and place for the hearing.

(3) If, within twenty days of receipt of the information submitted pursuant to subsection (1) of this section, the commission or its designee(s) determine that there is no dispute regarding any material facts, the commission or its designee(s) will issue a written order without appointing a hearing officer and without holding a hearing on the matter. The order will include a brief statement of the commission or its designee(s) reasons for the determination and a statement of the availability of hearings and appeals procedures and time limits pursuant to WAC 262-03-080 and 262-03-090.

NEW SECTION

**WAC 262-03-080 Hearing procedures.** (1) Any hearing pursuant to WAC 262-03-070(2) will be conducted by the hearing officer appointed by the commission.

(2) The respondent may personally appear at the hearing, appear through a duly authorized representative and/or be represented by legal counsel. The respondent, representative or legal counsel will be given a full opportunity to submit and respond to papers and pleadings, to present evidence and argument, and to conduct cross-examination of witnesses.

(3) Following the hearing, the hearing officer will determine the facts by a preponderance of the evidence, issue written findings of fact, and issue a written order. The order will include a brief statement of the hearing officer's findings and order and a statement about the availability and time limits of appeals procedures pursuant to WAC 262-03-090.

NEW SECTION

**WAC 262-03-090 Appeals procedures.** Any order issued pursuant to WAC 262-03-070(3) or 262-03-090(3) may be appealed to the full commission in accordance with the following procedures:

(1) The appeal must be in writing, signed, and received by the chair of the commission no later than ten business

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days after the respondent receives an order pursuant to WAC 262-03-070(3) or 262-03-080(3).

(2) The appeal must describe why the respondent believes the order pursuant to WAC 262-03-070(3) or 262-03-080(3) is erroneous, identify information in the record that the respondent would like the commission to consider, and specify a desired remedy. The commission will not entertain any claim on appeal that has not first been asserted under WAC 262-03-070 or 262-03-080. An order issued pursuant to WAC 262-03-070(3) or 262-03-080(3) will be presumed to be correct and the respondent has the burden of showing that the order is not supported by substantial evidence.

(3) The commission will schedule a meeting or set aside time during a scheduled meeting to hear appeals. Respondents appealing will receive at least seven days' advance written notice of the time and place of this meeting. The respondent may personally appear at the meeting, appear through a duly authorized representative and/or be represented by legal counsel. The respondent, representative or legal counsel will be given an opportunity to present oral argument to the commission. No witnesses may be examined.

(4) The commission will issue an appeals decision or a statement specifying the date that a decision will be issued, after hearing oral arguments, if any, but within forty-five days after receipt of the appeal. Any commission appeals decision announced orally will be confirmed in writing. The commission's written decision is a final order that is binding on the respondent and other parties. The decision will include notice that judicial review may be available.

(5) Judicial review of any final order of the commission is governed by RCW 34.05.570. In accordance with RCW 34.05.534, any person seeking judicial review first must exhaust the administrative remedies set forth in these procedures.

## WSR 97-16-020
### PERMANENT RULES
### HOUSING FINANCE COMMISSION
[Filed July 28, 1997, 10:06 a.m.]

Date of Adoption: July 24, 1997.

Purpose: Amend the commission's rules of conduct to implement the ethics in public service law codified at chapter 42.52 RCW.

Citation of Existing Rules Affected by this Order: Amending WAC 262-02-020 and 262-02-030.

Statutory Authority for Adoption: Chapter 43.180 RCW.

Other Authority: Chapter 42.52 RCW.

Adopted under notice filed as WSR 97-11-064 on May 21, 1997.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 2, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 0, amended 2, repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 2, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 0, repealed 0.

Effective Date of Rule: Thirty-one days after filing.

July 24, 1997
Mark McLaughlin
Deputy Executive Director

AMENDATORY SECTION (Amending Resolution No. 85-55, filed 8/28/85)

**WAC 262-02-020 Purpose.** (1) ((~~As provided in RCW 42.18.250, "The Executive Conflict of Interest Act," the chair of the Washington state housing finance commission (the "commission") may promulgate, for the guidance of its commissioners and employees, regulations relating to conflict of interest which are appropriate to the specific needs of the commission.~~)) Certain provisions of chapter 154, Laws of 1994, "Ethics in Public Service" require interpretation through regulation to protect the Washington state housing finance commission (the "commission") and its commissioners and employees from violations of law. As provided in RCW 42.52.200, the commission may adopt rules consistent with law, for use within the commission.

(2) The legislature intended that commissioners appointed to the ((~~Washington state housing finance~~)) commission have experience with and expertise in housing matters, including housing construction and finance, and that they represent various industry and consumer groups. RCW 43.180.040(2). The commission intends that its commissioners actively participate in and lend their expertise to the deliberations of the commission. These regulations are intended to insure that decisions of the commission are based on the expertise and unbiased judgment of these commissioners and not on their self-interest.

(3) The commission issues bonds to provide a secondary market for the financing of housing and nonprofit facilities. As a result, commissioners and commission employees work closely with private sector lenders, underwriters, mortgage bankers, financial advisors, lawyers and accountants. While the commission is regularly engaged in private sector transactions, it is a public entity established by the legislature. The legislature has determined that certain activities that may be common to professional relationships in the private sector may be inappropriate or illegal when conducted by commissioners and commission employees. These regulations are intended to insure that the activities of commissioners and commission staff are consistent with the highest degree of professional conduct for public appointees and employees. Also, these regulations recognize the importance of maintaining public trust in the commission's unbiased expertise and impartial decision making. The regulations are intended to ensure that commissioners and commission staff exercise their discretion in a manner that does not create even a perception of bias.

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AMENDATORY SECTION (Amending Resolution No. 85-55, filed 8/28/85)

**WAC 262-02-030 Rules of conduct.** (((1) For any matter connected with, or related to, the discharge of official duties for the commission, no commissioner or employee shall, directly or indirectly, solicit or accept any gift or loan of money, goods, or services (other than compensation from the state), or other thing of economic value for the personal benefit of any person, which gift or loan would be considered as an inducement to neglect or improperly perform official duties or to influence official judgment. A commissioner or employee may accept services such as food and lodging when such services are provided to support and further commission business, and when such services cannot reasonably be construed to influence the substance or manner of commission decisions. A commissioner may accept unsolicited advertising or promotional material or items of nominal value such as momentos commemorating the issuance of commission bonds.

Example. Underwriter X, who is under contract to provide underwriting and financial services to the commission, hosts a seminar for a subcommittee of commissioners to discuss the structuring of future bond issues. Underwriter X rents a room to hold the seminar and pays for a meal served prior to the seminar. The commissioners may accept such a meal and use such meeting room so long as the process for the selection of underwriters pursuant to RCW 43.180.100 is not in progress. Such expenditures by X while the selection process is underway might give rise to an appearance that such services were provided to influence the selection of underwriters.

(2) For any matter connected with, or related to, the discharge of official duties for the commission, no commissioner or employee shall grant special treatment or favors to any person doing business with, or associated with a person doing business with, the commission, for the purpose of obtaining personal gain. A commissioner or commission employee shall not use his or her status of employment and position with the commission to gain a personal advantage for himself or any other individual in any personal financial transaction.

(3) A commissioner or commission employee shall not participate in any commission decision or transaction in which the commissioner or employee, or a family member, may directly or indirectly profit, except to the extent that such commissioner or employee benefits as a member of the general public or as a member of a specific interest group related to housing construction or finance and receives the same treatment as all similarly situated persons. A commissioner may participate in a commission decision with respect to a general method or system of financing for housing which could benefit an industry with which the commissioner has a direct or indirect financial or personal interest. A commissioner may not vote to approve a contract between the commission and a company with which the commissioner has a financial or personal interest, but may participate in preliminary discussions or decisions with respect to which such company will be treated like all other similarly situated companies. If a commissioner does not vote under such circumstances, he shall announce for the record his reason for not voting.

The commission may not contract with a company in which a commissioner has a personal or financial interest unless (1) that company is the only company able to provide the services required by the commission, or (2)(a) other similarly situated and qualified companies have had the opportunity to enter into contracts with the same terms and conditions as the contract between the commission and the commissioner's company, (b) the decision to approve the contract does not involve a discretionary decision by the commission to choose among qualified companies, and (c) the relationship of the commissioner to such company is disclosed at the time the contract is approved by the commission.

Example. Commissioner A is an experienced mortgage lender and is the vice president of mortgage lending Company X. The commission is considering a multi-family financing program which will probably involve many lenders throughout the state, including Company X. Commissioner A may participate fully in the structuring of the financing program so long as the terms and conditions of the program apply equally to all of the eligible lending institutions in the state. Ultimately, three qualified lenders, including Company X, seek to participate in the program and agree to sign identical contracts. Commissioner A may not vote to approve the contract with Company X because the commissioner would directly benefit and may not vote to approve the contract with the other two lenders because the commissioner may indirectly benefit from the decision. The commissioner must identify for the record that he has a potential conflict. The commission may proceed to approve all three contracts.

(4) A commissioner or commission employee shall not disclose confidential information or use confidential information gained by reason of service to or employment with the commission to further any private financial transaction.

(5) In the event that a commissioner has been disqualified from voting on a commission issue due to a conflict of interest, the commission may proceed to vote on such issue unless it finds that despite such disqualification the conflict of interest would inappropriately influence its decision.

(6) Within two years after the termination of service or employment, no commissioner or commission employee shall request that the commission take a discretionary action. This provision shall not prohibit a former commissioner from becoming involved in a transaction with the commission if he is a member of the general public or a specific interest group related to the housing construction or finance, and he receives the same treatment as all similarly situated persons. At no time following the termination of service or employment may a commissioner or commission employee receive compensation for any services rendered on behalf of any person in relation to any case, proceeding, or application with respect to which the commissioner voted or employee personally participated during the period of the service or employment.

Example. The term of Commissioner X expires on June 1, 1985. On October 15, 1985 the commission is requested to adopt "official action" resolutions with respect to 10 multifamily rental projects, one of which is being developed by former Commissioner X. The policy of the commission is to adopt all "official action" resolutions requested, so it may adopt the resolution benefitting former Commissioner

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~~X. On March 1, 1986 former Commissioner X requests that the commission engage his underwriting company to be one of four underwriters from a pool of 10 applicant underwriters. Since this request is within 2 years of his tenure as a commissioner and such commission action requires a discretionary decision by the commission to choose among competing underwriters, former Commissioner X must withdraw his request.~~)) (1) Activities incompatible with public duties; financial interests in transactions. No commissioner or commission employee may be beneficially interested, directly or indirectly, in a contract, sale, lease, purchase, or grant that may be made by, through, or is under the supervision of the commissioner or commission employee, in whole or in part, or accept, directly or indirectly, any compensation, gratuity, or reward from any other person beneficially interested in such contract, sale, lease, purchase or grant.

No commissioner or commission employee may participate, in his or her official capacity, in a transaction involving the state with a partnership, association, corporation, firm or other entity of which the commissioner or commission employee is an officer, agent, employee or member, or in which the commissioner or commission employee owns a beneficial interest.

A commissioner may participate in a general discussion with respect to a method or system of financing for housing or nonprofit facilities which could benefit an industry or interest group which includes an entity of which the commissioner is an officer, agent, employee or member or in which the commissioner owns a beneficial interest: *Provided,* That such commissioner shall announce or otherwise make known such involvement at the time of such discussion, and: *Provided further,* That such commissioner's participation be limited to providing general expertise and not include any attempt to influence the votes of other commission members in favor of the entity with which such commissioner is so involved. A commissioner shall abstain from any vote taken by the commission to approve a transaction involving the commission with an entity with which the commissioner is so involved, and if a commissioner abstains from voting because of such involvement such commissioner shall announce for the record his or her reason for his or her abstention.

The commission may contract with a partnership, association, corporation, firm or other entity of which the commissioner is an officer, agent, employee or member or in which the commissioner owns a beneficial interest so long as each commissioner so involved with such entity abstains from voting and the reason for such abstention is announced for the record at the time of such vote.

Example 1. A commissioner serves as an officer and member of the board of directors of a savings and loan company. The commission is considering a program involving the issuance of bonds to provide for the acquisition of mortgage loans originated by mortgage lenders across the state. The commissioner may participate in a general discussion of the commission's program for financing mortgage loans and the commission may enter into a contract for the origination and sale of mortgage loans with the savings and loan company on whose board the commissioner sits: *Provided,* That (a) at the time of the discussion, the commissioner informs the other commissioners of his/her involvement with the savings and loan company, (b) the commissioner abstains from any vote approving any contract between the commission and the savings and loan company, and (c) at the time of such vote, the commissioner explains the reason for his/her abstention.

Example 2. A commissioner and a commission employee serve without compensation on a housing advisory committee established by the Federal National Mortgage Association. The commissioner and the commission employee may participate fully in the consideration and approval of contracts between the Federal National Mortgage Association and the commission for the purchase and sale of commission bonds and for the credit enhancement of single-family and multifamily mortgages, because neither the commissioner nor the commission employee has any direct or indirect interest in the Federal National Mortgage Association as a member of an advisory committee and their participation in discussions and approval of such arrangements is in the public interest.

(2) Limitations of gifts. No commissioner or commission employee may receive, accept, take, seek, or solicit, directly or indirectly, any thing of economic value as a gift, gratuity, or favor from a person if it could be reasonably expected that the gift, gratuity, or favor would influence the vote, action, or judgment of the commissioner or employee, or be considered as part of a reward for action or inaction.

No commissioner or commission employee may accept gifts other than those specified below:

(a) Unsolicited tokens or awards of appreciation in the form of a plaque, trophy, desk item, wall memento, or similar item;

(b) Unsolicited items received for the purpose of evaluation or review if the commissioner or commission employee has no personal beneficial interest in the eventual use or acquisition of the item by the commission;

(c) Informational material, publications, or subscriptions related to the recipient's performance of official duties;

(d) Food and beverages consumed at hosted receptions where attendance is related to the official duties of the commissioner or the commission employee;

(e) Admission to, and the cost of food and beverages consumed at, events sponsored by or in conjunction with a civic, charitable, governmental, or community organization;

(f) Unsolicited advertising or promotional items of nominal value, such as pens and note pads;

(g) Items related to the outside business of the recipient that are customary and not related to the recipient's performance of official duties;

(h) Items exchanged among commissioners and commission employees or a social event hosted or sponsored by a commissioner or commission employee for coworkers;

(i) Items from family members or friends where it is clear beyond a reasonable doubt that the gift was not made as part of any design to gain or maintain influence with respect to the commission;

(j) Items returned by the recipient to the donor within thirty days of receipt or donated to a charitable organization within thirty days of receipt;

(k) Campaign contributions reported under chapter 42.17 RCW;

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(l) Discounts available to an individual as a member of an employee group, occupation or similar broad-based group;

(m) Awards, prizes, scholarships, or other items provided in recognition of academic or scientific achievement; and

(n) Items a commissioner or commission employee is authorized to accept by law.

A commissioner or commission employee is specifically prohibited from accepting the following items from a person or entity who seeks to provide goods or services to the commission:

(i) Payments of expenses incurred in connection with a speech, presentation, appearance or trade mission made in an official capacity;

(ii) Payments for seminars and educational programs sponsored by a bona fide nonprofit professional, education, or trade association, or charitable institution; or

(iii) Flowers, plants and floral arrangements.

Example 1. Following the successful closing of a bond transaction, an underwriter, a bond attorney, a commissioner and two commission employees go to a restaurant to celebrate. Neither the commissioner nor the commission staff may permit the underwriter or the bond attorney to host the celebration, because the underwriter is potentially seeking to provide services to the commission and none of the exceptions applicable to accepting food or beverages, i.e., a hosted reception or a civic event, apply. The commissioner and commission employee may attend the closing celebration and, at their own expense (or, if appropriate, at the expense of the commission), may pay for their meals.

Example 2. During a recess in the commission's public meeting, an underwriter, a commissioner and two commission employees go to a restaurant for lunch and discuss, among other things, commission matters. Neither the commissioner nor the commission staff may permit the underwriter to buy their lunch.

Example 3. In the course of an all day session to review bond documents, bond counsel orders sandwiches for underwriters, attorneys, and commission staff. Commission staff may accept such lunch only if it is ultimately paid by the commission from bond proceeds as a cost of issuing the bonds or from an alternative source of commission funds.

Example 4. Commissioners and commission staff attend a national convention of state housing authorities. The commissioners, commission staff and their spouses are invited to a cocktail reception, followed by a sit-down dinner, for all convention attendees. The reception and dinner are co-sponsored by several underwriters. At the cocktail reception, the co-hosts provide food and beverages, including substantial hors d'oeuvres. There are some tables where guests may be seated but most people stand. Commissioners and commission staff may attend the cocktail reception. Because the event is co-hosted, it does not create any perception that the attendees are favoring a particular business entity. Also, the event involves a diverse group of people, rather than solely commissioners, commission staff, and persons who provide goods and services to the commission. Finally, even though tables and chairs are provided, it is not a sit-down meal. Commissioners and commission staff may not attend the dinner following the cocktail reception (without compensating the hosts for the cost of the dinner) because it is a sit-down dinner rather than a hosted reception.

Example 5. An underwriter invites a commissioner with whom he has enjoyed a personal friendship to a holiday open house at his home. The commissioner and her spouse may attend the party and partake of food and beverage since the underwriter enjoys a friendship with the commissioner and it is clear beyond a reasonable doubt that the gift of food and beverage in the context of a holiday open house was not designed to gain or maintain influence.

Example 6. At a national convention for state housing authorities, a commission employee is invited to accept a T-shirt on which there is printed the logo of an underwriter. The employee may accept such gift because it is advertising material of nominal value.

Example 7. Fannie Mae offers a commission employee a scholarship to attend a series of educational classes. The class material is relevant to the employee's responsibilities. The employee cannot accept the scholarship because Fannie Mae is an entity who seeks to provide services to the commission.

Example 8. A commission employee is invited to participate in a panel discussion before a housing industry group. The lunch of each panel member is paid for by the host organization. The commission employee may not accept such lunch (without compensating the hosts for the cost of the lunch) because it is a sit-down lunch rather than a hosted reception. Because participation in such a panel discussion is likely to promote the interests of the commission, the commission employee is encouraged to seek reimbursement for the costs of such meal from the commission.

Discussion. The purpose of the rule and the statute on which it is based is to prevent the acceptance of gifts by commissioners and commission employees that could influence commission decision making. Thus, the rule recognizes the importance of ensuring the commission's impartiality.

The rule also ensures that commissioners and commission staff with experience and expertise in housing matters are able to contribute this experience and expertise to the commission's work in an unbiased manner.

Finally, the rule stresses the importance of maintaining the public trust in this impartiality. Therefore, the rule prohibits the acceptance of gifts that could be interpreted as influencing such decision making. Although it would be difficult to believe that any commissioner or commission employee would be influenced by the acceptance of gifts or a sit-down meal, the commission seeks to regulate the acceptance of gifts that could be inappropriately interpreted as influencing commission decision making.

The rule is not designed to prevent commissioners, commission staff and those with whom the commission contracts from eating together, being social friends or in certain appropriate public situations attending as representatives of the commission hosted receptions at which refreshments are served.

PERMANENT

## WSR 97-16-021
PERMANENT RULES
## HOUSING FINANCE COMMISSION
[Filed July 28, 1997, 10:09 a.m.]

Date of Adoption: July 24, 1997.

Purpose: Allowing for the appointment of designees to act on behalf of commission members.

Citation of Existing Rules Affected by this Order: Amending WAC 262-01-030.

Statutory Authority for Adoption: Chapter 43.180 RCW.

Adopted under notice filed as WSR 97-11-065 on May 21, 1997.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 0, amended 1, repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 1, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 0, repealed 0.

Effective Date of Rule: Thirty-one days after filing.

July 24, 1997
Mark McLaughlin
Deputy Executive Director

AMENDATORY SECTION (Amending Resolution No. 84-1, filed 1/27/84)

**WAC 262-01-030 Description of organization.** (1) The commission is a public body, corporate and politic, with perpetual corporate succession. The commission is an instrumentality of the state of Washington, exercising essential government functions and, for the purposes of the United States Internal Revenue Code, acts as a constituted authority on behalf of the state of Washington when it issues bonds pursuant to chapter 161, Laws of 1983.

(2) Members. The commission shall consist of the members provided for and appointed in accordance with section 4(2), chapter 161, Laws of 1983.

(3) Officers. The officers of the commission shall be:

(a) A chair of the commission, who shall be appointed by the governor as chair and who shall serve on the commission and as chair of the commission at the pleasure of the governor;

(b) A vice chair, who shall be selected by the commission from among its membership and shall serve as chair in the absence of the appointed chair;

(c) A secretary, who shall be the state treasurer, who is a member of the commission ex officio, and who shall serve as secretary of the commission by virtue of his or her office;

(d) A treasurer, who shall be selected by the commission from its membership. The treasurer shall have custody of and be responsible for all moneys and obligations of the commission and shall deposit such moneys in such banks or other financial institutions as the commission may designate from time to time; or shall invest such moneys not required for immediate disbursement, as the commission may direct from time to time.

(4) Staff services. The commission may employ such staff or temporary staff as it may from time to time direct by motion or by resolution. The commission may from time to time, by motion or by resolution, employ, contract with, or engage engineers, architects, attorneys, financial advisors, bond underwriters, mortgage lenders, mortgage administrators, housing construction or financing experts, other technical or professional assistants, and such other personnel as are necessary. The commission may delegate to the appropriate persons the power to execute legal instruments on its behalf.

(5) Powers. Except as provided in subsection (6) of this section, the commission may by motion or by resolution exercise any or all of the powers specified in chapter 161, Laws of 1983.

(6) The commission may exercise its powers under section 5, chapter 161, Laws of 1983, only by resolution. In order to be effective, each resolution must be adopted by a majority of the commission present and voting at a duly constituted meeting in accordance with WAC 262-01-040, and must be signed by the chair and attested to by the secretary of the commission.

(7) Minutes. In order to be effective, the minutes of any meeting of the commission must be adopted by a majority of the members of the commission present and voting at a duly constituted meeting of the commission in accordance with WAC 262-01-040, and signed and attested to by the secretary of the commission.

(8) Designees. Subject to the approval of a majority of the commission present and voting at a duly constituted meeting in accordance with WAC 262-01-040, an ex officio member of the commission identified in RCW 43.180.040 (2)(a) or (b) may appoint a designee in writing to act on his or her behalf ((~~until the next public meeting~~)). Upon such approval of the commission, the designee shall serve as a member of the commission with full authority to vote or carry out the duties of ((~~his or her~~)) the office of the ex officio member until the expiration of the designee's written appointment or the ex officio member appoints a temporary or permanent successor to such designee. The term of an appointee shall automatically expire upon replacement of the designating ex officio member. Nothing herein shall prevent the ex officio member from carrying out his or her duties himself or herself during the term of such appointment, in which case the authority of the designee shall be temporarily suspended.

## WSR 97-16-023
PERMANENT RULES
## STATE BOARD OF EDUCATION
[Filed July 28, 1997, 10:48 a.m.]

Date of Adoption: July 25, 1997.

Purpose: To repeal chapter 180-110 WAC, Grant program—Schools for the twenty-first century.

PERMANENT

Citation of Existing Rules Affected by this Order: Repealing chapter 180-110 WAC.

Adopted under notice filed as WSR 97-13-017 on June 9, 1997.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 0, amended 0, repealed 14.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 0, repealed 14.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 0, repealed 14.

Effective Date of Rule: Thirty-one days after filing.

July 28, 1997
Larry Davis
Executive Director

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REPEALER

The following chapter of the Washington Administrative Code is repealed:

| | |
|---|---|
| WAC 180-110-010 | Authority. |
| WAC 180-110-015 | Purpose. |
| WAC 180-110-017 | Public policy statement. |
| WAC 180-110-020 | Pilot project—Definition. |
| WAC 180-110-030 | Delivery of applications—Deadlines—Modifications. |
| WAC 180-110-035 | Application contents. |
| WAC 180-110-040 | Information and recommendations to be submitted to the state board of education. |
| WAC 180-110-045 | Considerations respecting the approval of pilot projects. |
| WAC 180-110-050 | Standards for the modification or waiver of the state board of education rules. |
| WAC 180-110-052 | Waiver of state statutes. |
| WAC 180-110-053 | Waiver of federal rules. |
| WAC 180-110-055 | Pilot project monitoring. |
| WAC 180-110-060 | Annual school district reports. |
| WAC 180-110-065 | Duration and termination of pilot project approval. |

## WSR 97-16-024
### PERMANENT RULES
### STATE BOARD OF EDUCATION
[Filed July 28, 1997, 10:50 a.m.]

Date of Adoption: July 25, 1997.

Purpose: To repeal chapter 180-115 WAC, Grant project—Student teaching pilot projects.

Citation of Existing Rules Affected by this Order: Repealing chapter 180-115 WAC.

Adopted under notice filed as WSR 97-13-016 on June 9, 1997.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 0, amended 0, repealed 21.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 0, repealed 21.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 0, repealed 21.

Effective Date of Rule: Thirty-one days after filing.

July 28, 1997
Larry Davis
Executive Director

REPEALER

The following chapter of the Washington Administrative Code is repealed:

| | |
|---|---|
| WAC 180-115-005 | Authority. |
| WAC 180-115-010 | Purpose. |
| WAC 180-115-015 | Student teaching—Definition. |
| WAC 180-115-020 | Grant project participants—Definition. |
| WAC 180-115-025 | Cooperating teacher—Definition. |
| WAC 180-115-030 | Grantee agency—Definition. |
| WAC 180-115-035 | Responsibilities of the grantee agency. |
| WAC 180-115-040 | Pilot program grants. |
| WAC 180-115-045 | Program development, implementation, and administration. |
| WAC 180-115-050 | Grant application components. |
| WAC 180-115-055 | Funding priorities. |
| WAC 180-115-060 | Advisory committee. |
| WAC 180-115-065 | Advisory committee selection criteria. |
| WAC 180-115-075 | Applications procedures. |
| WAC 180-115-080 | Form and content of proposals. |
| WAC 180-115-081 | Continuation of 1987-89 pilot projects. |
| WAC 180-115-085 | Assurance of assessment. |
| WAC 180-115-090 | Date for receipt of proposals by the superintendent of public instruction. |
| WAC 180-115-095 | Indirect costs. |
| WAC 180-115-100 | General provision—Carryover provision. |
| WAC 180-115-105 | Timeline for projects. |

## WSR 97-16-026
PERMANENT RULES
## DEPARTMENT OF AGRICULTURE
[Filed July 29, 1997, 10:03 a.m.]

Date of Adoption: July 28, 1997.

Purpose: Response to industry request to increase seed certification fees for buckwheat, chickpea, field pea, lentil, millet, soybean, sorghum, and small grains, and to clarify wording in the field and seed standards for small grains.

Citation of Existing Rules Affected by this Order: Amending WAC 16-316-474.

Statutory Authority for Adoption: RCW 15.49.310 and 15.49.370(3).

Adopted under notice filed as WSR 97-11-050 on May 20, 1997.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 1, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 0, amended 0, repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 1, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 1, repealed 0.

Effective Date of Rule: Thirty-one days after filing.

July 28, 1997
Jim Jesernig
Director

AMENDATORY SECTION (Amending WSR 96-14-091, filed 7/2/96, effective 8/2/96)

**WAC 16-316-474 Buckwheat—Chickpea—Field pea—Lentil—Millet—Soybean—Sorghum—Small grain—Application and fees.** (1) An application for seed certification with application fee, field inspection fee, and late application fee (if due) for each field shall be filed by or for each grower with Washington State Crop Improvement Association, Inc., the certifying agency for seeds of buckwheat, chickpea (garbanzo beans), field pea, lentil, millet, soybean, sorghum and small grains.

(2) Due dates:

(a) Buckwheat - June 1

(b) Field pea - June 1

(c) Chickpea - June 1

(d) Lentil - June 1

(e) Millet - June 1

(f) Soybean - July 1

(g) Sorghum - July 15

(h) Small grains - June 1 for both winter varieties and spring varieties.

(i) After due date, an application with late application fee may be accepted for service.

(3) Fees:

(a) Application fee per variety per grower ((~~$17.56~~)) $18.27

(b) Field inspection fee per acre except millet and hybrid sorghum . . . ((~~$ 2.46~~)) $ 2.55

(c) Millet - first acre . . . . . ((~~$26.11~~)) $27.16

- each additional acre . . . . . ((~~$ 5.22~~)) $ 5.43

(d) Hybrid sorghum - first acre . . . . . ((~~$26.11~~)) $27.16

- each additional acre . . . . . ((~~$10.44~~)) $10.86

(e) Special field inspection fee per acre . . ((~~$ 2.09~~)) $ 2.27

(f) Late application fee . . . . . ((~~$16.46~~)) $17.12

(g) Reinspection fee . . . . . ((~~$32.93~~)) $34.26

minimum for each field which did not pass field inspection plus $ 0.40 for each acre over twenty-five. The reinspection fee for isolation requirements only for a field of any size is ((~~$32.93~~)) $34.26.

(h) Final certification fee . . . . . ((~~$ 0.215~~)) $ 0.22

per cwt. of clean seed sampled, which shall be charged to conditioning plant, or production fee . . . . . $0.105 per cwt. of production from fields inspected which is utilized for seed, which shall be charged to the grower or the final seller prior to brokerage, retail sale, sale to plant not approved for conditioning certified seed, or transshipment out-of-state.

(i) Sampling fee . . . . . $0.105 per cwt. of clean seed sampled, with minimum charge of ten dollars per sample, which shall be charged to conditioning plant in lieu of mechanical sampling.

(4) A field may be withdrawn upon notification by the applicant to the certifying agency's office before field inspection. In such case, the field inspection fee shall be refunded upon request until June 30 of the year following harvest.

(5) Harvest before field inspection causes forfeitures of both the application and field inspection fees, and completion of certification.

AMENDATORY SECTION (Amending Order 5086, filed 10/25/95, effective 11/25/95)

**WAC 16-316-715 Miscellaneous field and seed inspection standards.** (1) The field inspection will be made:

(a) For field pea and chickpea (garbanzo bean) - when seedcrop is in full bloom and at maturity;

(b) For lentil - when seedcrop is in full bloom and at maturity;

(c) For soybean - when seedcrop is in full bloom and/or of mature color;

(d) For open pollinated sorghum - when seedcrop is in full bloom, and optionally again when seedcrop begins to show mature color;

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(e) For hybrid sorghum - two inspections during bloom and one inspection after seed begins to show mature color.

(f) For small grains - when seedcrop is fully headed and of mature color.

(g) For millet - one inspection during bloom and one inspection after seed begins to show mature color.

(h) For buckwheat - one inspection when seedcrop is in full bloom.

(2) Any condition or practice which permits or causes contamination of the seedcrop, such as failure to prevent seed formation in bindweeds, Canada thistle or jointed goatgrass, or excess weeds, or mechanical field mixing, shall be cause for rejection upon inspection for field standards. Except: Fields of chickpea, lentil, and field pea will not be rejected for allowing seed formation of bindweed or Canada thistle. Fields rejected for jointed goatgrass at first inspection are not eligible for reinspection and shall remain ineligible for any production of certified classes of small grain seed until a reclamation procedure, as specified in subsection (3) of this section has been completed. Fields rejected for other causes will remain eligible for reinspection.

(3) The jointed goatgrass reclamation procedure shall include the following:

(a) Each grower shall develop a reclamation plan for his/her affected fields. Such a plan shall be based on the most current recommendations of Pacific Northwest scientists and Washington State University cooperative extension as well as good management practices. Such plan may include use of certified seed, spring cropping practices, and late tilling and planting. No particular program is specified or endorsed and compliance with such program does not assure eligibility for the production of certified classes of small grain seed. Such eligibility shall be based solely upon results of field inspections as provided in (b) through (e) of this subsection.

(b) The rehabilitation and inspection program duration shall be three years for irrigated land and five years for dryland without production of certified small grain seed and the first year of certified seed production thereafter.

(c) Annual inspections of the affected fields shall be conducted by the Washington State Crop Improvement Association (WSCIA) during the prescribed rehabilitation period at such time that the jointed goatgrass would be most visible.

(d) Following the prescribed period of rehabilitation and during the first certified seed production year, a minimum of three field inspections shall be conducted by WSCIA.

(e) Should jointed goatgrass be found during any inspection as provided in (c) and (d) of this subsection, the rehabilitation program shall be determined to be unsuccessful or the field shall be declared ineligible and the rehabilitation and inspection program for that field shall begin again at year one of the procedure.

(4) No prohibited noxious weed seeds are permitted upon inspection for seed standards.

(5) Germination minimum refers to germination when sampled.

(6) If chemically controllable seed-borne diseases are noted upon inspection for field standards and seed standards for small grains, treatment of seed is required.

(7) Concerning wild oat, isolated patches and borders must be removed or clearly marked so as to avoid harvesting with the rest of the field. If rejected, a reinspection will be necessary to assure clean-up efforts have been satisfactory. Spot checks will occur on fields where heavy patches or contaminated borders were noted. Harvesting these areas with the rest of the field will be cause for rejection of the entire field.

(8) The official laboratory providing seed analysis for the purpose of certification shall be the Washington state department of agriculture.

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AMENDATORY SECTION (Amending WSR 96-14-091, filed 7/2/96, effective 8/2/96)

**WAC 16-316-724 Small grains standards.** (1) Small grains (barley, oat, rye, triticale, wheat) - land, isolation, and field standards:

| CLASS | LAND STANDARDS MINIMUM YEARS | ISOLATION STANDARDS MINIMUM FEET | FIELD STANDARDS OFF-TYPE MAXIMUM HEAD RATIO | FIELD STANDARDS OTHER CROP MAXIMUM HEAD RATIO | FIELD STANDARDS WILD OAT MAXIMUM PLANTS/ACRE |
|---|---|---|---|---|---|
| Foundation | 2* | 3** | None found | None found*** | None found |
| Registered | 1* | 3** | 1/148,000 | 1/148,000*** | 5 |
| Certified | 1* | 3** | 1/49,000 | 1/49,000*** | 5 |

* Waived if the previous crop was grown from an equal or higher certified class of seed of the same variety.

** Refers to distance from other small grain fields. Foundation class fields shall be isolated ninety feet from fields of the same ((~~species~~)) genus. In addition, each rye field for certification shall be isolated from fields producing a certified class of the same variety by three feet, and from other rye fields by six hundred sixty feet. Each triticale field for certification shall be isolated from fields producing a certified class of the same variety by three feet, and from other triticale, rye and wheat fields by three hundred feet for foundation and registered class, and three feet for certified class, unless otherwise stated by plant breeder.

*** Refers to other small grains, except that no rye or triticale is permitted in barley, oat, or wheat; no vetch is permitted.

(2) Small grains - seed standards:

| | Class: Foundation | Registered | Certified |
|---|---|---|---|
| Pure seed (min) | 98% | 98% | 98% |
| Inert (max) | 2% | 2% | 2% |
| Off-type(*) (max) | None found | 2/lb | 4/lb |
| Other small grain(*) (max) | None found | 1/lb | 2/lb |
| Other crop(**) (max) | None found | 0.03% | 0.05% |
| Weed seed (max) | 0.01% | 0.01% | 0.03% |
| Objectionable weed seed(***) (max) | None found | None found | 1/lb |
| Wild oat (max) | None found | None found | None found(****) |
| ((~~Germ or TZ~~)) Viability(*****) (min) | 85% | 85% | 85% |

(*) The combination of other small grain and off-type shall not exceed 2/lb for Registered class, and 4/lb for Certified class. No rye, triticale, or vetch is permitted in barley, oat, or wheat. No rye or vetch is permitted in triticale. No triticale or vetch is permitted in rye.

(**) Excluding off-type and other small grain.

(***) Excluding wild oat.

(****) 1/lb for Certified class oat.

(*****) A certification certificate will be issued upon receipt of either an official AOSA tetrazolium or germination test which meets minimum Washington viability standards. NOTE: State and federal seed laws require seed to be labeled based on a germination test.

Note: For all classes the purity analysis shall be based on 100 grams examined. For Registered and Certified classes, noxious weed, vetch, off-type, and other small grain, determinations shall be based on 500 grams examined. For Foundation class, noxious weed, vetch, off-type, and other small grain determinations shall be based on two pounds examined.

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WSR 97-16-030
PERMANENT RULES
DEPARTMENT OF
FISH AND WILDLIFE
(Fisheries)
[Order 97-124—Filed July 29, 1997, 4:50 p.m.]

July 29, 1997
Lisa Pelly, Chairperson
Fish and Wildlife Commissio

Date of Adoption: May 30, 1997.

Purpose: Amend Puget Sound commercial salmon fishing rules, and to adopt methods to ensure survival and provide accounting mechanism of nontargeted salmon.

Citation of Existing Rules Affected by this Order: Amending WAC 220-47-301, 220-47-302, 220-47-304, 220-47-307, 220-47-311, 220-47-319, 220-47-401, 220-47-410, 220-47-411, 220-47-427 and 220-47-428; and new section WAC 220-47-325.

Statutory Authority for Adoption: RCW 75.08.080.

Adopted under notice filed as WSR 97-09-096 and 97-09-104 on April 23, 1997.

Changes Other than Editing from Proposed to Adopted Version: WAC 220-47-301, added language providing for reduced seabird entanglement in seine nets by requiring at least four gaps in the corkline through which birds can escape.

WAC 220-47-302, deleted language requiring gill net "bird strip" beginning in 1997 during Area 7 sockeye/pink fisheries.

WAC 220-47-325, made technical correction to WAC number as the WAC number filed had been previously used. Modified language to address the need of fishers to make an effort to sort fish which are required to be released from the retained catch. Deleted language referring to live-tanks and limiting the number of fish allowed to be brought aboard.

WAC 220-47-410, modified language to clarify fishing hours and added language requiring that all gear must be out of the water and stowed aboard at 12:00 midnight.

WAC 220-47-411, deleted language "Note: In 1997, it shall be unlawful to take or fish for sockeye or pink salmon in Areas 7 or 7A with gill net gear prior to August 1, 1997, and after August 23, 1997."

WAC 220-47-427, modified proposed language in subsection (4)(a) to ". . . except that **during the Fraser sockeye and pink salmon species season** in Areas 7 and 7A "participation" means . . ."

WAC 220-47-428, modified to correct language in the filing from "During 1996 . . ." to "During 1997 . . ."

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 1, amended 11, repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 0, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 1, amended 11, repealed 0.

Effective Date of Rule: Thirty-one days after filing.

AMENDATORY SECTION (Amending Order 87-72, filed 7/14/87)

**WAC 220-47-301 Puget Sound—Lawful gear—Purse seine.** (1) Lawful purse seine salmon nets in Puget Sound shall not exceed 1,800 feet in length along the cork line while wet and purse seine and lead combined shall not exceed 2,200 feet. Neither shall contain meshes of a size less than 4 inches, nor shall the meshes of the seine and lead be lashed together to form one continuous piece of webbed gear. It shall be lawful as part of the purse seine to have a bunt 10 fathoms long and 200 meshes deep which may contain mesh of a size not less than 3-1/2 inches.

(2) It shall be unlawful to take or fish for salmon with purse seine gear in Puget Sound which contains mesh webbing constructed of a twine size smaller than 210/30d nylon, 12 thread cotton or the equivalent diameter in any other material.

(3) It shall be unlawful for any purse seine vessel to carry an extra lead or portion thereof unless stowed below decks during the fishing operation, nor may an extra lead or portion thereof be carried aboard its skiff.

(4) Purse seine mesh size shall be defined as the distance between the inside of one knot to the outside of the opposite vertical knot of one mesh. Minimum mesh size is met if a wedge of legal size can be passed without undue force through the mesh while wet.

(5) A purse seine will not be considered to be fishing once both ends of the seine are attached to the primary vessel.

(6) It shall be unlawful to take or fish for salmon with purse seine gear in Puget Sound unless at least four sections, each measuring no less than 12 inches in length, along the corkline in the bunt and within 75 fathoms of the bunt have no corks or floats attached. These four sections must be spaced such that one section is along the corkline in the bunt, within 5 fathoms of the seine net, and the other three sections must be spaced at least 20 fathoms apart along the corkline within 75 fathoms of the bunt.

AMENDATORY SECTION (Amending Order 93-55, filed 6/29/93, effective 7/30/93)

**WAC 220-47-302 Puget Sound—Lawful gear—Gill net.** (1) Lawful drift gill net salmon gear in Puget Sound shall not exceed 1,800 feet in length nor contain meshes of a size less than 5 inches.

(2) Lawful skiff gill net salmon nets in Puget Sound shall not exceed 300 feet in length and 90 meshes in depth nor contain meshes of a size less than 5 inches. Nets must be retrieved by hand (no hydraulics may be used). ((~~The skiff from which the net is deployed shall not exceed 20 feet in length.~~)) Nets must be attended by the fisher at all times.

(3) Drift gill nets and skiff gill nets shall be operated substantially in a straight line. Circle setting or setting oth than substantially in a straight line shall be unlawful.

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(4) All gill net gear used in Puget Sound must have floats or corks of a contrasting color attached in 50-foot intervals along the corkline.

(5) It shall be unlawful to take or fish for salmon with gill net gear beginning in 1998 in Areas 7 or 7A sockeye or pink fisheries unless said gill net gear is constructed so that the first 20 meshes below the corkline are composed of five-inch mesh white opaque minimum 210d/30 (#12) diameter nylon twine.

AMENDATORY SECTION (Amending Order 96-81, filed 7/22/96, effective 8/22/96)

**WAC 220-47-304 Puget Sound—All citizen salmon species seasons.** The following are Puget Sound all citizens salmon species seasons listed by area and species:

| AREA | SPECIES | DATE - | RANGE |
|---|---|---|---|
| 6D: | COHO | ((~~9/22~~ - ~~10/26~~)) 9/21 - | 10/25 |
| 7,7A: | FRASER SOCKEYE AND PINK | ((~~6/25~~ - ~~9/30~~)) 6/22 - | 9/27 |
| | CHUM | ((~~9/29~~ - ~~11/16~~)) 9/28 - | 11/15 |
| 7B: | CHINOOK | ((~~8/11~~ - ~~9/7~~)) 8/10 - | 9/6 |
| | COHO | ((~~9/8~~ - ~~10/26~~)) 9/7 - | 10/25 |
| | CHUM | ((~~10/27~~ - ~~12/14~~)) 10/26 - | 12/13 |
| 7C: | CHINOOK | ((~~8/11~~ - ~~10/12~~)) 8/10 - | 10/11 |
| 8: | PINK | 8/24 - | 9/13 |
| | CHUM | ((~~10/27~~ - ~~11/30~~)) 10/26 - | 11/29 |
| 8A: | PINK | 8/3 - | 9/6 |
| | CHUM | ((~~10/20~~ - ~~11/30~~)) 10/19 - | 11/29 |
| 8D: | COHO | ((~~9/22~~ - ~~11/9~~)) 9/21 - | 11/8 |
| | CHUM | ((~~11/10~~ - ~~12/21~~)) 11/9 - | 12/20 |
| 9A: | COHO | ((~~9/15~~ - ~~11/2~~)) 9/14 - | 11/1 |
| 10, 11: | COHO | 9/7 - | 10/11 |
| | CHUM | ((~~10/13~~ - ~~11/30~~)) 10/12 - | 11/29 |
| ((~~11:~~ | ~~COHO~~ | ~~9/8 - 10/12~~ | |
| | ~~CHUM~~ | ~~10/13 - 11/30~~)) | |
| 12: | CHUM | ((~~10/20~~)) - 10/19 | 11/20 |
| 12A: | COHO | ((~~9/1~~ - ~~10/12~~)) 8/31 - | 10/11 |
| 12B: | CHUM | ((~~10/27~~)) - 10/19 | 11/20 |
| 12C: | CHUM | ((~~10/27~~ - ~~11/30~~)) 10/26 - | 11/27 |

AMENDATORY SECTION (Amending Order 96-81, filed 7/22/96, effective 8/22/96)

**WAC 220-47-307 Closed areas—Puget Sound salmon.** It is unlawful at any time, unless otherwise provided, to take, fish for, or possess salmon taken for commercial purposes with any type of gear from the following portions of Puget Sound Salmon Management and Catch Reporting Areas, except that closures listed in this section shall not apply to reef net fishing areas listed in RCW 75.12.140:

Areas 4B, 5, 6, 6B, and 6C - The Strait of Juan de Fuca Preserve as defined in WAC 220-47-266.

Area 6D - That portion within 1,000 feet of each mouth of the Dungeness River. Through October 4, 1997, closed in those waters within 1,000 feet of shore between the Dungeness Oyster House and a fish and wildlife boundary marker 1,000 feet east of the easternmost mouth of the Dungeness River.

Area 7 - (1) The San Juan Island Preserve as defined in WAC 220-47-262.

(2) Those waters within 1,500 feet of shore on Orcas Island from Deer Point northeasterly to Lawrence Point thence west to a point intercepting a line projected from the northernmost point of Jones Island thence 90° true to Orcas Island.

(3) Those waters within 1,500 feet of the shore of Cypress Island from Cypress Head to the northernmost point of Cypress Island.

(4) Those waters easterly of a line projected from Iceberg Point to Iceberg Island, to the easternmost point of Charles Island, then true north from the northernmost point of Charles Island to the shore of Lopez Island.

(5) Those waters northerly of a line projected from the southernmost point of land at Aleck Bay to the westernmost point of Colville Island, thence from the easternmost point of Colville Island to Point Colville.

(6) Those waters easterly of a line projected from Edith Point on Fidalgo Island to the Dennis Shoal Light, thence to the light on the westernmost point of Burrows Island, thence to the southwesternmost point of Fidalgo Head.

Area 7A - The Drayton Harbor Preserve as defined in WAC 220-47-252.

Area 7B - That portion south and east of a line from William Point on Samish Island to Saddlebag Island to the southeastern tip of Guemes Island, and that portion northerly of the railroad trestle in Chuckanut Bay.

Area 7C - That portion southeasterly of a line projected from the mouth of Oyster Creek 237° true to a fishing boundary marker on Samish Island.

Area 8 - (1) That portion of Skagit Bay easterly of a line projected from Brown Point on Camano Island to a white monument on the easterly point of Ika Island, thence across the Skagit River to the terminus of the jetty with McGlinn Island.

(2) Those waters within 1,500 feet of the western shore of Camano Island south of a line projected true west from Rocky Point.

Area 8A - Those waters easterly of a line projected from Mission Point to Buoy C1, excluding the waters of Area 8D, thence through the green light at the entrance jetty of the Snohomish River and across the mouth of the

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Snohomish River to landfall on the eastern shore, and those waters northerly of a line from Camano Head to the northern boundary of Area 8D.

Area 9 - Those waters lying inside and westerly of a line projected from the Point No Point light to Sierra Echo buoy thence to Forbes Landing wharf, east of Hansville.

Area 10 - (1) Those waters easterly of a line projected from Meadow Point to West Point.

(2) Those waters of Port Madison northwest of a line from the Agate Pass entrance light to the light on the end of the Indianola dock.

(3) Additional coho seasonal closure: Those waters of Elliott Bay east of a line from Alki Point to the light at Fourmile Rock and those waters northerly of a line projected from Point Wells to "SF" Buoy then west to President's Point.

Area 10E - Those waters of Liberty Bay north of a line projected due east from the southernmost Keyport dock, those waters of Dyes Inlet north of the Manette Bridge, and those waters of Sinclair Inlet southwest of a line projected true east from the Bremerton ferry terminal.

Area 11 - (1) Those waters northerly of a line projected true west from the light at the mouth of Gig Harbor and those waters south of a line from Browns Point to the northernmost point of land on Point Defiance.

(2) Additional coho seasonal closure: Those waters south of a line projected from the light at the mouth of Gig Harbor to the Tahlequah ferry dock then south to the Point Defiance ferry dock, and those waters south of a line projected from the Point Defiance ferry dock to Dash Point.

Area 12 - Those waters inside and easterly of a line projected from Lone Rock to the navigation light off Big Beef Creek, thence southerly to the tip of the outermost northern headland of Little Beef Creek.

Area 12A - Those waters north of a line projected due east from Broad Spit.

Area 12B - Those waters within 1/4 mile of the mouths of the Dosewallips, Duckabush, and Hamma Hamma rivers and Anderson Creek.

Areas 12, 12A, and 12B - Additional chinook seasonal closure: Those waters north and east of a line projected from Tekiu Point to Triton Head.

Areas 12, 12B and 12C - Those waters within 1,000 feet of the eastern shore.

Area 12C - (1) Those waters within 2,000 feet of the western shore between the dock at Glen Ayr R.V. Park and the Hoodsport marina dock.

(2) Those waters south of a line projected from the Cushman Powerhouse to the public boat ramp at Union.

(3) Those waters within 1/4 mile of the mouth of the Dewatto River.

Areas 12 and 12D - Additional coho and chum seasonal closure: Those waters of Area 12 south and west of a line projected 94 degrees true from Hazel Point to the light on the opposite shore, bounded on the west by the Area 12/12B boundary line, and those waters of Area 12D.

Area 13A - Those waters of Burley Lagoon north of State Route 302, those waters within 1,000 feet of the outer oyster stakes off Minter Creek Bay including all waters of Minter Creek Bay, those waters westerly of a line drawn due north from Thompson Spit at the mouth of Glen Cove, and those waters within 1/4 mile of Green Point.

AMENDATORY SECTION (Amending Order 96-81, filed 7/22/96, effective 8/22/96)

**WAC 220-47-311 Purse seine—Open periods.** During ((~~1996~~)) 1997, it is unlawful to take, fish for or possess salmon taken with purse seine gear for commercial purposes from Puget Sound except in the following designated Puget Sound Salmon Management and Catch Reporting Areas during the periods provided for hereinafter in each respective Management and Catch Reporting Area:

((~~AREA~~ ~~TIME~~ ~~DATE~~ ~~TIME~~ ~~DATE~~

| | | | | |
|---|---|---|---|---|
| ~~7, 7A:~~ | ~~6AM~~ | ~~10/28~~ | ~~8PM~~ | ~~10/29~~ |
| | ~~6AM~~ | ~~11/04~~ | ~~8PM~~ | ~~11/06~~ |
| | ~~6AM~~ | ~~11/12~~ | ~~8PM~~ | ~~11/14~~ |
| | ~~6AM~~ | ~~11/17~~ | ~~8PM~~ | ~~11/23~~ |
| ~~7B:~~ | ~~6AM~~ | ~~9/09~~ | ~~4PM~~ | ~~9/11~~ |
| | ~~6AM~~ | ~~9/15~~ | ~~4PM~~ | ~~11/09~~ |
| | ~~6AM~~ | ~~11/11~~ | ~~4PM~~ | ~~11/15~~ |
| | ~~6AM~~ | ~~11/18~~ | ~~4PM~~ | ~~11/22~~ |
| | ~~6AM~~ | ~~11/25~~ | ~~4PM~~ | ~~11/29~~ |
| | ~~6AM~~ | ~~12/02~~ | ~~4PM~~ | ~~12/06~~ |
| | ~~6AM~~ | ~~12/09~~ | ~~4PM~~ | ~~12/13~~ |
| ~~8:~~ | ~~7AM~~ | | ~~5PM~~ | ~~11/13~~ |
| | ~~6AM~~ | ~~11/18~~ | ~~8PM~~ | ~~11/19~~ |
| | ~~6AM~~ | ~~11/25~~ | ~~8PM~~ | ~~11/27~~ |
| ~~8A:~~ | ~~6AM~~ | ~~10/21~~ | ~~8PM~~ | ~~10/22~~ |
| | ~~6AM~~ | ~~10/28~~ | ~~8PM~~ | ~~10/29~~ |
| | ~~6AM~~ | ~~11/04~~ | ~~8PM~~ | ~~11/06~~ |
| | ~~6AM~~ | ~~11/12~~ | ~~8PM~~ | ~~11/14~~ |
| | ~~6AM~~ | ~~11/18~~ | ~~8PM~~ | ~~11/20~~ |
| | ~~6AM~~ | ~~11/25~~ | ~~8PM~~ | ~~11/27~~ |
| ~~8D:~~ | ~~7AM~~ | | ~~7PM~~ | ~~9/30, 10/01, 10/02, 10/03, 10/08, 10/09, 10/10, 10/11~~ |
| | ~~7AM~~ | | ~~6PM~~ | ~~10/14, 10/15, 10/16, 10/17~~ |
| | ~~6AM~~ | ~~10/21~~ | ~~8PM~~ | ~~10/22~~ |
| | ~~6AM~~ | ~~10/28~~ | ~~8PM~~ | ~~10/29~~ |
| | ~~6AM~~ | ~~11/04~~ | ~~8PM~~ | ~~11/06~~ |
| | ~~6AM~~ | ~~11/12~~ | ~~8PM~~ | ~~11/14~~ |
| | ~~6AM~~ | ~~11/18~~ | ~~8PM~~ | ~~11/20~~ |
| | ~~6AM~~ | ~~11/25~~ | ~~8PM~~ | ~~11/27~~ |
| ~~10:~~ | ~~7AM~~ | | ~~6PM~~ | ~~10/21~~ |
| | ~~7AM~~ | | ~~5PM~~ | ~~10/29, 11/04, 11/13, 11/18~~ |
| ~~11:~~ | ~~7AM~~ | | ~~6PM~~ | ~~10/21~~ |
| | ~~7AM~~ | | ~~5PM~~ | ~~10/29, 11/04, 11/13, 11/18~~ |
| ~~12, 12B:~~ | ~~7AM~~ | | ~~5PM~~ | ~~11/04, 11/05, 11/13, 11/14, 11/18, 11/19~~ |
| ~~12C:~~ | ~~7AM~~ | | ~~5PM~~ | ~~11/18, 11/19, 11/26, 11/27~~ |

~~It is unlawful to retain coho and chinook salmon taken with purse seine gear in areas 8, 12, 12B and 12C. All other saltwater and freshwater areas closed.~~))

| AREA | TIME | DATE | | TIME | DATE |
|---|---|---|---|---|---|
| 7, 7A: | 7AM | | - | 6PM | 10/20, 10/21, 10/29, 10/30, |
| | 6AM | | - | 5PM | 11/03, 11/12, 11/13 |
| 7B: | 6AM | 9/08 | - | 4PM | 9/12 |
| | 6AM | 9/15 | - | 4PM | 9/19 |
| | 6AM | 9/21 | - | 4PM | 11/01 |
| | 6AM | 11/03 | - | 4PM | 11/07 |
| | 6AM | 11/10 | - | 4PM | 11/14 |
| | 6AM | 11/17 | - | 4PM | 11/21 |
| | 6AM | 11/24 | - | 4PM | 11/28 |
| | 6AM | 12/01 | - | 4PM | 12/05 |
| | 6AM | 12/08 | - | 4PM | 12/12 |
| 8: | 5AM | | - | 9PM | 8/25, 8/26 |
| | 6AM | | - | 8PM | 9/04, 9/05, 9/08, 9/09 |
| | 7AM | | - | 6PM | 10/28 |
| | 7AM | | - | 5PM | 11/03, 11/04, 11/12, 11/17 |
| 8A: | 7AM | | - | 6PM | 10/29, 10/30 |
| | 7AM | | - | 5PM | 11/03, 11/04, 11/12, 11/13, 11/17, 11/18, 11/24, 11/25, 11/26 |
| 8D: | 7AM | | - | 7PM | 9/22, 9/23, 9/24, 9/25, 9/30, 10/01, 10/02, 10/03, 10/06, 10/07, 10/08, 10/09, 10/14, 10/15, 10/16, 10/17, 10/20, 10/21, 10/22, 10/23 |
| | 7AM | | - | 6PM | 10/29, 10/30 |
| | 7AM | | - | 5PM | 11/03, 11/04, 11/12, 11/13, 11/17, 11/18, 11/24, 11/25, 11/26 |
| 10, 11: | 7AM | | - | 6PM | 10/20, 10/28 |
| | 7AM | | - | 5PM | 11/03, 11/12, 11/17 |
| 12, 12B: | 7AM | | - | 6PM | 10/20, 10/21, 10/28, 10/29 |
| | 7AM | | - | 5PM | 11/03, 11/04, 11/12, 11/17 |

It is unlawful to retain chinook salmon taken with purse seine gear in Areas 7, 7B, 8, 8A, 12, 12B and 12C. It is unlawful to retain chinook salmon taken with purse seine gear in Area 7A from October 1 to November 30, 1997. It is unlawful to retain coho salmon taken with purse seine gear in Area 8A. All other saltwater and freshwater areas - closed.

AMENDATORY SECTION (Amending Order 92-47, filed 7/20/92, effective 8/20/92)

**WAC 220-47-319 Special purse seine mesh size.** It shall be unlawful to take, fish for or possess salmon taken with purse seine gear in any Puget Sound Salmon Management and Catch Reporting Area exclusive of ((~~Fraser Panel~~)) sockeye and pink salmon management unless said purse seine gear is constructed so that the first 100 meshes below the corkline that are within 75 fathoms of the bunt, excluding the bunt, are of a size not less than 5 inches stretch measure.

NEW SECTION

**WAC 220-47-325 Purse seine—Release of incidentally caught fish.** It is unlawful for any purse seine vessel operator landing salmon to land salmon directly into the hold. All salmon must be landed to the deck, or sorting tray or table, of the harvesting vessel with the hold hatch cover(s) closed until release of salmon that may not be retained is complete.

AMENDATORY SECTION (Amending Order 96-81, filed 7/22/96, effective 8/22/96)

**WAC 220-47-401 Reef net open periods.** ((~~During 1996, it is unlawful to take, fish for or possess salmon taken with reef net gear for commercial purposes in Puget Sound.~~)) During 1997, it is unlawful to take, fish for or possess salmon taken with reef net gear for commercial purposes in Puget Sound except in the following designated Puget Sound Salmon Management and Catch Reporting Areas, during the periods provided for hereinafter in each respective area:

| AREA | TIME | - | DATE(S) |
|---|---|---|---|
| 7,7A | 7AM - 7PM | DAILY | 9/15 - 9/19<br>9/22 - 9/26<br>9/29 - 10/3<br>10/6 - 10/10<br>10/13- 10/17<br>10/20 - 10/24<br>10/27 - 10/31<br>11/3 - 11/7 |

All other saltwater and freshwater areas - closed.

NEW SECTION

**WAC 220-47-410 Gill net—Daily hours.** It shall be unlawful to take or fish for sockeye or pink salmon in Areas 7 or 7A with gill net gear from 12:00 midnight to 1.5 hours after sunrise. In 1997, it shall be unlawful to take or fish for sockeye or pink salmon in areas 7 or 7A with gill net gear except within the following daily hours:

| Week | Open at or after . . . | Close at or before . . . |
|---|---|---|
| 6/29/97 - 7/ 5/97 | 6:45 am | 12:00 midnight, at which time all gear must be out of the water and stowed aboard. |
| 7/ 6/97 - 7/12/97 | 6:50 am | |
| 7/13/97 - 7/19/97 | 6:55 am | |
| 7/20/97 - 7/26/97 | 7:05 am | |
| 7/27/97 - 8/ 2/97 | 7:10 am | |
| 8/ 3/97 - 8/ 9/97 | 7:20 am | |
| 8/10/97 - 8/16/97 | 7:30 am | |
| 8/17/97 - 8/23/97 | 7:40 am | |
| 8/24/97 - 8/30/97 | 7:50 am | |

AMENDATORY SECTION (Amending Order 96-81, filed 7/22/96, effective 8/22/96)

**WAC 220-47-411 Gill net—Open periods.** During ((~~1996~~)) 1997, it is unlawful to take, fish for or possess salmon taken with gill net gear for commercial purposes

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from Puget Sound except in the following designated Puget Sound Salmon Management and Catch Reporting Areas during the seasons provided for hereinafter in each respective fishing area:

((~~AREA TIME DATE(S)~~

~~6D: 7AM 7PM DAILY 10/1 10/4~~
~~10/7 10/11~~
~~10/14 10/18~~
~~10/21 10/25~~

~~Note: Area 6D skiff gill net only. It is unlawful to retain chinook salmon taken in Area 6D.~~

~~7, 7A: 6AM 10/28 8PM 10/29~~
~~6AM 11/4 8PM 11/6~~
~~6AM 11/12 8PM 11/14~~
~~6AM 11/17 8PM 11/23~~

~~7B: 7PM 8AM NIGHTLY 8/19, 8/26, 9/3~~
~~6AM 9/9 4PM 9/11~~
~~6AM 9/15 4PM 11/9~~
~~6AM 11/11 4PM 11/15~~
~~6AM 11/18 4PM 11/22~~
~~6AM 11/25 4PM 11/29~~
~~6AM 12/2 4PM 12/6~~
~~6AM 12/9 4PM 12/13~~

~~7C: 7PM 8AM NIGHTLY 8/19, 8/26, 9/3~~

~~8: 4PM 11/12 8AM 11/13~~
~~6AM 11/18 8PM 11/19~~
~~6AM 11/25 8PM 11/27~~

~~8A: 6AM 10/21 8PM 10/22~~
~~6AM 10/28 8PM 10/29~~
~~6AM 11/4 8PM 11/6~~
~~6AM 11/12 8PM 11/14~~
~~6AM 11/18 8PM 11/20~~
~~6AM 11/25 8PM 11/27~~

~~8D: 6PM 8AM NIGHTLY 9/30, 10/1, 10/2, 10/3, 10/7, 10/8, 10/9, 10/10~~
~~5PM 8AM NIGHTLY 10/14, 10/15, 10/16, 10/17~~
~~6AM 10/21 8PM 10/22~~
~~6AM 10/28 8PM 10/29~~
~~6AM 11/4 8PM 11/6~~
~~6AM 11/12 8PM 11/14~~
~~6AM 11/18 8PM 11/20~~
~~6AM 11/25 8PM 11/27~~

~~9A: 6AM 9/16 4PM 9/20~~
~~6AM 9/23 4PM 9/27~~
~~6AM 9/30 4PM 10/4~~
~~6AM 10/7 4PM 10/11~~
~~6AM 10/14 4PM 10/18~~
~~6AM 10/21 4PM 10/25~~
~~6AM 10/28 4PM 11/1~~

~~10: 5PM 10/21 8AM 10/22~~
~~4PM 8AM NIGHTLY 10/28, 11/4, 11/12, 11/18~~

~~11: 5PM 10/21 8AM 10/22~~
~~4PM 8AM NIGHTLY 10/28, 11/4, 11/12, 11/18~~

~~12, 12B: 4PM 8AM NIGHTLY 11/4, 11/5, 11/12, 11/13, 11/18, 11/19~~

~~12C: 4PM 8AM NIGHTLY 11/18, 11/19, 11/25, 11/26~~

~~All other saltwater and freshwater areas closed.~~
~~Nightly openings refer to the start date.~~))

| AREA | TIME | DATE(S) |
|---|---|---|
| 6D: | 7AM - 8PM | 9/29, 9/30, 10/1, 10/2, 10/3, 10/6, 10/7, 10/8, 10/9, 10/10 |
| | 7AM - 7PM | 10/13, 10/14, 10/15, 10/16, 10/17, 10/20, 10/21, 10/22, 10/23, 10/24 |

Note: Area 6D skiff gill net only. It is unlawful to retain chinook or pink salmon in Area 6D.

| | | |
|---|---|---|
| 7, 7A: | 7AM - 7PM | 10/23, 10/29 |
| | 7AM - 6PM | 10/27, 10/28, 11/4, 11/10, 11/11 |
| 7B: | 7PM - 9AM | NIGHTLY 8/18, 8/25, 8/26, 9/2 |
| | 6AM 9/8 - 4PM | 9/12 |
| | 6AM 9/15 - 4PM | 9/19 |
| | 6AM 9/21 - 4PM | 11/1 |
| | 6AM 11/3 - 4PM | 11/7 |
| | 6AM 11/10 - 4PM | 11/14 |
| | 6AM 11/17 - 4PM | 11/21 |
| | 6AM 11/24 - 4PM | 11/28 |
| | 6AM 12/1 - 4PM | 12/5 |
| | 6AM 12/8 - 4PM | 12/12 |
| 7C: | 7PM - 9AM | NIGHTLY 8/18, 8/25, 8/26, 9/2 |
| 8: | 6AM - 9PM | 8/27, 8/28, 9/2, 9/3, 9/10, 9/11 |
| | 7AM - 6PM | 10/27, 11/5, 11/6, 11/10, 11/18 |
| 8A: | 7AM - 6PM | 10/27, 10/28, 11/5, 11/6, 11/10, 11/11, 11/19, 11/20 |
| | 7AM - 5PM | 11/22, 11/23, 11/24 |
| 8D: | 6PM - 8AM | NIGHTLY 9/22, 9/23, 9/24, 9/25, 9/29, 9/30, 10/1, 10/2, 10/6, 10/7, 10/8, 10/9, 10/13, 10/14, 10/15, 10/16, 10/20, 10/21, 10/22, 10/23 |
| | 7AM - 6PM | 10/27, 10/28, 11/5, 11/6, 11/10, 11/11, 11/19, 11/20 |
| | 7AM - 5PM | 11/22, 11/23, 11/24 |
| 9A: | 6AM 9/14 through 4PM 11/1 | |
| 10, 11: | 5PM - 8AM | NIGHTLY 10/20, 10/27 |
| | 4PM - 8AM | NIGHTLY 11/3, 11/10, 11/17 |
| 12, 12B: | 5PM - 8AM | NIGHTLY 10/20, 10/21, 10/27, 10/28 |
| | 4PM - 8AM | NIGHTLY 11/3, 11/4, 11/10, 11/17 |

All other saltwater and freshwater areas - closed.
Nightly openings refer to the start date.

AMENDATORY SECTION (Amending Order 96-152, filed 9/12/96, effective 10/13/96)

**WAC 220-47-427 Puget Sound—Beach seine—Emerging commercial fishery—Eligibility—Lawful gear.** (1) The Puget Sound beach seine salmon fishery is designated as an emerging commercial fishery for which a vessel is required. An emerging commercial fishery license and an

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experimental fishery permit are required to participate in this fishery.

(2) The department will issue five Quilcene Bay salmon beach seine experimental fishery permits (Quilcene permits). ((~~In order to be eligible to apply for a Quilcene permit, a person must be a current holder of a salmon gill net - Puget Sound fishery license or a salmon purse seine fishery license. Only the owner of the license is eligible to apply.~~))

(3) The following is the selection process the department will use to offer a Quilcene permit.

(a) ((~~The department will accept applications for a Quilcene permit until 5:00 p.m. on the fourteenth day prior to the opening of the fishery provided for in WAC 220-47-428.~~)) Persons who held a Quilcene Bay salmon beach seine experimental fishery permit in 1996 will be eligible for a permit in 1997.

(b) The department ((~~will pool the applications received from gill net fishers and from purse seine fishers separately. The names of two gill net fishers and two purse seine fishers will be drawn randomly. The two pools will be combined and a fifth name will be drawn at random. If there are insufficient names in either pool, the selection will default to the other gear group.~~

~~(c) Successful applicants will be notified immediately, and will have seven working days from the date of selection to purchase the license. If the license has not been purchased by the close of business on the seventh working day or the applicant wishes not to be a participant, another name will be drawn from the respective pool or combined pool~~)) established a pool of applicants by drawing on September 9, 1996. The pool established by this drawing will be maintained to replace any permit(s) which may be voided.

(4) ((~~Successful applicants~~)) Permit holders are required to participate in the Quilcene Bay salmon beach seine experimental fishery.

(a) For purposes of this section, "participation" means the holder of the Quilcene permit being aboard the designated vessel in the open fishery area four days each week during the open fishing period, except that during the Fraser sockeye and pink salmon species season in Areas 7 and 7A "participation" means the holder of the Quilcene permit being aboard the designated vessel in the open fishery area two days each week during the open fishing period.

(b) If the Quilcene permit holder fails to participate, the Quilcene permit issued to that fisher will be void and a new Quilcene permit will be reissued through a random drawing from the applicant pool ((~~of the voided permit holder~~)) established in 1996.

(c) The department may require proof of participation by registering with state, federal or tribal officials each day the Quilcene permit holder participates.

(d) Persons who participate, but violate conditions of a Quilcene permit, will have the permit voided and a new Quilcene permit will be reissued through a random drawing from the pool of the voided permit holder. Chum salmon may not be retained by a Quilcene permit holder. Chum salmon must be released alive, or, at the direction of federal or state officials, submitted for broodstock purposes.

(5) Any person who fails to purchase the license, fails to participate, or violates the conditions of a Quilcene permit will have his or her name permanently withdrawn from the pools.

(6) It is unlawful to take salmon with beach seine gear that does not meet the requirements of this subsection.

(a) Beach seine salmon nets in Puget Sound shall not exceed 600 feet in length or 100 meshes in depth, or contain meshes of a size less than 3 inches or greater than 4 inches.

(b) Mesh webbing must be constructed with a twine size no smaller than 210/30d nylon, 12 thread cotton, or the equivalent diameter in any other material.

AMENDATORY SECTION (Amending Order 96-81, filed 7/22/96, effective 8/22/96)

**WAC 220-47-428 Beach seine—Open periods.** During ((~~1996~~)) 1997, it is unlawful to take, fish for, or possess salmon taken with beach seine gear for commercial purposes from Puget Sound except in the following designated Puget Sound Salmon Management and Catch Reporting Areas during the periods provided hereinafter in each respective Management and Catch Reporting Area:

| AREA | TIME | DATE(S) |
|---|---|---|
| ((~~12A~~ | ~~7AM - 7PM~~ | ~~Daily~~ ~~9/23, 9/24, 9/25, 9/26, 9/27, 9/30, 10/1, 10/2, 10/3, 10/4, 10/7, 10/8, 10/9,10/10, 10/11~~)) |
| 12A: | 7AM - 7PM | 9/2, 9/3, 9/4, 9/5, 9/8, 9/9, 9/10, 9/11, 9/12, 9/15, 9/16, 9/17, 9/18, 9/19, 9/22, 9/23, 9/24, 9/25, 9/26, 9/29, 9/30, 10/1, 10/2, 10/3, 10/6, 10/7, 10/8, 10/9, 10/10, 10/13, 10/14, 10/15, 10/16, 10/17 |

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## WSR 97-16-032
## PERMANENT RULES
## DEPARTMENT OF FISH AND WILDLIFE
(Fisheries)

[Order 97-132—Filed July 29, 1997, 4:55 p.m.]

Date of Adoption: June 14, 1997.

Purpose: Methods to ensure survival of nontargeted salmon and to provide accounting mechanism.

Citation of Existing Rules Affected by this Order: Amending WAC 220-47-326.

Statutory Authority for Adoption: RCW 75.08.080.

Adopted under notice filed as WSR 97-09-096 on April 23, 1997.

Changes Other than Editing from Proposed to Adopted Version: WAC 220-47-326, made technical correction to WAC number as the WAC number filed had been previously used. Deleted language requiring an on-board observer program. Modified language to require the completion of log books for all purse seine salmon vessel operators. The log books are to record the species, numbers and condition of fish released from seine fishing operations in all fisheries.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or

Recently Enacted State Statutes: New 0, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 1, amended 0, repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 0, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 1, amended 0, repealed 0.

Effective Date of Rule: Thirty-one days after filing.

July 29, 1997
Lisa Pelly, Chairperson
Fish and Wildlife Commission

NEW SECTION

**WAC 220-47-326 Puget Sound commercial salmon—Assessment of impacts on released fish.** (1) It is unlawful to participate in the purse seine openings listed in chapter 220-47 WAC, unless each purse seine vessel operator carries on board the purse seine vessel a log book, provided by the department, to record the numbers and condition of fish caught which are required to be released by Title 220 WAC.

(2) Each purse seine vessel operator, immediately upon completion of a set, shall record into the log book the numbers of fish caught by species in that set which are required to be released, and specify the condition, at time of release, of each fish released from that set; and it is unlawful to fail to immediately and accurately record into the log book the information from each completed set of the purse seine net.

(3) The completed log book shall be returned to the department no later than seven days after the last purse seine opening of the calendar year scheduled in WAC 220-47-311; and it is unlawful to fail to do so.

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## WSR 97-16-035
### PERMANENT RULES
### SECRETARY OF STATE
[Filed July 30, 1997, 9:43 a.m.]

Date of Adoption: July 30, 1997.

Purpose: To revise the form for commercial fund-raiser registration. To clarify the financial standards for charitable organizations and commercial fund-raisers.

Citation of Existing Rules Affected by this Order: Amending WAC 434-120-130, 434-120-215, and 434-120-255.

Statutory Authority for Adoption: RCW 19.09.075, 19.09.079, and 19.09.210.

Adopted under notice filed as WSR 97-08-076 on April 2, 1997.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 1, amended 3, repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 1, amended 3, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 0, repealed 0.

Effective Date of Rule: Thirty-one days after filing.

July 30, 1997
Tracy Guerin
Assistant Secretary of State

NEW SECTION

**WAC 434-120-040 Public information derived from registration.** Registration forms, and attachments, filed by charitable organizations and commercial fund-raisers pursuant to WAC 434-120-105 and WAC 434-120-215 are available for public inspection or copying. For purposes of public reports derived from that registration information, the secretary shall calculate, and make available to the public, the following information:

(1) For charitable organizations, the percentage of total expenditures in a reporting year allocated to charitable program services. This shall be calculated as follows:

(a) For organizations required to file a federal information tax return, by dividing the amount reported as "program services" (e.g., line 13 of the form 990) by the amount reported as "total expenses" (e.g., line 17 of form 990) and multiplying by 100; or

(b) For organizations not required to file a federal informational tax return, by dividing the amount reported as expended for charitable purposes by the amount reported as total expenses.

(2) For commercial fund-raisers the percentage of the proceeds of charitable solicitations which are paid to or retained by charitable organizations. This shall be calculated by dividing the amount reported pursuant to WAC 434-120-215 (2)(n)(iii)(B) by the amount reported pursuant to WAC 434-120-215 (2)(n)(iii)(A), and multiplying by 100.

AMENDATORY SECTION (Amending WSR 94-01-004, filed 12/1/93, effective 1/1/94)

**WAC 434-120-130** ((~~Auditing~~)) **Financial standards** ((~~and requirements~~)). ((~~A charitable organization's solicitation report shall be signed by the following entities who attest that the figures are consistent with the annual financial statement:~~

~~(1) Those with a gross revenue of less than three hundred fifty thousand dollars a year, shall submit an annual solicitation report signed by the president and treasurer, or absent a board of directors and officers, two persons responsible for the organization, and the entity listed in the registration form as required by WAC 434-120-105(4) who prepared the financial statement or made the compilation, review, or audit report that supports the solicitation report; and~~

~~(2) Those having a gross revenue of more than three hundred fifty thousand dollars annually, shall submit an~~

~~annual solicitation report signed by the president, treasurer, and the entity listed in the registration form according to WAC 434-120-105(4) who made the "audit report" of the solicitation report.~~

~~Upon the written request of the secretary, attorney general, or county prosecutor, an organization shall submit an audit report for the year requested within thirty working days from the date of request.~~)) Upon the request of the attorney general, secretary or the county prosecutor, a charitable organization shall submit a financial statement containing, but not limited to, the following information within thirty days from date of request.

(1) The gross amount of the contributions pledged and the gross amount collected.

(2) The amount thereof, given or to be given to charitable purposes represented together with details as to the manner of distribution as may be required.

(3) The aggregate amount paid and to be paid for the expenses of such solicitation.

(4) The amounts paid to and to be paid to commercial fund-raisers or charitable organizations.

(5) Copies of any annual or periodic reports furnished by the charitable organization, of its activities during or for the same fiscal period, to its parent organization, subsidiaries, or affiliates, if any.

AMENDATORY SECTION (Amending WSR 95-11-135, filed 5/24/95, effective 6/24/95)

**WAC 434-120-215 Form.** (1) Commercial fund-raisers registering under this act shall use the commercial fund-raiser registration form available ((~~from~~)) in the office of the corporations division. The secretary of state shall develop a form in compliance with this rule. The secretary's failure to affirmatively reject or return an incomplete registration or other filing that does not fully comply with these rules or chapter 19.09 RCW, shall not excuse the failure to comply. The secretary's acceptance of a registration or other filing which violates these rules or chapter 19.09 RCW shall not excuse the violation. A registration form is not complete, and will not be accepted for filing, unless it includes:

(((~~(a) The organization's name, physical and mailing address, and telephone number of the commercial fund-raising entity and all names and addresses including without limitation all public or private postal box addresses under which contributions are solicited.~~

~~(b) The name(s); address(es); and telephone number(s); of the individual(s); responsible for the activities of the entity in Washington; and a list of the states and Canadian provinces in which the entity has solicited funds;~~

~~(2) The name(s), address(es), and telephone number(s) of the owner(s) and principal officer(s) of the commercial fund-raising entity; and the names of the three officers or employees receiving the greatest amount of compensation from the organization;~~

~~(3) The name and address of the entity that prepares, reviews, or audits the financial statement;~~

~~(4)(a) For an entity that has never before registered under the Solicitations Act, a solicitation report based on the aggregate financial fund-raising conducted in other states or, if an accounting year has not been completed in any state, a solicitation report filed by the end of the fourth operating month which reports actual financial information regarding the organization's first three months of operations in Washington, a three-month report containing actual financial information.~~

~~(b) For those who have previously conducted solicitations in Washington state, a solicitation report based on the previous accounting year. The report shall contain the following information:~~

~~(i) The number and types of fund-raising services conducted;~~

~~(ii) The name of each charitable organization to whom this entity has provided fund-raising services;~~

~~(iii) The total value of contributions received on behalf of each charitable organizations by or as response to the commercial fund-raiser, its affiliate or another entity retained by the commercial fund-raiser;~~

~~(iv) The actual amounts of money raised for each charitable organization after the fund-raising costs paid by each charitable organization has been deducted in accordance with the written agreement made prior to the solicitation;~~

~~(v) The name, address, and telephone number of any other commercial fund-raiser retained in the conduct of providing fund-raising services;~~

~~(5)(a) For funds that were raised and paid on a net revenue basis to each contracting organization or for each campaign in which the charitable organization paid any portion of the expenses, a solicitation report consistent with the audited annual financial statement signed by the entity who is listed as required by subsection (3) of this regulation; or~~

~~(b) For funds that were raised and paid on a percentage of gross revenue basis, a solicitation report, which shows the total revenue from each campaign conducted for each individual organization and the amount received by each charitable organization. This report must be verified and signed by the entity, who is required to be listed in subsection (3) of this section, and the president or treasurer of the charitable organization for which the funds were raised. The fund-raiser shall submit individual solicitation reports for each campaign.~~

~~(6) An irrevocable appointment of the secretary to receive service of process in noncriminal proceedings.~~

~~All commercial fund-raiser registrations shall be signed by an officer or owner of the commercial fund-raiser.~~)) (2) A registration form is not complete, and will not be accepted for filing, unless it includes:

(a) The name of the organization, and every address (including both physical address and any mailing address if different), telephone number(s), FAX number(s), of the commercial fund-raising entity under which contributions are being solicited or received, including any electronic mail or Internet addresses used by the organization;

(b) The name(s); address(es); and telephone number(s) of the individual(s) responsible for fund-raising activities of the entity in Washington;

(c) If incorporated, the corporate name, unified business identifier number, state and date of incorporation, or if not incorporated, the type of organization and date established;

(d) The end date of its current fiscal year;

(e) The court or other forum, case number and title of all legal actions, if any, in which a judgment or final order

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was entered, or action is currently pending, against any organization or individual required to be identified in the registration. "Actions" include any administrative or judicial proceeding alleging that the entity has failed to comply with these rules, chapter 19.09 RCW, or state or federal laws pertaining to taxation, revenue, charitable solicitation, or recordkeeping, whether such action has been instituted by a public agency or a private person or entity;

(f) A list of all states where the organization is registered for fund-raising, including any other names under which the organization is currently registered or has been registered in the past three years;

(g) The name, address, and telephone number of the officers or of persons accepting responsibility for the organization;

(h) The names of the three officers or employees receiving the greatest amount of compensation from the organization;

(i) The name and address of the person or entity with authority for the preparation of financial statements or the maintenance of financial information on behalf of the organization;

(j) The name, address, and telephone number of an individual with expenditure authority who can respond to questions regarding expenditures of funds, and the names and addresses of any charitable organizations who have given the commercial fund-raiser authority to expend funds or incur obligations on behalf of the organization;

(k) An irrevocable appointment of the secretary to receive service of process in noncriminal proceedings as provided in RCW 19.09.305;

(l) A solicitation report of the fund-raising activities of the entity for the preceding fiscal year including:

(i) The types of fund-raising services conducted;

(ii) The name of each charitable organization to whom this entity has provided fund-raising services;

(iii) The total dollar value of the following:

(A) Contributions received, either by your organization or the charities with whom you contract, as a result of services provided by your organization during the year shown above. (This is the total amount of money raised, regardless of who has possession of funds.)

(B) Funds either retained by, or paid to, the charities with whom you contract, after your fees and any expenses have been subtracted. (This is the portion of money raised that the charities receive or keep after all fund-raising expenses have been deducted.)

(iv) The name, address, and telephone number of any other commercial fund-raiser retained in the conduct of providing fund-raising services;

(m) The form shall also include a space within which any of the organization may provide additional information which the organization believes would be of assistance in understanding other reported information, or to provide context for reported information.

(3) Solicitation reports shall not report estimates, but shall report actual figures. If the organization did not directly or indirectly conduct any fund-raising activities in the previous accounting year, it shall file a supplemental registration form no later than the end of the ninth month after registering which provides a complete solicitation report with actual figures from the first six months of activity after registering.

(4) All commercial fund-raiser registrations shall be signed by an officer or owner of the commercial fund-raiser.

AMENDATORY SECTION (Amending WSR 94-01-004 and 94-02-011, filed 12/1/93 and 12/22/93, effective 1/1/94 and 1/23/94)

**WAC 434-120-255 ((~~Auditing~~)) Financial standards.** ((~~Each commercial fund-raiser shall make one or more annual solicitation reports for each campaign conducted or in which it participated, whether engaged by another commercial fund raiser or by a charitable organization to solicit or conduct a solicitation. Each solicitation report shall be signed by the entity listed under WAC 434-120-215(3), who attests that the figures are consistent with the annual financial statement:~~

~~(1) Those whose solicitations or offers to solicit result in less than three hundred fifty thousand dollars from all contributions made on behalf of charitable organizations in Washington shall have on file for three years the complete compilation, review, or audit report of the financial statement that was filed in the form of a solicitations report and signed by the entity named as required by WAC 434-120-215(3).~~

~~(2) Those whose solicitations and offers to solicit result in more than three hundred fifty thousand dollars from all contributions made on behalf of charitable organizations in the state of Washington shall have on file an audit report of the financial statement that was filed in the form of a solicitation report and signed by the entity named as required by WAC 434-120-215(3).~~

~~(3)(a) A commercial fund raiser who engages another commercial fund raiser to solicit funds or conduct a solicitation on behalf of a charitable organization is responsible for and shall include the total contributions and the total expenses related to that campaign in its solicitations report of that campaign.~~

~~(b) If a reporting commercial fund raiser's contributions and expenses for a campaign are included in another commercial fund raiser's solicitations report, the reporting fund raiser shall list in its report the name of that fund raiser, the name of the charitable organization, the dates of the campaign, and the total contributions and expenses for which it was responsible.~~

~~The annual financial statement in the form of a solicitation report, as verified in accordance with the auditing standards, shall be filed with the application required in WAC 434-124-215.~~

~~(4) Upon written demand by the secretary, the attorney general, or the county prosecutor, a commercial fund raiser shall submit an audit report for the year requested within thirty working days.~~)) Upon the request of the attorney general, secretary or the county prosecutor, a commercial fund-raiser shall submit a financial statement containing, but not limited to, the following information within thirty days from date of request.

(1) The gross amount of the contributions pledged and the gross amount collected.

(2) The amount thereof, retained by the charitable organization, given or to be given to charitable organizations

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represented together with details as to the manner of distribution as may be required.

(3) The aggregate amount paid and to be paid for the expenses of such solicitation.

(4) The amounts paid to and to be paid to charitable organizations.

(5) Copies of any annual or periodic reports furnished by the fund-raising organization, of its activities during or for the same fiscal period, to its parent organization, subsidiaries, or affiliates, if any.

## WSR 97-16-036
### PERMANENT RULES
### SECRETARY OF STATE
[Filed July 30, 1997, 9:47 a.m.]

Date of Adoption: July 30, 1997.

Purpose: To create a subcategory of commercial fund-raisers, which are generally known as commercial coventurers.

Citation of Existing Rules Affected by this Order: Amending WAC 434-120-025, 434-120-210, and 434-120-250.

Statutory Authority for Adoption: RCW 19.09.079, 19.09.190, and 19.09.315.

Adopted under notice filed as WSR 97-13-093 on June 18, 1997.

Changes Other than Editing from Proposed to Adopted Version: Based on the oral testimony at the rule-making hearing, interpretive note no. 6 has been added to WAC 434-120-212 to explain the application of the rule for a retail establishment.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 1, amended 3, repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 1, amended 3, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 0, repealed 0.

Effective Date of Rule: Thirty-one days after filing.

July 30, 1997
Tracy Guerin
Assistant Secretary of State

AMENDATORY SECTION (Amending WSR 95-11-135, filed 5/24/95, effective 6/24/95)

**WAC 434-120-025 Definitions.** (1) "Charitable organization" means any entity that solicits or collects contributions from the general public where the contribution is or is purported to be used to support a charitable activity, but does not include any commercial fund-raiser or commercial fund-raising entity as defined in this section. "Charitable":

(a) Is not limited to its common law meaning unless the context clearly requires a narrower meaning;

(b) Does not include religious or political activities; and

(c) Includes, but is not limited to, educational, recreational, social, patriotic, legal defense, benevolent, and health causes.

(2) "Charitable trust" means any real or personal property right held by an entity or person that is intended to be used for a charitable purpose(s). The trust may be created by will, deed, articles of incorporation, or other governing instrument. It may be express or constructive.

(3) "Commercial coventurer" means a corporation, partnership, sole proprietorship, limited liability company, limited partnership, limited liability partnership, individual, or other entity that:

(a) Is regularly and primarily engaged in making sales of goods or services for profit directly to the general public; and

(b) Is not otherwise regularly or primarily engaged in making charitable solicitations in this state or otherwise raising funds in this state for one or more charitable organizations; and

(c) Represents to prospective purchasers that if they purchase a good or service from the commercial coventurer, a specified portion of the sales price or a certain sum of money or some other specified thing of value will be donated to a named charitable organization; and

(d) Does not ask purchasers to make checks or other instruments payable to a named charitable organization or any entity other than the commercial coventurer itself under its regular commercial name.

(4) "Compensation," means salaries, wages, fees, commissions, or any other remuneration or valuable consideration. Compensation shall not include reimbursement for expenses incurred and documented or noncash awards or prizes, valued at one hundred dollars or less, given annually to each volunteer.

~~((4) "Revenue" means all proceeds from charitable solicitations or from similar activities which would be charitable solicitations except that they are exempt from chapter 19.09 RCW by virtue of being regulated by the gambling commission.))~~

(5) "Solicitation," means any oral or written request for a contribution, including the solicitor's offer or attempt to sell any property, rights, services, or other thing in connection with which:

(a) Any appeal is made for any charitable purpose; or

(b) The name of any charitable organization is used as an inducement for consummating the sale; or

(c) Any statement is made that implies that the whole or any part of the proceeds from the sale will be applied toward any charitable purpose or donated to any charitable organization; or

(d) The solicitation shall be deemed completed when made, whether or not the person making it receives any contribution or makes any sale.

(6) "Solicitation," as defined in RCW 19.09.020(15), for the purposes of these regulations, shall not include any of the following:

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(a) An application or request for application for a grant, contract, or similar funding from any foundation, corporation, governmental agency or similar entity which has an established application and review procedure for reviewing such requests;

(b) The attempt to sell a service or good which constitutes the basis of the charitable organization's activities under which the federal income tax exemption was granted, or is the primary purpose for the existence of the charitable organization. This includes, but is not limited to, admission to a theatrical or other performance presented by a charitable organization that is a drama, musical, dance, or similar group and fees for services such as a hospital provides or use of the charitable organization's facilities; or

(c) Bingo activities, raffles, and amusement games conducted under chapter 9.46 RCW and applicable rules of the Washington state gambling commission.

(7) ((~~"Cost of solicitation" means and includes all direct and indirect costs, expenditures, debts, obligations, salaries, wages, commissions, fees, or other money or thing of value paid or incurred in making a solicitation. Cost of solicitation does not include the reasonable purchase price to the charitable organization of any tangible goods or services resold by the organization as part of its fund raising activities.~~

~~(8)~~)) "Commercial fund-raiser" or "commercial fund-raising entity" means any entity that for compensation or other consideration within this state directly or indirectly solicits, receives or raises contributions for or on behalf of any charitable organization or charitable purpose, or that is engaged in the business of or is held out to persons in this state as independently engaged in the business of soliciting or receiving contributions for such purposes. However, the following shall not be deemed a "commercial fund-raiser" or "commercial fund-raising entity":

(a) Any entity that provides fund-raising advice or consultation to a charitable organization within this state but neither directly nor indirectly solicits or receives or raises any contribution for or on behalf of any such charitable organization; or

(b) A bona fide officer or other employee of a charitable organization.

AMENDATORY SECTION (Amending WSR 94-01-004, filed 12/1/93, effective 1/1/94)

**WAC 434-120-210 Who shall register.** (1) Every commercial fund raiser, as described in RCW 19.09.020(8), shall register each year, pursuant to WAC 434-120-215, except that commercial coventurers may instead register pursuant to WAC 434-120-212.

(2) ((~~Entities exempt from registration shall include the following:~~

~~(a)~~)) Suppliers of goods and services((~~,~~)) to charitable organizations for fund raising purposes are exempt from registration, if they are not otherwise engaged in the business of charitable fund raising((~~; or~~

~~(b) Retail establishments, not otherwise engaged in the business of charitable fund raising, in which the retail business promises to contribute a portion of the regular sales price of a product or service to a named charitable organization, when:~~

~~(i) The price of the product or service is no more than the price thirty days before and thirty days after the promotion;~~

~~(ii) There is a written agreement executed before the promotion begins that is signed by an officer of the charitable organization and the person in charge of the retail establishment. This agreement must include the retail establishment's contribution to the organization as a result of this promotion and the charitable organization's permission to use its name. It must be filed with the corporations division by the party specified in the contract and each party must have a copy on file;~~

~~(iii) The retail establishment has a financial statement of the fund raising campaign on file, which, upon the attorney general's written request, it can produce within ten working days; and~~

~~(iv) The retail establishment complies with the requirements of RCW 19.09.100, which control the conditions of solicitations~~)).

NEW SECTION

**WAC 434-120-212 Registration by commercial coventurers.** (1) A commercial coventurer shall register with the secretary as either a commercial fund raiser or a commercial coventurer before conducting any solicitations. If a commercial coventurer chooses to register as a commercial fund raiser, it shall comply with all registration requirements for commercial fund raisers as set forth in chapter 19.09 RCW and chapter 434-120 WAC. If a commercial coventurer chooses to register as a commercial coventurer, it shall do all of the following:

(a) Pay a registration fee as specified in WAC 434-120-250 and file the registration form required by this rule. An entity which is entitled to and does register as a commercial coventurer need not:

(i) File the form specified in WAC 434-120-215; nor

(ii) Post a bond pursuant to RCW 19.09.190; and

(b) File with the secretary a copy of its written agreement with each charitable organization for which it solicits. This agreement must state the name, address and telephone number of the commercial coventurer and the charitable organization; must be signed by an officer of the charitable organization and the person in charge of the commercial coventurer; must specify how the commercial coventurer's contribution to the organization as a result of this promotion shall be calculated, based upon an aggregate fixed dollar amount, a fixed dollar amount per sale, or a fixed percentage of gross sales revenue; and must state the charitable organization's permission to use its name; and

(c) Keep on file at its principal place of business a financial statement reflecting the results of its campaign(s) on behalf of each charitable organization for which it raises funds, which shall include at a minimum all of the information required by RCW 19.09.079(7), and shall produce this statement upon demand to the attorney general within ten business days.

(2) The registration form required by this rule shall be the same as the form described in WAC 434-120-215 except as follows:

(a) It shall omit the information required by WAC 434-120-215 (2)(e); and

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(b) Instead of the solicitation report described by WAC 434-120-215 (2)(n), the form shall include a solicitation report on which the commercial coventurer must report:

(i) A brief description of the fund raising activity;

(ii) The name of each charitable organization with which it has contracted as a commercial coventurer; and

(iii) A disclosure of the planned financial contribution pursuant to contract with the named charitable organizations. A commercial coventurer shall comply with this requirement by specifying how the commercial coventurer's contribution to the organization as a result of this promotion shall be calculated, based upon an aggregate fixed dollar amount, a fixed dollar amount per sale, or a fixed percentage of gross sales revenue.

(3) Interpretive note: An entity that is regularly engaged in the business of promoting events, including but not limited to concerts, circuses, rodeos, and sporting events, by selling tickets to such events through the use of a charitable solicitation, shall be deemed to be regularly or primarily engaged in making charitable solicitations or otherwise raising funds for one or more charitable organizations, and therefore is not a commercial coventurer.

(4) Interpretive note: A transaction is not one for the purchase of a good or service, and therefore the seller is not a commercial coventurer, if the item ostensibly sold is of slight or grossly disproportionate value in relation to the price or contribution sought in exchange, or if it is described as a prize, gift, reward or award, or similar term, for contributions made or solicited.

(a) Example: A solicitor tells a prospective contributor that if he or she will contribute one hundred dollars to a named charity, the solicitor will send him or her a paper bookmark embossed with the charity's logo as a reward. The solicitor is not a commercial coventurer.

(b) Example: A solicitor offers to sell an individual a coffee mug, with a fair market value of five dollars, for one hundred dollars, with the representation that fifty percent of the purchase price would be contributed to a named charity. The solicitor is not a commercial coventurer. Caution: A person selling a good or service at fair market value is still not a commercial coventurer if he or she is regularly engaged in charitable fund raising (see WAC 434-120-025 (3)(b)), or is selling tickets to events (see WAC 434-120-212(3)), or otherwise fails to qualify.

(5) Interpretive note: An entity that acts as a commercial coventurer, and that does not engage in any commercial fund raising in this state other than as a commercial coventurer, may register as a commercial coventurer in Washington even if it acts as a commercial fund raiser in other states.

(6) Interpretive note: A retail establishment that offers for sale a product that is marketed by others as a commercial coventurer, is not required to register unless it makes an independent appeal to charity or otherwise acts as a commercial coventurer or commercial fund raiser.

(a) Example: A supermarket includes in its merchandise line a product, with a label that states that a portion of the purchase price will go to charity, but the supermarket makes no other appeal to charity with regard to the product. The supermarket is not required to register as a commercial coventurer or commercial fund raiser, but the manufacturer will be considered a commercial coventurer if it otherwise satisfies the definition in WAC 434-120-025.

(b) Example: The supermarket in example (a) publishes as advertisement stating that a portion of the purchase price of a product will be devoted to charity. The supermarket is a commercial coventurer if it otherwise satisfies the definition in WAC 434-120-025.

(7) Unless specifically excused by this rule, a commercial coventurer shall comply with all other terms of chapter 19.09 RCW and chapter 434-120 WAC.

AMENDATORY SECTION (Amending WSR 94-01-004, filed 12/1/93, effective 1/1/94)

**WAC 434-120-250 Fees.** All commercial fund raisers shall pay an original registration fee at the time of filing and a yearly reregistration fee.

(1) The fee for original registration in this state is two hundred fifty dollars.

(2) The annual renewal fee is one hundred seventy-five dollars.

(3) The fee for filing changes in any information previously filed under RCW 19.09.075, 19.09.079, and WAC 434-120-215 or for filing a contract is ten dollars.

(4) The penalty is fifty dollars for failing to reregister within sixty days of the due date. Beginning on the sixty-sixth day or following administrative dissolution of the corporation, whichever is later, the commercial fund raiser shall pay an additional penalty of one hundred dollars for each unregistered year for up to two years or shall register as a new entity. These penalties are cumulative.

Any commercial fund raiser failing to reregister and conducting business may be subject to other penalties and remedies, which may be cumulative and not exclusive and be imposed by law.

(5) The fee for expedited in-person service is twenty dollars for any and all transactions within one commercial fund raiser file.

(6) The photocopy fee is ten dollars for copies of the annual registration form or letter.

(7) A commercial coventurer shall pay a registration fee of twenty dollars when it registers with the secretary or renews its registration.

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## WSR 97-16-037
### PERMANENT RULES
### DEPARTMENT OF SOCIAL AND HEALTH SERVICES
(Public Assistance)
[Filed July 30, 1997, 10:30 a.m.]

Date of Adoption: July 29, 1997.

Purpose: Amendment of WAC 388-11-400 through 388-11-430, to provide party status for all physical custodians in DCS support establishment proceedings, regardless of whether the family receives public assistance.

Citation of Existing Rules Affected by this Order: Repealing WAC 388-11-405; and amending WAC 388-11-400, 388-11-410, 388-11-415, 388-11-420, 388-11-425, and 388-11-430.

Statutory Authority for Adoption: RCW 34.05.220(1), 74.20A.055.

Adopted under notice filed as WSR 97-13-087 on June 18, 1997.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 0, amended 6, repealed 1.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 6, repealed 1.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 0, repealed 0.

Effective Date of Rule: Thirty-one days after filing.

July 29, 1997
Merry A. Kogut, Manager
Rules and Policies Assistance Unit

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AMENDATORY SECTION (Amending Order 3964, filed 4/10/96, effective 5/11/96)

**WAC 388-11-400 Physical custodians ((~~receiving nonassistance services~~))—Rights to participate in hearings.** (1) This section and WAC 388-11-410 through 388-11-425 of this chapter govern the rights of physical custodians receiving ((~~nonassistance~~)) support enforcement services to participate in hearings based on support establishment notices. ((~~WAC 388-11-405 governs the participation rights of physical custodians receiving AFDC at the time the agency acts to establish a support order under RCW 74.20A.055 and 74.20A.056.~~))

(2) In a hearing based on a support establishment notice, the physical custodian shall have all the rights of a party to an adjudicative proceeding authorized by the Administrative Procedure Act, chapter 34.05 RCW. The exercise of those rights is governed by WAC 388-11-400 through 388-11-430, and chapters 10-08 and 388-08 WAC.

AMENDATORY SECTION (Amending Order 3964, filed 4/10/96, effective 5/11/96)

**WAC 388-11-410 Notice of proposed child support amount.** (1) This section describes and governs agency action in cases under WAC 388-11-400(2).

(2) Before serving a support establishment notice on a responsible parent, the IV-D agency shall serve a notice containing a summary of the proposed terms of the notice on the physical custodian by regular mail to the physical custodian's last known address.

(3) The physical custodian shall respond to the notice within twenty days by notifying the IV-D agency in writing that the custodian:

(a) Accepts the proposed child support amount and authorizes the IV-D agency to sign an agreed settlement or consent order if the order amount is greater than or equal to the proposed child support amount; or

(b) Objects to the proposed child support amount.

(4) A physical custodian who objects to the proposed child support amount must include a specific dollar amount the physical custodian believes to be the correct monthly child support obligation with the objection.

(5)(a) The IV-D agency cannot proceed to serve the responsible parent and may initiate case closure action under WAC 388-14-420 (1)(g) unless the physical custodian responds to the notice as required under subsection (3) of this section.

(b) If a physical custodian receiving public assistance fails to respond to the notice, the IV-D agency shall proceed as if the physical custodian had accepted the proposed child support amount. The physical custodian's failure to respond shall not be the basis of a claim of noncooperation.

(6) The IV-D agency may attempt to reconcile the proposed child support amount with the physical custodian's claim through negotiation or requests for production of documentary evidence. If the IV-D agency and the physical custodian reach agreement on a new proposed child support amount, upon written or telephonic acceptance by the physical custodian, the IV-D agency shall proceed under WAC 388-11-415.

(7) The notice of proposed child support amount shall inform the physical custodian of the custodian's rights and responsibilities under this section.

(8) The notice of proposed child support amount shall inform the physical custodian that at a hearing, the presiding officer will enter a support order based on the Washington state child support schedule, in an amount which may be different from the proposed child support order amount.

AMENDATORY SECTION (Amending Order 3964, filed 4/10/96, effective 5/11/96)

**WAC 388-11-415 Support establishment notice—Physical custodian accepts proposed child support amount.** (1) When the physical custodian accepts the proposed child support amount, the IV-D agency shall proceed to serve the responsible parent with the appropriate support establishment notice.

(2) If the responsible parent objects to the support establishment notice, the physical custodian may participate in the hearing to the extent allowed under WAC 388-11-400(2) and 388-11-425, including the right to appeal an adverse decision.

(3) The presiding officer shall conduct a hearing requested under this section according to the terms of:

(a) WAC 388-11-425;

(b) The statute and rules authorizing the support establishment notice;

(c) Chapter 10-08 WAC; and

(d) Chapter 388-08 WAC.

(4) The IV-D agency may accept a settlement, without the physical custodian's approval, for an amount equal to or greater than the proposed notice amount accepted by the physical custodian under WAC 388-11-410 (3)(a) or (6).

(5) The IV-D agency shall mail a copy of a settlement entered under subsection (4) of this section to the physical custodian within five working days of the date the settlement is entered.

AMENDATORY SECTION (Amending Order 3964, filed 4/10/96, effective 5/11/96)

**WAC 388-11-420 Support establishment notice—Physical custodian objects to the proposed child support amount.** (1) When the physical custodian objects to the proposed child support amount, the IV-D agency shall proceed to serve a support establishment notice according to the terms of this section.

(2) In addition to the requirements of the section of this chapter authorizing the notice, the IV-D agency shall include the following in a support establishment notice served under this section:

(a) The physical custodian's claimed support amount;

(b) The agency's claimed support amount; and

(c) Notice that:

(i) The agency and the physical custodian disagree on the proper support amount;

(ii) A hearing will be scheduled to resolve the dispute;

(iii) The responsible parent is a party to that hearing;

(iv) If the responsible parent fails to appear for the hearing, the parent will be held in default and the child support amount may be resolved by agreement of the remaining parties at any amount equal to or lower than the highest amount claimed by the agency or the custodian; ((~~and~~))

(v) If the responsible parent fails to appear for the hearing, the parent will be held in default and the presiding officer may hold a hearing and enter an order based on the Washington state child support schedule, which order may be higher or lower than the amounts stated in the notice; and

(vi) The responsible parent may argue and present evidence at the hearing to show that the support obligation should be ((~~lower than~~)) different from that claimed by the agency or the ((~~custodial parent~~)) physical custodian.

(3) When the IV-D agency serves the responsible parent with a notice under this section, the ((~~department~~)) office of administrative hearings shall send a notice of ((~~their~~)) the hearing to the physical custodian and the responsible parent at ((~~the~~)) their last known mailing address.

(4) The presiding officer shall conduct a hearing requested under this section according to the terms of:

(a) WAC 388-11-425;

(b) The statute and rules authorizing the support establishment notice;

(c) Chapter 10-08 WAC; and

(d) Chapter 388-08 WAC.

AMENDATORY SECTION (Amending Order 3964, filed 4/10/96, effective 5/11/96)

**WAC 388-11-425 Hearings on support establishment notices((—~~Physical custodian not receiving AFDC~~)).** (1) In a hearing under this section, the IV-D agency shall proceed first to document the support amount the IV-D agency believes to be correct. Following the IV-D agency's presentation, the physical custodian and the responsible parent may proceed in turn to show why the agency position is wrong.

(2) If any party appears for the hearing and elects to proceed, absent the granting of a continuance the presiding officer shall hear the matter and enter an initial decision and order based on the evidence presented. The presiding officer shall include a party's failure to appear in the initial decision and order as an order of default against that party. The direct appeal rights of the party who failed to appear shall be limited to an appeal on the record made at the hearing.

(3) If neither party appears and elects to proceed, the presiding officer shall enter an initial decision and order on default, declaring the IV-D agency's claim for support to be final subject to collection action.

(4) If the physical custodian appears and the responsible parent fails to appear, the IV-D agency or the custodian may seek an order of default against the responsible parent. On obtaining the default order, the IV-D agency and the custodian may execute an agreed settlement or consent order setting the support obligation, so long as the settlement is ((~~neither:~~

~~(a)~~)) no more than the greatest amount stated in the notice((~~; nor~~

~~(b) Less than the lowest amount stated in the notice~~)).

(5) The IV-D agency shall not take action to collect support under an order based on subsection (4) of this section until:

(a) The default order becomes a final order, and

(b) The order has been sent by regular mail to the responsible parent with a copy of the default order.

(6) A party against whom the presiding officer has entered an order of default may petition to vacate the order under WAC 388-11-120. However, a physical custodian who has accepted the proposed notice amount under WAC 388-11-410 (3)(a) may vacate an order based on that amount only on a showing of fraud or misconduct in obtaining the custodian's acceptance of the proposed child support amount.

(7) When a party has advised the presiding officer that they will participate by telephone, the presiding officer shall attempt to contact that party on the record before beginning the proceeding or ruling on a motion. The presiding officer shall not disclose a telephone number or the location of the party appearing by phone.

AMENDATORY SECTION (Amending Order 3964, filed 4/10/96, effective 5/11/96)

**WAC 388-11-430 Settlement and consent order.** (1) Except as provided in this section, a consent order or agreed settlement entered under WAC 388-11-415 through 388-11-425 is not valid until it is signed by all parties to the action. However, the physical custodian's telephonic approval may be substituted for his or her signature.

(2) A presiding officer may issue a consent order without the signatures of the parties after reviewing the terms of the order with the parties and making a finding that the parties understand and accept the terms of the order.

(3) A consent order or agreed settlement entered according to WAC 388-11-410 (3)(a) becomes valid without the signature of the ((~~custodial parent~~)) physical custodian.

(4) A presiding officer may enter an order of default against a party who fails to appear at hearing, and that order of default shall substitute for the defaulting party's signature if the remaining parties enter into a consent order or agreed settlement.

PERMANENT

REPEALER

The following section of the Washington Administrative Code is repealed:

| | |
|---|---|
| WAC 388-11-405 | Physical custodians receiving AFDC—Rights to participate in hearings. |

## WSR 97-16-039
PERMANENT RULES
## DEPARTMENT OF RETIREMENT SYSTEMS
[Filed July 30, 1997, 1:35 p.m., effective July 30, 1997]

Date of Adoption: July 30, 1997.

Purpose: To adopt rules governing the assessment of expenses for teachers' retirement system plan 3 members who wish to avail themselves of the self-directed investment options authorized by the Employee Retirement Benefits Board.

Statutory Authority for Adoption: RCW 41.50.088, 41.32.060.

Adopted under notice filed as WSR 97-13-058 on June 16, 1997.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 2, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 2, amended 0, repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 2, amended 0, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 0, repealed 0.

Other Findings Required by Other Provisions of Law as Precondition to Adoption or Effectiveness of Rule: The rules that are the subject of this rule adoption process were first adopted as emergency rules effective April 1, 1997, see WSR 97-08-053. Under RCW 34.05.350, those rules expire one hundred twenty days from the effective date. In order to ensure that there is no gap in coverage, the permanent rules are adopted effective July 30, 1997.

Effective Date of Rule: July 30, 1997.

July 28, 1997
John Charles, Chair
Employee Retirement
Benefits Board

NEW SECTION

**WAC 415-200-030 Teachers' retirement system plan III external administrators.** The employee retirement benefits board may obtain external investment management services to assist with the provision of self-direct investment options. External administrator and investment management services will be obtained through competitive procurement processes to ensure teachers' retirement system plan III members receive quality services and competitive pricing. The department of retirement systems may select external administrators to assist with the administration of the defined contribution portion of the teachers' retirement system plan III established under chapter 41.34 RCW.

NEW SECTION

**WAC 415-200-040 Self-directed investment—Expenses paid by members.** RCW 41.34.060 allows members of the teachers' retirement system plan III to elect to self-direct their investments using options approved by the employee retirement benefits board. Members electing to self-direct their investments must pay the expenses caused by the self-directed investment program.

(1) **Assessment of member expenses for self-directed investment.** Each month, the third-party administrator will allocate self-directed investment expenses to each participating member. The expenses allocated to members shall include:

(a) External third party administrator costs;

(b) External investment manager and consultant costs; and

(c) State investment board investment management operating expenses, in the case of investment options provided through the state investment board.

Each category of expense shall be expressed in terms of basis points. A basis point is equal to one-hundredth of one percent. The administrator will determine the participating member's monthly fee by multiplying the average monthly value of each participating member's self-directed account assets by the basis points for each expense category.

(2) **Adoption of expense charge.** The expense charges used to calculate self-directed investment fees for participating members shall be established in a memorandum of understanding, interagency agreement, and/or contract. Each expense charge shall be reviewed and approved at a regularly scheduled meeting of the employee retirement benefits board, with opportunity for public testimony. No expense charge may be included in a memorandum of understanding, interagency agreement, and/or contract until such charge has been approved by the employee retirement benefits board. No expense charge which has been approved may be changed unless such change has been approved by the board.

## WSR 97-16-041
PERMANENT RULES
## DEPARTMENT OF LICENSING
[Filed July 31, 1997, 8:32 a.m.]

Date of Adoption: July 28, 1997.

Purpose: Implementation of EHB 1940, chapter 229, Laws of 1997, and SSB 5060, chapter 66, Laws of 1997. The proposed rule amendments reflect the changes made to the model traffic ordinances by enactment of this legislation.

Citation of Existing Rules Affected by this Order: Amending WAC 308-330-307 and 308-330-425.

Statutory Authority for Adoption: RCW 46.90.010.

Other Authority: Chapters 66 and 229, Laws of 1997.

Adopted under notice filed as WSR 97-12-044 on June 2, 1997.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 2, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 0, amended 2, repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 0, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 2, repealed 0.

Effective Date of Rule: Thirty-one days after filing.

July 28, 1997
Evelyn P. Yenson
Director

AMENDATORY SECTION (Amending WSR 97-10-068, filed 5/5/97, effective 6/5/97)

**WAC 308-330-307 RCW sections adopted—Driver licenses-identicards.** The following sections of the Revised Code of Washington (RCW) pertaining to driver licenses and identification cards as now or hereafter amended are hereby adopted by reference as a part of this chapter in all respects as though such sections were set forth herein in full: RCW 46.20.021, 46.20.022, 46.20.025, 46.20.027, 46.20.031, 46.20.041, 46.20.045, 46.20.055, 46.20.070, 46.20.190, 46.20.220, 46.20.308, 46.20.336, 46.20.338, 46.20.342, 46.20.343, 46.20.344, 46.20.391, 46.20.394, 46.20.410, 46.20.420, 46.20.430, 46.20.500, 46.20.510, 46.20.550, 46.20.720, 46.20.730, 46.20.740, 46.20.750, ((~~and~~)) 46.20.3101, and sections 1 and 2, chapter 66, Laws of 1997.

AMENDATORY SECTION (Amending WSR 97-10-068, filed 5/5/97, effective 6/5/97)

**WAC 308-330-425 RCW sections adopted—Reckless driving, vehicular homicide and assault.** The following sections of the Revised Code of Washington (RCW) pertaining to reckless driving, driving while under the influence of intoxicating liquor or any drug, vehicular homicide and assault as now or hereafter amended are hereby adopted by reference as a part of this chapter in all respects as though such sections were set forth herein in full: RCW 46.61.500, 46.61.502, 46.61.503, 46.61.504, 46.61.5054, 46.61.5055, 46.61.5057, 46.61.5058, 46.61.506, 46.61.517, 46.61.519, 46.61.5191, 46.61.5195, 46.61.525, 46.61.527, 46.61.530, 46.61.535, ((~~and~~)) 46.61.540, and section 4, chapter 66, Laws of 1997.

## WSR 97-16-042
PERMANENT RULES
## DEPARTMENT OF LICENSING
[Filed July 31, 1997, 9:06 a.m.]

Date of Adoption: July 30, 1997.

Purpose: To increase charges for examinations and reexaminations. The proposed rule change will reflect provisions of a new contract for testing between the department and an independent testing service. The charge is paid directly to the testing service with no funds returning to the department.

Citation of Existing Rules Affected by this Order: Amending WAC 308-125-120 Fees and charges.

Statutory Authority for Adoption: RCW 43.24.086.

Adopted under notice filed as WSR 97-13-030 on June 12, 1997.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 0, amended 2, repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 0, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 2, repealed 0.

Effective Date of Rule: Thirty-one days after filing.

July 30, 1997
Linda Bremer
Assistant Director, BPD

AMENDATORY SECTION (Amending WSR 97-02-004, filed 12/20/96, effective 1/20/97)

**WAC 308-125-120 Fees and charges.** The following fees shall be paid under the provisions of chapter 18.140 RCW:

| Title of Fee | Fee |
|---|---|
| (1) Application for examination | $175.00 |
| (2) Examination | ((~~75.00~~)) 100.00** |
| (3) Reexamination | ((~~75.00~~)) 100.00** |
| (4) Original certification | 100.00* |
| (5) Certification renewal | 275.00* |
| (6) Late renewal penalty | 35.00 |
| (7) Duplicate certificate | 25.00 |
| (8) Certification history record | 25.00 |
| (9) Application for reciprocity | 175.00 |
| (10) Original certification via reciprocity | 100.00* |
| (11) Temporary practice | 150.00 |

* Proposed fees for these categories marked with an asterisk include an estimated $25.00 to be submitted by the state to Federal Government. Title XI, SEC. 1109 requires each state to submit a roster listing of state certified appraisers to the Appraiser Subcommittee "no less than annually." The state is also required to collect from such individuals who perform appraisals in federally related transactions, an annual

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registry fee of "not more than $50," such fees to be transmitted by the state to the federal government on an annual basis.

** Charges for categories marked with a double asterisk are determined by contract with an outside testing service.

## WSR 97-16-043
### PERMANENT RULES
### DEPARTMENT OF LABOR AND INDUSTRIES

[Filed July 31, 1997, 10:33 a.m., effective December 1, 1997]

Date of Adoption: July 31, 1997.

Purpose: Chapter 296-49A WAC, Director's factory assembled structures advisory board; chapter 296-150R WAC, Recreational vehicles; chapter 296-150P WAC, Recreational park trailers; chapter 296-150C WAC, Commercial coaches; chapter 296-150F WAC, Factory built housing and commercial structures; and chapter 296-150M WAC, Manufactured homes.

**Reviser's note:** The material contained in this filing exceeded the page-count limitations of WAC 1-21-040 for appearance in this issue of the Register. It will appear in the 97-17 issue of the Register.

Citation of Existing Rules Affected by this Order:

**Amending chapter 296-150R WAC, Recreational vehicles and park trailers.**

WAC 296-150R-0010 Authority, purpose, and scope.

WAC 296-150R-0020 What definitions apply to this chapter?

WAC 296-150R-0030 How is this chapter enforced?

WAC 296-150R-0040 Will you keep my manufacturing confidential?

WAC 296-150R-0060 Who handles consumer complaints about recreational vehicles and park trailers?

WAC 296-150R-0100 What happens if I disagree with the department's decision regarding my compliance with this chapter and ANSI?

WAC 296-150R-0110 Do you have an advisory board to address recreational vehicle and park trailer issues?

WAC 296-150R-0120 Where can I obtain technical assistance regarding recreational vehicles and park trailers?

WAC 296-150R-0130 Do you allow recreational vehicles and park trailers to be displayed without an insignia?

WAC 296-150R-0200 Who should obtain recreational vehicle and park trailer insignia?

WAC 296-150R-0250 How do I replace lost or damaged insignia?

WAC 296-150R-0280 What other vehicle identification is required?

WAC 296-150R-0400 What constitutes an acceptable quality control program/manual for state-plan insignia?

WAC 296-150R-0640 Am I charged if I request an inspection but I am not prepared?

WAC 296-150R-0850 What constitutes an acceptable quality control program/manual for self-certification?

WAC 296-150R-1000 Who needs approval to alter a recreational vehicle or park trailer?

WAC 296-150R-2000 Must state-plan and self-certified manufacturers notify you if they manufacture at more than one location?

WAC 296-150R-2020 Must state-plan and self-certified manufacturers notify you of a change in business ownership?

WAC 296-150R-3000 Recreational vehicle and park trailer fees.

**Chapter 296-150C WAC, Commercial coaches.**

WAC 296-150C-0040 Will you keep my manufacturing information confidential?

WAC 296-150C-0100 What happens if I disagree with the department's decision regarding my compliance with this chapter and ANSI?

**Chapter 296-150F WAC, Factory built housing and commercial structures.**

WAC 296-150F-0040 Will you keep my manufacturing information confidential?

WAC 296-150F-0100 What happens if I disagree with the department's decision regarding my compliance with this chapter and ANSI?

**Chapter 296-150M WAC, Manufactured homes.**

WAC 296-150M-0040 Will you keep my manufacturing information confidential?

WAC 296-150M-0100 What happens if I disagree with the department's decision regarding my compliance with this chapter and ANSI?

**Repealing chapter 296-49 WAC, Governor's Mobile Home and Recreational Vehicle Advisory Board.**

WAC 296-49-005 Foreword.

WAC 296-49-010 Definitions.

WAC 296-49-015 Officers.

WAC 296-49-020 Internal management.

WAC 296-49-025 Duties.

WAC 296-49-030 Hearings.

WAC 296-49-035 Appearance and practice before board.

WAC 296-49-040 Solicitation of business unethical.

WAC 296-49-045 Standards of ethical conduct.

WAC 296-49-050 Appearance by former employee.

WAC 296-49-055 Former employee as expert witness.

WAC 296-49-060 Computation of time.

WAC 296-49-065 Administrative Procedure Act.

Statutory Authority for Adoption: RCW 43.22.340 and 43.22.420.

Adopted under notice filed as WSR 97-09-039 on April 15, 1997.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 53, amended 25, repealed 13.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 11, amended 0, repealed 13.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 53, amended 25, repealed 13.

Effective Date of Rule: December 1, 1997.

July 28, 1997
Gary Moore
Director

PERMANENT

REPEALER

The following chapter of the Washington Administrative Code is repealed:

| | |
|---|---|
| WAC 296-49-005 | Foreword. |
| WAC 296-49-010 | Definitions. |
| WAC 296-49-015 | Officers. |
| WAC 296-49-020 | Internal management. |
| WAC 296-49-025 | Duties. |
| WAC 296-49-030 | Hearings. |
| WAC 296-49-035 | Appearance and practice before board. |
| WAC 296-49-040 | Solicitation of business unethical. |
| WAC 296-49-045 | Standards of ethical conduct. |
| WAC 296-49-050 | Appearance by former employee. |
| WAC 296-49-055 | Former employee as expert witness. |
| WAC 296-49-060 | Computation of time. |
| WAC 296-49-065 | Administrative Procedure Act. |

## Chapter 296-49A WAC
## DIRECTOR'S FACTORY ASSEMBLED STRUCTURES ADVISORY BOARD

NEW SECTION

**WAC 296-49A-010 What definitions apply to this chapter?** "**Board**" is the director's factory assembled structures advisory board.

"**Department**" is the Washington state department of labor and industries.

"**Director**" is the director of the department of labor and industries.

"**Section**" is the factory assembled structures (FAS) section of the department.

NEW SECTION

**WAC 296-49A-020 What is the purpose of these rules?** The primary purpose of these rules is to establish a uniform means of communication between the department and persons, firms or corporations engaged in the manufacture of factory assembled structures. Generally, this communication will involve either proposed WAC rule revisions or the operation of the section.

NEW SECTION

**WAC 296-49A-030 What is the purpose of the board?** The purpose of the board, as authorized by RCW 43.22.420, is to advise the director on all matters pertaining to the enforcement of chapter 43.22 RCW including but not limited to standards of body and frame design, construction and plumbing, heating and electrical installations, minimum inspection procedures and the adoption of rules and regulations pertaining to the manufacture of factory assembled structures, manufactured (mobile) homes, commercial coaches, recreational vehicles, and recreational park trailers.

NEW SECTION

**WAC 296-49A-040 Who are the members and officers of the board?** The board has nine members. Each is appointed by the director to a four-year term. The members must represent consumer interests, regulated industries and allied professionals. Consequently, the composition of the board will be:

- Two members representing consumers;
- Two members representing manufactured housing;
- Two members representing factory built structures;
- One member representing recreational vehicles and recreational park trailers;
- One member representing building officials; and
- One member who will either be an architect or an engineer.

The board will elect a chairperson and vice-chairperson. The department's chief prefab building specialist shall serve as secretary of the board.

According to RCW 43.03.050 and 43.03.060, each board member shall be paid travel expenses. Those expenses will be paid out of department appropriations upon the presentation of a voucher approved by the director or the director's designee.

NEW SECTION

**WAC 296-49A-050 When does the board meet?** The board holds regular quarterly meetings on the third Thursday of February, May, August and November. If needed, the director may call special meetings. Regular and special meetings are open to the public.

NEW SECTION

**WAC 296-49A-060 How are board meetings conducted?** The board must adopt written rules of procedure governing its internal management. These rules must include *Roberts' Rules of Order, Revised.* Upon written request, copies of these rules of procedure must be provided to all interested persons.

NEW SECTION

**WAC 296-49A-070 What are the duties of the board?** (1) Every three years the board must review existing FAS rules and recommend revisions if needed. Also, the board must review any new rules and regulations proposed by the director and make recommendations regarding their adoption.

(2) The board may periodically develop administrative procedures, organizational plans and rules for improving the operation of the section and submit them to the director for consideration.

(3) Upon the request of the director, the board will assist in the administrative interpretation of national codes and Washington state rules and regulations regarding all matters pertaining to the enforcement of chapter 43.22 RCW and the manufacture of factory assembled structures, manufactured (mobile) homes, commercial coaches, recreational vehicles, and recreational park trailers. This interpretative assistance will include but will not be limited to standards of body and frame design, construction and

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plumbing, heating and electrical installations, and minimum inspection procedures.

**However**, the board will neither function as a board of appeals nor will it render decisions regarding the application or interpretation of any adopted rule or regulation to any person, firm or corporation engaged in the business of manufacturing factory assembled structures.

(4) At any board meeting, the board must consider any written proposals made by any person, firm or corporation regarding new rules and regulations or changes in administrative procedures related to the section.

**However**, these written proposals must be submitted to the board's secretary at least fifteen days prior to the meeting so that they can be included on the meeting agenda and in the meeting packet distributed to board members. If the parties submitting these proposals wish to address them at that meeting, their proposals must be accompanied by a written request to address the board.

NEW SECTION

**WAC 296-49A-080 Who can speak at board meetings?** Any person, firm or corporation can speak at board meetings. **However**, those persons, firms and corporations wishing to formally address the board regarding specific proposals relating to any FAS rule adoptions, amendments or repeals or changes in the section's administrative procedures must be in good ethical standing with the board. (See WAC 296-49A-100.)

NEW SECTION

**WAC 296-49A-090 Can a person appearing before the board solicit business?** The board considers it unethical for anyone appearing before the board to use any kind of solicitor to solicit business or to solicit business through circulars, advertisements or by personal communications or interviews unwarranted by personal relations. It is permissible to publish or circulate business cards.

NEW SECTION

**WAC 296-49A-100 What standards of ethical conduct are expected of board members and persons appearing before the board?** Anyone serving on the board or appearing before it must adhere to the standards described in *"Ethics and the Appearance of Fairness," State of Washington Boards and Commissions Membership Handbook*. Failure to conform to these standards may result in forfeiting the opportunity to either appear before the board or serve as a member.

NEW SECTION

**WAC 296-49A-110 What statute governs the adoption of FAS rules and regulations?** All FAS rules and regulations will be adopted according to chapter 34.05 RCW, the Administrative Procedure Act.

## Chapter 296-150P WAC
## RECREATIONAL PARK TRAILERS

NEW SECTION

**WAC 296-150P-0010 Authority, purpose, and scope.** (1) This chapter is authorized by RCW 43.22.335 through 43.22.434 and covers the requirements for:

(a) Obtaining state-plan status if you manufacture recreational park trailers for sale or lease in Washington state.

(b) Obtaining state-plan insignia if you manufacture recreational park trailers for sale or lease in Washington state.

(2) This chapter applies to:

(a) Manufacturers, dealers and individuals who build for sale, sell, or lease recreational park trailers in Washington state; and

(b) Manufacturers, dealers, and individuals who alter recreational park trailers for sale or lease in Washington state.

NEW SECTION

**WAC 296-150P-0020 What definitions apply to this chapter? "Alteration"** is the replacement, addition, modification, or removal of any equipment or material that affects the fire and life safety provisions, structural system, plumbing systems, fuel systems and equipment or electrical systems of a recreational park trailer.

The following changes are not considered alterations for purposes of this chapter:

- Repairs with approved parts;
- Modification of a fuel-burning appliance according to the terms of its listing; and
- Adjustment and maintenance of equipment.

**"Alteration insignia"** is an insignia which indicates a recreational park trailer alteration was approved by the department.

**"ANSI"** is the American National Standards Institute, Inc., and the institute's rules applicable to recreational park trailers. For the purposes of this chapter, references to ANSI mean ANSI A119.5 Recreational Park Trailers, 1997 edition.

**"Approved"** is approved by the department of labor and industries.

**"Audit"** by the department is the department inspection of a manufacturer's quality control procedures, comprehensive plans, and recreational park trailers.

**"Comprehensive design plan"** consists of the design plans and copies of drawings such as:

- Floor plans relating to fire and life safety, structural, electrical, plumbing, liquefied petroleum (LP) and/or natural gas systems and appliances and air conditioning systems, if applicable to the plan of each recreational park trailer.
- Plumbing line drawings which describe the size, length and location of gas piping lines, liquid and body waste lines, liquid and body waste tanks, and potable water tanks.
- Electrical drawings. (See WAC 296-150P-0330.)

**"Consumer"** is a person or organization who buys or leases recreational park trailers.

**"Dealer"** is a person or organization whose business is offering recreational park trailers for sale or lease.

**"Department"** is the department of labor and industries. The department may be referred to as "we" or "us" in this chapter. Note: You may contact us at: Department of Labor and Industries, Specialty Compliance, PO Box 44430, Olympia, WA 98504-4430.

**"Equipment"** is all material, appliances, fixtures, and accessories used in the manufacture or alteration of recreational park trailers.

**"Manual"** is a reference containing instructions, procedures, responsibilities and other information used to implement and maintain the quality control program of a recreational park trailer manufacturer.

**"National Electrical Code"** 1996 edition is the electrical code required for ANSI A119.5 compliance.

**"Recreational park trailer"** is a trailer-type unit that is primarily designed to provide temporary living quarters for recreational, camping or seasonal use, that meets the following criteria:

- Built on a single chassis, mounted on wheels;
- Having a gross trailer area not exceeding 400 square feet (37.15 square meters) in the set-up mode; and
- Certified by the manufacturer as complying with ANSI A119.5.

**"Quality control"** is the plan and method for ensuring that the manufacture, fabrication, assembly, installation, storing, handling, and use of materials complies with this chapter and ANSI.

**"State-plan insignia"** is an insignia which is obtained under the state design-plan approval process.

**"System"** is a part of a recreational park trailer that is designed to serve a particular function such as plumbing, electrical, heating, mechanical or structural system.

NEW SECTION

**WAC 296-150P-0030 How is this chapter enforced?** (1) We enforce this chapter through the state-plan insignia approval process (see WAC 296-150P-0300 through 296-150P-0720).

(2) Recreational park trailer inspections occur where the recreational park trailers are manufactured, sold, or leased. We conduct inspections during normal work hours or at other reasonable times. We may require you to remove a part of the recreational park trailer in order to conduct our inspection.

NEW SECTION

**WAC 296-150P-0040 Will you keep my manufacturing information confidential?** We will only release manufacturing information, such as design plans, specifications, test results, and manuals, according to the Public Records Act (see RCW 42.17.310 (1)(h)) unless we are ordered to do so by a court or otherwise required by law.

NEW SECTION

**WAC 296-150P-0060 Who handles consumer complaints about recreational park trailers?** (1) Consumers may file complaints with us, if they have reason to believe a manufacturer and/or dealer is in violation of this chapter and ANSI.

(2) The complaint should be in writing and describe the items that may not comply with this chapter and ANSI.

(3) After we receive the complaint, we will send the manufacturer and/or the dealer a copy of the complaint. The manufacturer and/or dealer has thirty days to respond to the complaint.

(4) If we decide an inspection is warranted and specific code violation(s) are found during the inspection, the manufacturer or dealer is charged for the inspection.

NEW SECTION

**WAC 296-150P-0100 What happens if I disagree with the department's decision regarding my compliance with this chapter and ANSI?** (1) If we determine that you are in violation of this chapter and ANSI, you will receive a notice of noncompliance and we may withdraw your certification. (See WAC 296-150P-0710.)

(2) If you disagree with our decision, you can send us a written request for a hearing, stating why you disagree.

(3) After we receive your hearing request, we will:

(a) Schedule a hearing within thirty days after we receive your request.

(b) Notify you of the time, date, and place for the hearing. If you fail to appear, your case will be dismissed.

(c) Hear your case.

(d) Send you written notice of our decision.

If you disagree with our decision, you may appeal it under the Administrative Procedure Act (chapter 34.05 RCW).

NEW SECTION

**WAC 296-150P-0110 Do you have an advisory board to address recreational park trailer issues?** The factory assembled structures (FAS) board advises us on issues relating to plumbing, heating, electrical, installation, alterations, inspections, and rules for recreational park trailers. (See RCW 43.22.420.)

NEW SECTION

**WAC 296-150P-0120 Where can I obtain technical assistance regarding recreational park trailers?** We provide field technical service to recreational park trailer manufacturers for an hourly fee (see WAC 296-150P-3000). Field technical service may include an evaluation, consultation, plan examination, interpretation, and clarification of technical data relating to the application of our rules. It does not include inspections.

NEW SECTION

**WAC 296-150P-0130 Do you allow recreational park trailers to be displayed without an insignia?** We allow one recreational park trailer to be displayed without an insignia, if you:

(1) Get written approval from us in advance of displaying the unit; we should receive your written request at least thirty days prior to display of the unit. Your request must include:

(a) The model and serial number of the unit;

(b) The location where the unit will be displayed; and

(c) The date(s) the unit will be displayed.

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(2) Are licensed in Washington state through the department of licensing;

(3) Have your approval letter available at the display;

(4) Place three visible signs on the display unit:

(a) One at the main entry door;

(b) One inside the front of the unit; and

(c) One inside the back of the unit.

The signs must read: NOT FOR SALE - DISPLAY ONLY. The letters on the sign must be one inch or higher.

## REQUIREMENTS FOR INSIGNIA AND OTHER IDENTIFICATION

NEW SECTION

**WAC 296-150P-0200 Who should obtain recreational park trailer insignia?** (1) If you manufacture recreational park trailers to be sold or leased in Washington, you must purchase a state-plan insignia for each recreational park trailer.

(2) Individuals that build recreational park trailers to sell or lease in Washington must purchase an insignia.

(3) If you have a recreational park trailer with a state-plan insignia and you plan to alter or have another person alter it, you must obtain an alteration insignia from us.

Note: You do not need to purchase our insignia if you manufacture recreational park trailers in Washington for sale outside the state.

NEW SECTION

**WAC 296-150P-0210 How do I obtain insignia information and the forms you require?** Upon request, we will provide you with a packet of information that includes required forms and fee schedule for obtaining the state-plan insignia. Our address is noted in the definition of department.

NEW SECTION

**WAC 296-150P-0220 How do I obtain insignia based on state-plan approval?** (1) If you are approved to purchase insignia based on state-plan approval, you may purchase the insignia by submitting the insignia application with the required fees. (See WAC 296-150P-3000.)

(2) The application must include:

(a) A signed statement from you certifying that you are manufacturing your units according to your approved design plans and your quality control program; and

(b) A list of the approved design plans against which you will apply the insignia.

NEW SECTION

**WAC 296-150P-0250 How do I replace lost or damaged insignia?** (1) If an insignia is lost or damaged after it is placed on a recreational park trailer and you are the manufacturer or owner, you must notify us in writing immediately.

(2) Your notification should include the following information:

(a) Your name, address, and telephone number;

(b) The recreational park trailer serial number;

(c) The insignia number and design-plan approval number, if applicable; and

(d) The required fee. (See WAC 296-150P-3000.)

(3) If we can determine that your unit previously had an insignia, we will attach the insignia to your recreational park trailer once we receive your insignia fee. (See WAC 296-150P-3000.)

NEW SECTION

**WAC 296-150P-0280 What other identification is required?** Every new recreational park trailer manufactured, offered for sale or lease, or sold or leased in Washington must also have a vehicle identification number (VIN) label in compliance with the Federal Department of Transportation (DOT) safety standards.

NEW SECTION

**WAC 296-150P-0290 When and where should the insignia and the identification label be attached to the recreational park trailer?** (1) Insignia must be attached to the finished recreational park trailer before it leaves the approved manufacturer's location.

(2) The state-plan insignia must be attached adjacent to the main door, on the strike side of the door, at least twelve inches above the floor line. The strike side of the door is opposite the hinge side of the door.

(3) The alteration insignia must be attached next to the certification insignia.

(4) The identification number (VIN) label must be attached on the recreational park trailer as required by the Federal Department of Transportation. Any other identification label must be attached next to the certification insignia or on the exterior front half of the left side of the recreational park trailer, at least six inches above the floor line.

## STATE PLAN

NEW SECTION

**WAC 296-150P-0300 What is required to obtain insignia based on state-plan approval?** If you want to obtain insignia based on state-plan approval, you must:

(1) Have your design plan and quality control manual approved by us; and

(2) Pass a quality control program audit which includes a random inspection of your recreational park trailers.

NEW SECTION

**WAC 296-150P-0310 What is required after I am approved as a state-plan manufacturer?** Once you have obtained approval as a state-plan manufacturer:

(1) You are required to submit comprehensive design plans to us for approval;

(2) You can inspect your own recreational park trailer based upon your quality control manual specifications; and

(3) You are subject to a semiannual audit at your manufacturing location(s).

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## DESIGN PLAN

NEW SECTION

**WAC 296-150P-0320 How do I apply for design-plan approval?** Upon request, we will send you a design-plan approval request form.

NEW SECTION

**WAC 296-150P-0330 What is required for comprehensive design-plan approval?** If you are the manufacturer applying for state-plan approval:

(1) You must submit two sets of comprehensive design plans (do not send originals) to us for approval. Design plans must be accompanied by the initial filing fee, if appropriate, and the design-plan fee. (See WAC 296-150P-3000.)

(2) Your comprehensive design plan must indicate compliance with the appropriate ANSI standards in the following plans and drawings:

(a) Floor plans relating to fire and life safety, electrical, plumbing, liquefied petroleum (LP) and/or natural gas systems and appliances, and air conditioning systems, if applicable, of each recreational park trailer.

(b) Plumbing line drawings which describe the size, length and location of gas piping lines, liquid and body waste lines, liquid and body waste tanks, and potable water tanks.

(c) Electrical drawings.

(d) Structural drawings showing compliance with ANSI A119.5, Chapter 5.

Note: We will provide a check list with detailed requirements for each type of plan upon request.

(3) Current comprehensive design plans must be available at each manufacturing location.

(4) You must have an approved quality control manual. (See WAC 296-150P-0400, 296-150P-0410.)

Note: You do not need a quality control manual if you are an individual asking us to inspect a recreational park trailer.

NEW SECTION

**WAC 296-150P-0340 What happens if you approve my design plan?** (1) Your design plan will be approved if it complies with the requirements of this chapter and ANSI.

(2) We will send you an approved copy of the design plan with the approval number.

(3) You must keep copies of the approved design plan for all models produced at the manufacturing location.

(4) If your design plan is not approved, you will be notified in writing of plan deficiencies. You may send a corrected design plan to us.

NEW SECTION

**WAC 296-150P-0350 If my design plan is not approved, how much time do I have to submit a correct plan?** (1) You have ninety days to correct and resubmit your original design plan and send us the resubmittal fee once we notify you of plan deficiencies. After ninety days, your initial design plan is returned to you.

(2) If you submit your corrected design plan after ninety days, you must send the initial design-plan fee instead of the resubmittal fee. (See WAC 296-150R-3000.)

## QUALITY CONTROL PROGRAM/MANUAL

NEW SECTION

**WAC 296-150P-0400 What constitutes an acceptable quality control program/manual for state-plan insignia?** Your quality control program must implement your approved quality control manual. The quality control manual must provide instructions, procedures, and assign responsibilities to assure quality control requirements are met when the recreational park trailers are manufactured. The minimum quality control manual requirements are:

(1) An organization chart which identifies quality assurance positions and describes quality control responsibilities and accountability for the following plant personnel: General manager, plant production manager, plant foreperson, lead persons, production, quality control, sales, engineering, purchasing, and receiving staff;

(2) A method to distribute all comprehensive design plans and installation instructions or other documentation that ensures all products used are installed correctly in all recreational park trailer models produced at each manufacturing location;

(3) Procedures for maintaining the quality assurance of each recreational park trailer model;

(4) Drawings and procedures displaying manufacturing processes including a schematic plant layout;

(5) Descriptions of production stations, including surge-hold stations, on-site or off-site repair-rework locations, and off-line construction sites. Descriptions should identify by station and location the work, tests, or inspections performed and the job title of the person performing the quality control review;

(6) Inspection and equipment maintenance instructions, including jig maintenance, check-off lists, and other documentation verifying quality control performance and accountability;

(7) Coordination of staff duties ensuring smooth transition of manufacturing responsibilities during the shift change;

(8) Instructions regarding the identification, control, and handling of damaged goods or materials that do not comply with existing rules and ANSI;

(9) Information about recreational park trailer material storage and environmental control including protection from the weather and the elimination of scrap and age-dated materials which have exceeded their life;

(10) Verification that testing equipment is properly calibrated and that your gauges are accurate;

(11) Information about production line testing which includes descriptions of procedures, test equipment, and the location of each test. The information should demonstrate accountability for test completion, for rework and repair, and for retesting;

(12) Instructions, procedures, descriptions, and responsibilities for insignia storage, security, application, and inventory;

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(13) Procedures for mixed production lines, for variable production rates, for new or substitute personnel, and for new or changed inspections and tests;

(14) Instructions, procedures, and responsibilities for keeping recreational park trailer records which include the unit serial number, model, plan approval number, dealer location or destination, insignia number, inspection, and test results;

(15) Information about your quality control training program; and

(16) Procedures for introducing new designs, models, materials and equipment to staff that ensures products are built according to the standards and the manufacturer's instructions.

NEW SECTION

**WAC 296-150P-0410 How do I apply to have my quality control manual approved?** We will provide the form and instructions upon request.

NEW SECTION

**WAC 296-150P-0420 What happens if my quality control manual is approved?** (1) Your quality control manual will be approved if it meets the requirements of this chapter and ANSI.

(2) We will send you an approved copy of your quality control manual.

(3) If your quality control manual is not approved, you will be notified in writing of the deficiencies. You may send us a corrected quality control manual.

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## DESIGN PLAN/QUALITY CONTROL MANUAL—REVIEW, CHANGE/ADDENDUM, EXPIRATION, AND RENEWAL

NEW SECTION

**WAC 296-150P-0440 Do I need approval to change my design plan or quality control manual after I receive state-plan approval?** (1) Once you have received state-plan approval and you want to change your design plan or quality control manual, we must approve the changes/addenda.

(2) You should send design plan or quality control manual changes to us thirty days before you want the changes/addenda to take effect.

NEW SECTION

**WAC 296-150P-0450 When does state-plan insignia approval expire?** (1) As a state-plan manufacturer, your approval for insignia is based upon approval of your design plan and quality control manual. Design plans are considered approved until a new ANSI code edition is adopted or unless revisions to ANSI prior to code changes would not support our design-plan approval.

(2) If, after the new ANSI code edition is adopted, your design plan and quality control manual remain identical (you may change the model name or designation) to your original design plan, you only need to submit the new plan fee and the plan approval request. **(Do not send plans.)**

Note: ANSI codes are normally adopted for a three-year period.

## INSPECTION

NEW SECTION

**WAC 296-150P-0600 When does a manufacturer, individual builder, or a dealer need to request a recreational park trailer inspection?** If you are a manufacturer, individual builder, or a dealer, you must request a recreational park trailer inspection by us:

(1) If you have approval of your design plan and quality control manual and need to complete the state-plan process;

(2) If you are making a recreational park trailer alteration which must be inspected and approved by us; or

(3) If you are correcting a violation which must be inspected and approved by us.

Note: An individual who is building a recreational park trailer to own, sell, or lease must obtain an identification number from the state patrol prior to our issuance of certification insignia.

NEW SECTION

**WAC 296-150P-0610 How do I request a recreational park trailer inspection and what documentation is required?** (1) Complete an inspection application which can be obtained from us.

(2) Send the completed application, application fee, and inspection fee to us prior to the date you would like an inspection performed. (See WAC 296-150P-3000.)

(3) During the inspection, have your approved design plans, specifications, and test results available for our inspector.

(4) A recreational park trailer inspection will be completed in two or more phases. The "cover" inspection during the construction of the unit before the electrical, plumbing, mechanical, heating, and structural systems are covered. The final inspection takes place after the recreational park trailer is complete.

NEW SECTION

**WAC 296-150P-0620 What happens if my recreational park trailer passes inspection?** (1) If your recreational park trailer passes inspection and you have met the other requirements of this chapter and ANSI, you will be approved to purchase state-plan insignia from us.

(2) If you send your insignia application and fee to us prior to the inspection, we will attach your insignia when we approve the recreational park trailer.

NEW SECTION

**WAC 296-150P-0630 What happens if my recreational park trailer does not pass inspection?** (1) If your recreational park trailer does not pass inspection, you will receive a notice of noncompliance.

(2) You have ten days after receiving the notice of noncompliance to send us a written response explaining how you will correct the violation(s) and prevent its reoccurrence.

(3) You are not allowed to move, sell or lease a recreational park trailer until:

(a) You correct the violation(s);

(b) We inspect and approve the correction(s); and

(c) You pay the inspection fee and the insignia fee, if required. (See WAC 296-150P-3000.)

(4) If you fail to make the corrections, the sale or lease of your recreational park trailer is prohibited by RCW 43.22.340 until the corrections are made.

Note: You will be allowed to return a recreational park trailer to the manufacturing location or to another location for correction with our approval.

NEW SECTION

**WAC 296-150P-0640 Am I charged if I request an inspection but I am not prepared?** (1) If you ask us to inspect recreational park trailers within Washington state but are not prepared when we arrive, you must pay the minimum inspection fee and travel.

(2) If you ask us to inspect recreational park trailers outside Washington state but are not prepared when we arrive, you must pay the minimum inspection fee, travel, and per diem expenses.

## AUDIT

NEW SECTION

**WAC 296-150P-0700 What does our annual quality control program audit for state-plan insignia include?** (1) During your annual audit for state-plan insignia, we will review your quality control program and randomly inspect your recreational park trailer.

(2) If our audit indicates that you are complying with the requirements of this chapter and ANSI, you may purchase state-plan insignia.

(3) If we discover a quality control program deficiency or a recreational park trailer violation during our audit, you will receive a notice of noncompliance and cannot purchase state-plan insignia until the deficiency or violation is corrected.

(a) You can correct the deficiency or violation during the audit; or

(b) You have fourteen days after receiving the notice of noncompliance to send us a written response explaining your correction of the deficiency or violation; and

(c) You are subject to a follow-up audit.

## LOSS OF STATE-PLAN APPROVAL

NEW SECTION

**WAC 296-150P-0710 Can you withdraw my state-plan insignia approval?** Should you fail to meet the requirements of this chapter or ANSI after you have been approved to purchase state-plan insignia, we will withdraw your certification.

NEW SECTION

**WAC 296-150P-0720 What happens if my state-plan insignia approval is withdrawn?** If your state-plan insignia approval is withdrawn because you have failed to comply with this chapter and ANSI:

(1) You must return any issued but unused insignia to us; and

(2) You cannot sell or lease recreational park trailers in Washington.

## RECREATIONAL PARK TRAILER ALTERATIONS

NEW SECTION

**WAC 296-150P-1000 Who needs approval to alter a recreational park trailer?** Any alteration by a manufacturer, dealer, or individual to a recreational park trailer with state-certified insignia must be approved by us before the alteration is made. "Alteration" is defined in WAC 296-150P-0020.

Note: We may remove your insignia if you alter or have someone alter a recreational park trailer without our approval.

NEW SECTION

**WAC 296-150P-1010 Must I purchase a separate insignia for an alteration?** You are required to purchase an alteration insignia from us.

NEW SECTION

**WAC 296-150P-1020 How do I apply for alteration approval and obtain the alteration insignia?** (1) To apply for alteration approval and the alteration insignia, you must:

(a) Complete an alteration permit form and an application for alteration insignia. We will provide the forms.

(b) Submit the completed forms, with the inspection fee and altered recreational park trailer insignia fee, to us. (See WAC 296-150P-3000.)

(2) Our recreational park trailer inspection of the alteration will be in two or more phases. The "cover" inspection during the alteration of the unit before the electrical, plumbing, mechanical, heating, structural or other systems are covered. The final inspection takes place after the alteration inspection is complete.

(3) Once we approve your alteration, we will attach the alteration insignia.

## MANUFACTURER'S NOTICE TO THE DEPARTMENT

NEW SECTION

**WAC 296-150P-2000 Must state-plan manufacturers notify you if they manufacture at more than one location?** (1) We must approve each recreational park trailer manufacturing location producing units for sale or lease in Washington state.

(2) You must send us the following information for each manufacturing location when you are certified:

(a) Company name;

(b) Mailing and physical address;

(c) Phone and FAX number if available;

(d) Type of recreational park trailer(s) manufactured;

(e) Contact person for plan review; and

(f) Contact person for plant audit.

(3) You must update the information as it changes.

NEW SECTION

**WAC 296-150P-2010 Must state-plan manufacturers notify you if they change a business name or address?** (1) If you are moving your business from an approved manufacturing location, the new location must be approved

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before shipping units from that location for sale or lease in Washington state.

(2) You must notify us in writing prior to a change of business name or address.

NEW SECTION

**WAC 296-150P-2020 Must state-plan manufacturers notify you of a change in business ownership?** (1) When a recreational park trailer manufacturing business changes ownership, the new owner must notify us in writing immediately.

(2) A new owner may continue to manufacture recreational park trailers using approved design plans or comprehensive design plans according to this chapter.

(3) The department will perform an audit of the manufacturer after the ownership change to ensure you are meeting the requirements of this chapter and ANSI.

NEW SECTION

**WAC 296-150P-2030 Must state-plan manufacturers notify you of their Washington dealers?** (1) You must send us the following information about yourself and each of your Washington dealers when you are certified:

(a) Dealership name;
(b) Mailing and physical address;
(c) Phone and FAX number if available;
(d) Type of recreational park trailer(s); and
(e) Contact person.

(2) You must update this information as it changes.

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## RECREATIONAL PARK TRAILER FEES

NEW SECTION

**WAC 296-150P-3000 Recreational park trailer fees.**

| WAC 296-150P-3000 RECREATIONAL PARK TRAILER FEES | |
|---|---|
| | |
| **STATE PLAN** | |
| | |
| **INITIAL FILING FEE** | $26.00 |
| | |
| **DESIGN PLAN** | |
| NEW PLAN REVIEW FEE | $73.00 |
| RESUBMIT FEE | $52.00 |
| ADDENDUM | $52.00 |
| | |
| **STATE PLAN/MANUAL FEES** | |
| INITIAL APPROVAL | $10.25 |
| RESUBMITTAL | $52.00 |
| ADDENDUM | $52.00 |
| | |
| **DEPARTMENT AUDIT FEES** | |
| AUDIT (PER HOUR)* | $52.00 |
| TRAVEL (PER HOUR)* | $52.00 |
| PER DIEM** | |
| HOTEL*** | |
| MILEAGE** | |
| RENTAL CAR*** | |
| PARKING*** | |
| AIRFARE*** | |
| | |
| **DEPARTMENT INSPECTION FEES** | |
| INSPECTION (PER HOUR)* | $52.00 |
| TRAVEL (PER HOUR)* | $52.00 |
| PER DIEM** | |
| HOTEL*** | |
| MILEAGE** | |
| RENTAL CAR*** | |
| PARKING*** | |
| AIRFARE*** | |
| | |
| **INSIGNIA FEES** | |
| STATE CERTIFIED | $10.00 |
| ALTERATION | $26.00 |
| REISSUED-LOST/DAMAGED | $10.00 |
| | |
| FIELD TECHNICAL SERVICE FEE (PER HR.) | $52.00 |
| | |
| *Minimum charge of 1 hour for inspection; time spent greater than 1 hour is charged in 1/2 hour increments. | |
| **Per state guidelines. | |
| ***Actual charges incurred. | |

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## Chapter 296-150R WAC
## RECREATIONAL VEHICLES ((~~AND PARK TRAILERS~~))

AMENDATORY SECTION (Amending WSR 96-21-146, filed 10/23/96, effective 11/25/96)

**WAC 296-150R-0010 Authority, purpose, and scope.** (1) This chapter is authorized by RCW ((~~43.22.340~~)) 43.22.335 through 43.22.434 and covers the requirements for:

(a) Obtaining state-plan or self-certified status if you manufacture recreational vehicles ((~~or park trailers~~)) for sale or lease in Washington state.

(b) Obtaining state-plan or self-certified insignia if you manufacture recreational vehicles ((~~or park trailers~~)) for sale or lease in Washington state.

(2) This chapter applies to:

(a) Manufacturers, dealers and individuals who build for sale, sell, or lease recreational vehicles ((~~or park trailers~~)) in Washington state; and

(b) Manufacturers, dealers, and individuals who alter recreational vehicles ((~~and park trailers~~)) for sale or lease in Washington state.

AMENDATORY SECTION (Amending WSR 96-21-146, filed 10/23/96, effective 11/25/96)

**WAC 296-150R-0020 What definitions apply to this chapter? "Alteration"** is the replacement, addition, modification, or removal of any equipment or material that affects the fire and life safety provisions, plumbing systems, fuel systems and equipment or electrical systems of a recreational vehicle ((~~or park trailer~~)).

The following changes are not considered alterations for purposes of this chapter:

- Repairs with approved parts;
- Modification of a fuel burning appliance according to the terms of its listing; and
- Adjustment and maintenance of equipment.

**"Alteration insignia"** is an insignia which indicates a vehicle alteration was approved by the department.

**"ANSI"** is the American National Standards Institute, Inc., and the institute's rules applicable to recreational vehicles ((~~and park trailers~~)). For the purposes of this chapter, references to ANSI mean ANSI A119.2 Recreational Vehicles, 1996 edition((~~, and ANSI A119.5 Park Trailers, 1993 edition, as appropriate~~)).

**"Approved"** is approved by the department of labor and industries.

**"Audit"** by the department can be either a comprehensive audit or a performance audit. A comprehensive audit is the department inspection of a manufacturer's quality control procedures, comprehensive plans, and vehicles. A performance audit is the department's review of the manufacturer's audit performed by the industry association or other independent auditor.

**"Comprehensive design plan"** consists of the design plans and copies of drawings such as:

- Floor plans relating to fire and life safety, electrical, plumbing, liquefied petroleum (LP) and/or natural gas systems and appliances and air conditioning systems, if applicable to the plan of each vehicle.
- Plumbing line drawings which describe the size, length and location of gas piping lines, liquid and body waste lines, liquid and body waste tanks, and potable water tanks.
- Electrical drawings. (See WAC 296-150R-0330 and 296-150R-0820.)

**"Consumer"** is a person or organization who buys or leases recreational vehicles ((~~or park trailers~~)).

**"Dealer"** is a person or organization whose business is offering recreational vehicles ((~~or park trailers~~)) for sale or lease.

**"Department"** is the department of labor and industries. The department may be referred to as "we" or "us" in this chapter. Note: You may contact us at: Department of Labor and Industries, Specialty Compliance, PO Box ((~~44440~~)) 44430, Olympia, WA 98504-((~~4440~~)) 4430.

**"Equipment"** is all material, appliances, fixtures, and accessories used in the manufacture or alteration of recreational vehicles or park trailers.

**"Manual"** is a reference containing instructions, procedures, responsibilities and other information used to implement and maintain the quality control program of a recreational vehicle ((~~or park trailer~~)) manufacturer.

**"National Electrical Code"** 1996 edition is the electrical code required for ANSI A119.2 compliance. ((~~The National Electrical Code 1993 edition is the electrical code required for ANSI A119.5 compliance.~~

~~**"Park trailer"** is a trailer type unit that is primarily designed to provide temporary living quarters for recreational, camping or seasonal use, that meets the following criteria:~~

- ~~Built on a single chassis, mounted on wheels;~~
- ~~Having a gross trailer area in the set-up mode of less than 400 square feet (37.2 square meters); and~~
- ~~Certified by the manufacturer as complying with ANSI A119.5.~~))

**"Quality control"** is the plan and method for ensuring that the manufacture, fabrication, assembly, installation, storing, handling, and use of materials complies with this chapter and ANSI.

**"Recreational vehicle"** is a vehicular type unit primarily designed as temporary living quarters for recreational camping, travel, or seasonal use that either has its own motive power or is mounted on, or towed by, another vehicle. Recreational vehicles include: Camping trailers, fifth-wheel trailers, motor homes, travel trailers, and truck campers.

**"Self-certification insignia"** is an insignia which is obtained under the self-certification approval process.

**"State-plan insignia"** is an insignia which is obtained under the state design-plan approval process.

**"System"** is a part of a recreational vehicle ((~~or park trailer~~)) that is designed to serve a particular function such as plumbing, electrical, heating, or mechanical system.

**"Vehicle"** for the purposes of this chapter, is a recreational vehicle ((~~or a park trailer~~)).

AMENDATORY SECTION (Amending WSR 96-21-146, filed 10/23/96, effective 11/25/96)

**WAC 296-150R-0030 How is this chapter enforced?** (1) We enforce this chapter through:

(a) The state plan insignia approval process (see WAC 296-150R-0300 through 296-150R-0720); or

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(b) The self-certification insignia approval process (see WAC 296-150R-0800 through 296-150R-0930).

(2) Vehicle inspections occur where the recreational vehicles ((~~or park trailers~~)) are manufactured, sold, or leased. We conduct inspections during normal work hours or at other reasonable times. We may require you to remove a part of the recreational vehicle ((~~or park trailer~~)) in order to conduct our inspection.

AMENDATORY SECTION (Amending WSR 96-21-146, filed 10/23/96, effective 11/25/96)

**WAC 296-150R-0040 Will you keep my manufacturing information confidential?** We will only release manufacturing information, such as design plans, specifications, test results, and manuals, according to the Public Records Act((~~,~~)) (see RCW 42.17.310 (1)(h)((~~,~~))) unless we are ordered to do so by a court or otherwise required by law.

AMENDATORY SECTION (Amending WSR 96-21-146, filed 10/23/96, effective 11/25/96)

**WAC 296-150R-0060 Who handles consumer complaints about recreational vehicles ((~~and park trailers~~))?** (1) Consumers may file complaints with us, if they have reason to believe a manufacturer and/or dealer is in violation of this chapter and ANSI.

(2) The complaint should be in writing and describe the items that may not comply with this chapter and ANSI.

(3) After we receive the complaint, we will send the manufacturer and/or the dealer a copy of the complaint. The manufacturer and/or dealer has thirty days to respond to the complaint.

(4) If we decide an inspection is warranted and specific code violation(s) are found during the inspection, the manufacturer or dealer is charged for the inspection.

AMENDATORY SECTION (Amending WSR 96-21-146, filed 10/23/96, effective 11/25/96)

**WAC 296-150R-0100 What happens if I disagree with the department's decision regarding my compliance with this chapter and ANSI?** (1) If we determine that you are in violation of this chapter and ANSI, you will receive a notice of noncompliance and we may withdraw your certification. (See WAC 296-150R-0710, 296-150R-0920.)

(2) If you disagree with our decision, you can send us a written request for a hearing, stating why you disagree.

(3) After we receive your hearing request, we will:

(a) Schedule a hearing within thirty days after we receive your request.

(b) Notify you of the time, date, and place for the hearing. If you fail to appear, your case will be dismissed.

(c) Hear your case.

(d) Send you written notice of our decision.

If you disagree with our decision, you may appeal it under the Administrative Procedure Act (chapter 34.05 RCW).

AMENDATORY SECTION (Amending WSR 96-21-146, filed 10/23/96, effective 11/25/96)

**WAC 296-150R-0110 Do you have an advisory board to address recreational vehicle ((~~and park trailer~~)) issues?** The factory assembled structures (FAS) board advises us on issues relating to plumbing, heating, electrical, installation, alterations, inspections, and rules for recreational vehicles ((~~and park trailers~~)). (See RCW 43.22.420.)

AMENDATORY SECTION (Amending WSR 96-21-146, filed 10/23/96, effective 11/25/96)

**WAC 296-150R-0120 Where can I obtain technical assistance regarding recreational vehicles ((~~and park trailers~~))?** We provide field technical service to recreational vehicle ((~~and park trailer~~)) manufacturers for an hourly fee (see WAC 296-150R-3000). Field technical service may include an evaluation, consultation, plan examination, interpretation, and clarification of technical data relating to the application of our rules. It does not include inspections.

AMENDATORY SECTION (Amending WSR 96-21-146, filed 10/23/96, effective 11/25/96)

**WAC 296-150R-0130 Do you allow recreational vehicles ((~~and park trailers~~)) to be displayed without an insignia?** We allow one recreational vehicle ((~~or park trailer~~)) to be displayed without an insignia, if you:

(1) Get written approval from us in advance of displaying the unit; we should receive your written request at least thirty days prior to display of the unit. Your request must include:

(a) The model and serial number of the unit;

(b) The location where the unit will be displayed; and

(c) The date(s) the unit will be displayed.

(2) Are licensed in Washington state through the department of licensing;

(3) Have your approval letter available at the display;

(4) Place three visible signs on the display unit:

(a) One at the main entry door;

(b) One inside the front of the unit; and

(c) One inside the back of the unit.

The signs must read: *Not For Sale - Display Only.*

The letters on the sign must be one inch or higher.

AMENDATORY SECTION (Amending WSR 96-21-146, filed 10/23/96, effective 11/25/96)

**WAC 296-150R-0200 Who should obtain recreational vehicle ((~~and park trailer~~)) insignia?** (1) If you manufacture recreational vehicles ((~~or park trailers~~)) to be sold or leased in Washington, you must purchase either a state-plan or self-certified insignia for each vehicle.

(2) Individuals that build recreational vehicles ((~~or park trailers~~)) to sell or lease in Washington must purchase an insignia.

(3) If you have a vehicle with either a state-plan or self-certified insignia and you plan to alter or have another person alter it, you must obtain an alteration insignia from us.

Note: You do not need to purchase our insignia if you manufacture recreational vehicles ((~~or park trailers~~)) in Washington for sale outside the state.

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AMENDATORY SECTION (Amending WSR 96-21-146, filed 10/23/96, effective 11/25/96)

**WAC 296-150R-0250 How do I replace lost or damaged insignia?** (1) If an insignia is lost or damaged after it is placed on a recreational vehicle ((~~or park trailer~~)) and you are the manufacturer or owner, you must notify us in writing immediately.

(2) Your notification should include the following information:

(a) Your name, address, and telephone number;

(b) The vehicle identification number or serial number and model;

(c) The insignia number and design-plan approval number, if applicable; and

(d) The required fee. (See WAC 296-150R-3000.)

(3) If we can determine that your unit previously had an insignia, we will attach the insignia to your vehicle once we receive your insignia fee. (See WAC 296-150R-3000.)

AMENDATORY SECTION (Amending WSR 96-21-146, filed 10/23/96, effective 11/25/96)

**WAC 296-150R-0280 What other vehicle identification is required?** Every *new* recreational vehicle ((~~or park trailer~~)) manufactured, offered for sale or lease, or sold or leased in Washington must also have a vehicle identification number (VIN) label in compliance with the Federal Department of Transportation (DOT) safety standards.

Note: Truck campers do not require a vehicle identification number (VIN). They have a manufacturer's serial number.

AMENDATORY SECTION (Amending WSR 96-21-146, filed 10/23/96, effective 11/25/96)

**WAC 296-150R-0400 What constitutes an acceptable quality control program/manual for state-plan insignia?** Your quality control program must implement your approved quality control manual. The quality control manual must provide instructions, procedures, and assign responsibilities to assure quality control requirements are met when vehicles are manufactured. The minimum quality control manual requirements are:

(1) An organization chart which identifies quality assurance positions and describes quality control responsibilities and accountability for the following plant personnel: General manager, plant production manager, plant foreperson, lead persons, production, quality control, sales, engineering, purchasing, and receiving staff;

(2) A method to distribute all comprehensive design plans and installation instructions or other documentation that ensures all products used are installed correctly in all recreational vehicle ((~~or park trailer~~)) models produced at each manufacturing location;

(3) Procedures for maintaining the quality assurance of each vehicle model;

(4) Drawings and procedures displaying manufacturing processes including a schematic plant layout;

(5) Descriptions of production stations, including surge-hold stations, on-site or off-site repair-rework locations, and off-line construction sites. Descriptions should identify by station and location the work, tests, or inspections performed and the job title of the person performing the quality control review;

(6) Inspection and equipment maintenance instructions, including jig maintenance, check-off lists, and other documentation verifying quality control performance and accountability;

(7) Coordination of staff duties ensuring smooth transition of manufacturing responsibilities during the shift change;

(8) Instructions regarding the identification, control, and handling of damaged goods or materials that do not comply with existing rules and ANSI;

(9) Information about recreational vehicle ((~~and park trailer~~)) material storage and environmental control including protection from the weather and the elimination of scrap and age-dated materials which have exceeded their life;

(10) Verification that testing equipment is properly calibrated and that your gauges are accurate;

(11) Information about production line testing which includes descriptions of procedures, test equipment, and the location of each test. The information should demonstrate accountability for test completion, for rework and repair, and for retesting;

(12) Instructions, procedures, descriptions, and responsibilities for insignia storage, security, application, and inventory;

(13) Procedures for mixed production lines, for variable production rates, for new or substitute personnel, and for new or changed inspections and tests;

(14) Instructions, procedures, and responsibilities for keeping vehicle records which include the unit serial number, model, plan approval number, dealer location or destination, insignia number, inspection, and test results;

(15) Information about your quality control training program; and

(16) Procedures for introducing new designs, models, materials and equipment to staff that ensures products are built according to the standards and the manufacturer's instructions.

AMENDATORY SECTION (Amending WSR 96-21-146, filed 10/23/96, effective 11/25/96)

**WAC 296-150R-0640 Am I charged if I request an inspection but I am not prepared?** (1) If you ask us to inspect recreational vehicles ((~~or park trailers~~)) within Washington state but are not prepared when we arrive, you must pay the minimum inspection fee and travel.

(2) If you ask us to inspect recreational vehicles ((~~or park trailers~~)) outside Washington state but are not prepared when we arrive, you must pay the minimum inspection fee, travel, and per diem expenses.

AMENDATORY SECTION (Amending WSR 96-21-146, filed 10/23/96, effective 11/25/96)

**WAC 296-150R-0850 What constitutes an acceptable quality control program/manual for self-certification?** Your quality control program must implement your approved quality control manual. The quality control manual must provide instructions, procedures, and assign responsibilities to assure quality control expectations are met when vehicles

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are manufactured. The minimum quality control manual requirements are:

(1) An organization chart which identifies quality assurance positions and describes quality control responsibilities and accountability for the following plant personnel: General manager, plant production manager, plant foreperson, lead persons, production, quality control, sales, engineering, purchasing and receiving staff;

(2) A method to distribute all comprehensive design plans and installation instructions or other documentation that ensures all products used are installed correctly in all recreational vehicle ((~~or park trailer~~)) models produced at each manufacturing location;

(3) Procedures for maintaining the quality assurance of each vehicle model;

(4) Drawings and procedures displaying manufacturing processes including a schematic plant layout;

(5) Descriptions of production stations, including surge-hold stations, on-site or off-site repair-rework locations, and off-line construction sites. Descriptions should identify by station and location the work, tests, or inspections performed and the job title of the person performing the quality control review;

(6) Inspection and equipment maintenance instructions, including jig maintenance, check-off lists, and other documentation verifying quality control performance and accountability;

(7) Coordination of staff duties ensuring smooth transition of manufacturing responsibilities during the shift change;

(8) Instructions regarding the identification, control, and handling of damaged goods or materials that do not comply with existing rules and ANSI;

(9) Information about recreational vehicle ((~~and park trailer~~)) material storage and environmental control including protection from the weather and the elimination of scrap and age-dated materials which have exceeded their life;

(10) Verification that testing equipment is properly calibrated and that your gauges are accurate;

(11) Information about production line testing which includes descriptions of procedures, test equipment, and the location of each test. The information should demonstrate accountability for test completion, for rework and repair, and for retesting;

(12) Instructions, procedures, descriptions, and responsibilities for insignia storage, security, application, and inventory;

(13) Procedures for mixed production lines, for variable production rates, for new or substitute personnel, and for new or changed inspections and tests;

(14) Instructions, procedures, and responsibilities for keeping vehicle records which include the unit serial number, model, plan approval number (if applicable), dealer location or destination, insignia number, inspection, and test results;

(15) Information about your quality control training program;

(16) Procedures for introducing new designs, models, materials and equipment to staff that ensures products are built according to the standards and the manufacturer's instructions; and

(17) Written authorization as required in WAC 296-150R-0800(5).

AMENDATORY SECTION (Amending WSR 96-21-146, filed 10/23/96, effective 11/25/96)

**WAC 296-150R-1000 Who needs approval to alter a recreational vehicle ((~~or park trailer~~))?** (1) Any alteration by a manufacturer, dealer, or individual to a vehicle with state-certified insignia must be approved by us before the alteration is made. "Alteration" is defined in WAC 296-150R-0020.

(2) Any alteration by a manufacturer, dealer, or individual to a vehicle with self-certified insignia after it leaves the manufacturer's location must be approved by us before the alteration is made.

Note: We may remove your insignia if you alter or have someone alter a vehicle without our approval.

AMENDATORY SECTION (Amending WSR 96-21-146, filed 10/23/96, effective 11/25/96)

**WAC 296-150R-2000 Must state-plan and self-certified manufacturers notify you if they manufacture at more than one location?** (1) We must approve each recreational vehicle ((~~and park trailer~~)) manufacturing location producing units for sale or lease in Washington state.

(2) You must send us the following information for each manufacturing location when you are certified:

(a) Company name;
(b) Mailing and physical address;
(c) Phone and FAX number if available;
(d) Type of recreational vehicle(s) manufactured;
(e) Contact person for plan review; and
(f) Contact person for plant audit.

(3) You must update the information as it changes.

AMENDATORY SECTION (Amending WSR 96-21-146, filed 10/23/96, effective 11/25/96)

**WAC 296-150R-2020 Must state-plan and self-certified manufacturers notify you of a change in business ownership?** (1) When a recreational vehicle ((~~or park trailer~~)) manufacturing business changes ownership, the new owner must notify us in writing immediately.

(2) A new owner may continue to manufacture vehicles using approved design plans or comprehensive design plans according to this chapter.

(3) The department will perform a comprehensive audit of the manufacturer after the ownership change to ensure you are meeting the requirements of this chapter and ANSI.

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AMENDATORY SECTION (Amending WSR 96-21-146 [97-11-053], filed 10/23/96 [5/20/97], effective 11/25/96 [6/30/97])

**WAC 296-150R-3000 ((~~Table of~~)) Recreational vehicle ((~~and park trailer~~)) fees ((~~for insignia approval~~)).**

| WAC 296-150R-3000 RECREATIONAL VEHICLE FEES | | | |
|---|---|---|---|
| STATE PLAN | | SELF CERTIFICATION | |
| INITIAL FILING FEE | $26.00 | INITIAL FILING FEE | $26.00 |
| DESIGN PLAN | | DESIGN PLAN | |
| NEW PLAN REVIEW FEE | $73.00 | NEW PLAN REVIEW FEE (ONE TIME FEE) | $73.00 |
| RESUBMIT FEE | $52.00 | RESUBMIT FEE | $52.00 |
| ADDENDUM | $52.00 | ADDENDUM | $52.00 |
| STATE PLAN/MANUAL FEES | | SELF CERTIFICATION/MANUAL FEES | |
| INITIAL APPROVAL | $10.25 | INITIAL APPROVAL | $10.25 |
| RESUBMITTAL | $52.00 | RESUBMITTAL | $52.00 |
| ADDENDUM | $52.00 | ADDENDUM | $52.00 |
| DEPARTMENT AUDIT FEES | | DEPARTMENT AUDIT FEES | |
| AUDIT (PER HOUR)* | $52.00 | AUDIT (PER HOUR)* | $52.00 |
| TRAVEL (PER HOUR)* | $52.00 | TRAVEL (PER HOUR)* | $52.00 |
| PER DIEM** | | PER DIEM** | |
| HOTEL*** | | HOTEL*** | |
| MILEAGE** | | MILEAGE | |
| RENTAL CAR*** | | RENTAL CAR*** | |
| PARKING*** | | PARKING*** | |
| AIRFARE*** | | AIRFARE*** | |
| DEPARTMENT INSPECTION FEES | | DEPARTMENT INSPECTION FEES | |
| INSPECTION (PER HOUR)* | $52.00 | INSPECTION (PER HOUR)* | $52.00 |
| TRAVEL (PER HOUR)* | $52.00 | TRAVEL (PER HOUR)* | $52.00 |
| PER DIEM** | | PER DIEM** | |
| HOTEL*** | | HOTEL*** | |
| MILEAGE** | | MILEAGE** | |
| RENTAL CAR*** | | RENTAL CAR*** | |
| PARKING*** | | PARKING*** | |
| AIRFARE*** | | AIRFARE*** | |
| INSIGNIA FEES | | INSIGNIA FEES | |
| STATE CERTIFIED | $10.00 | SELF CERTIFIED | $10.00 |
| ALTERATION | $26.00 | ALTERATION | $26.00 |
| REISSUED-LOST/DAMAGED | $10.00 | REISSUED-LOST/DAMAGED | $10.00 |
| FIELD TECHNICAL SERVICE FEE (PER HR.) | $52.00 | | |
| * Minimum charge of 1 hour for inspection; time spent greater than 1 hour is charged in 1/2 hour increments | | | |
| ** Per state guidelines. | | | |
| ***Actual charges incurred. | | | |

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**Reviser's note:** RCW 34.05.395 requires the use of underlining and deletion marks to indicate amendments to existing rules. The rule published above varies from its predecessor in certain respects not indicated by the use of these markings.

**Reviser's note:** The bracketed material preceding the section above was supplied by the code reviser's office.

AMENDATORY SECTION (Amending WSR 96-21-146, filed 10/23/96, effective 11/25/96)

**WAC 296-150C-0040 Will you keep my manufacturing information confidential?** We will only release manufacturing information such as design plans, specifications, and test results according to the requirements of the Public Records Act((~~,~~)) (see RCW 42.17.310 (1)(h)((~~,~~))) unless we are ordered to do so by a court or otherwise required by law.

AMENDATORY SECTION (Amending WSR 96-21-146, filed 10/23/96, effective 11/25/96)

**WAC 296-150C-0100 What happens if I disagree with your decision regarding my compliance with this chapter?** (1) If we determine that you are in violation of this chapter, you will receive a notice of noncompliance. (See WAC 296-150C-0560.)

(2) If you disagree with our decision, you can send us a written request for a hearing, stating why you disagree.

(3) After we receive your hearing request, we will:

(a) Schedule a hearing within thirty days after we receive your request.

(b) Notify you of the time, date, and place for the hearing. If you fail to appear, your case will be dismissed.

(c) Hear your case.

(d) Send you written notice of our decision.

If you disagree with our decision, you may appeal it under the Administrative Procedure Act (chapter 34.05 RCW).

AMENDATORY SECTION (Amending WSR 96-21-146, filed 10/23/96, effective 11/25/96)

**WAC 296-150F-0040 Will you keep my manufacturing information confidential?** We will only release manufacturing information such as design plans, specifications, and test results according to the requirements of the Public Records Act((~~,~~)) (see RCW 42.17.310 (1)(h)((~~,~~))) unless we are ordered to do so by a court or otherwise required by law.

AMENDATORY SECTION (Amending WSR 96-21-146, filed 10/23/96, effective 11/25/96)

**WAC 296-150F-0100 What happens if I disagree with your decision regarding my compliance with this chapter?** (1) If we determine you are in violation of this chapter, you will receive a notice of noncompliance.

(2) If you disagree with our decision, you can send us a written request for a hearing, stating why you disagree.

(3) After we receive your hearing request, we will:

(a) Schedule a hearing within thirty days after we receive your request.

(b) Notify you of the time, date, and place for the hearing. If you fail to appear, your case will be dismissed.

(c) Hear your case.

(d) Send you written notice of our decision.

If you disagree with our decision, you may appeal it under the Administrative Procedure Act (chapter 34.05 RCW).

AMENDATORY SECTION (Amending WSR 96-21-146, filed 10/23/96, effective 11/25/96)

**WAC 296-150M-0040 Will you keep my manufacturing information confidential?** We will only release manufacturing information such as design plans for structural alterations according to the requirements of the Public Records Act((~~,~~)) (see RCW 42.17.310 (1)(h)((~~,~~))) unless we are ordered to do so by a court or otherwise required by law.

AMENDATORY SECTION (Amending WSR 96-21-146, filed 10/23/96, effective 11/25/96)

**WAC 296-150M-0100 What happens if I disagree with your decision regarding my compliance with the federal standards, ANSI, or this chapter?** (1) If we determine that you are in violation with the federal standards, ANSI A225.1, or this chapter, you will receive a notice of noncompliance.

(2) If you disagree with our decision, you can submit a written request for a hearing, stating why you disagree.

(3) After we receive your hearing request, we will:

(a) Schedule a hearing within thirty days after we receive your request.

(b) Notify you of the time, date, and place for the hearing. If you fail to appear, your case will be dismissed.

(c) Hear your case.

(d) Send you written notice of our decision.

If you disagree with our decision, you may appeal it under the Administrative Procedure Act (chapter 34.05 RCW).

## WSR 97-16-045
### PERMANENT RULES
### DEPARTMENT OF SOCIAL AND HEALTH SERVICES
(Economic Services Administration)
(Public Assistance)

[Filed July 31, 1997, 10:55 a.m., effective August 1, 1997]

PERMANENT

Date of Adoption: July 28, 1997.

Purpose: Include as ineligible household members, persons who have a felony conviction involving possession, use, or distribution of controlled substance occurring after August 1, 1996, unless the person is convicted of drug use or possession and (a) was determined chemically dependent by a state-certified assessment agency; and (b) is participating in or completed a rehabilitation plan consisting of chemical dependency treatment and vocational services; and (c) was not previously convicted of a felony for possession or use of a controlled substance within three years of the latest conviction.

Citation of Existing Rules Affected by this Order: Amending WAC 388-49-190.

Statutory Authority for Adoption: RCW 74.04.510, Public Law 104-193 (1996), section 115, and EHB 3901 (1997), section 101 of 55th legislature.

Adopted under notice filed as WSR 97-13-088 on June 18, 1997.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 1, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 1, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 0, amended 0, repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 0, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 0, repealed 0.

Other Findings Required by Other Provisions of Law as Precondition to Adoption or Effectiveness of Rule: An earlier effective date is necessary to implement federal and state law.

Effective Date of Rule: August 1, 1997.

July 28, 1997
Merry A. Kogut, Manager
Rules and Policies Assistance Unit

AMENDATORY SECTION (Amending WSR 97-09-031, filed 4/10/97, effective 7/1/97)

**WAC 388-49-190 Household concept.** (1) The department shall consider the following as households:

(a) A person living alone;

(b) Persons living together and purchasing or preparing meals together; or

(c) A permanently disabled and elderly person unable to prepare meals provided the:

(i) Person's spouse shall be included in the household; and

(ii) Income of other individuals, except the person's spouse, living with the person does not exceed one hundred sixty-five percent of the poverty level.

(2) The department shall consider the following as households regardless of the purchase and prepare arrangements:

(a) Parents and their natural, adoptive, or stepchildren twenty-one years of age or younger.

(b) Person seventeen years of age or younger under parental control of an adult other than their parent, and the adult who is maintaining the control; or

(c) Spouses who live together.

(3) The department shall consider the following persons living with the household as nonhousehold members who, if otherwise eligible, may qualify as a separate household:

(a) Roomers;

(b) Live-in attendants; or

(c) Persons sharing living quarters with the household who purchase food and prepare meals separately from the household.

(4) The department shall consider the following persons living with the household as ineligible household members:

(a) Persons disqualified for intentional program violation;

(b) Persons disqualified because of noncompliance with work requirements as described under WAC 388-49-360;

(c) Persons who are ineligible aliens;

(d) Persons disqualified for failure to apply for or provide a Social Security number;

(e) Persons who fail to sign the application attesting to their citizenship or alien status;

(f) Fleeing felons; or

(g) Persons convicted of a felony ((~~with an element of~~)) involving possession, use, or distribution of a controlled substance occurring after August ((~~22~~)) 21, 1996 unless the person is convicted of use or possession of a controlled substance and:

(i) Was determined chemically dependent by a state-certified assessment agency; and

(ii) Is participating in or completed a rehabilitation plan consisting of chemical dependency treatment and vocational services; and

(iii) Was not previously convicted of a felony for possession or use of a controlled substance within three years of the latest conviction.

## WSR 97-16-046
PERMANENT RULES
DEPARTMENT OF
SOCIAL AND HEALTH SERVICES
(Economic Services Administration)
(Public Assistance)
[Filed July 31, 1997, 10:58 a.m., effective August 1, 1997]

Date of Adoption: July 28, 1997.

Purpose: Include as ineligible household members, persons who have a felony conviction involving possession, use, or distribution of controlled substance occurring after August 1, 1996, unless the person is convicted of drug use or possession and (a) was determined chemically dependent by a state-certified assessment agency; (b) is participating in or completed a rehabilitation plan consisting of chemical dependency treatment and vocational services; and (c) was not previously convicted of a felony for possession or use of a controlled substance within three years of the latest conviction.

Also, adds the following definition: "Able-bodied adults without dependents" means adults eighteen to fifty years of age who do not have any dependents and are mentally and physically able to work.

Citation of Existing Rules Affected by this Order: Amending WAC 388-49-020, ineligible household definition and adds a new definition of "able-bodied adults without dependents."

Statutory Authority for Adoption: RCW 74.04.510, Public Law 104-193 (1996), Sections 115 and 824, and EHB 3901 (1997), section 101 of 55th legislature.

Adopted under notice filed as WSR 97-13-089 on June 18, 1997.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 1, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 1, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 0, amended 0, repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 0, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 0, repealed 0.

Other Findings Required by Other Provisions of Law as Precondition to Adoption or Effectiveness of Rule: An

earlier effective date is necessary to implement federal and state law.

Effective Date of Rule: August 1, 1997.

July 28, 1997
Merry A. Kogut, Manager
Rules and Policies Assistance Unit

AMENDATORY SECTION (Amending WSR 97-06-096, filed 3/4/97, effective 4/4/97)

**WAC 388-49-020 Definitions.** "Able-bodied adults without dependents" means adults eighteen to fifty years of age who do not have any dependents and are mentally and physically able to work.

**"Administrative disqualification hearing"** means a formal hearing to determine whether or not a person committed an intentional program violation.

**"Administrative error overissuance"** means any overissuance caused solely by:

(1) Department action or failure to act when the household properly and accurately reported all the household's circumstances to the department; or

(2) Department failure to timely implement an intentional program violation disqualification; or

(3) For households determined categorically eligible under WAC 388-49-180(1), department action or failure to act which resulted in the household's improper eligibility for public assistance, provided a claim can be calculated based on a change in net food stamp income and/or household size.

**"Administrative law judge"** means an employee of the office of administrative hearings empowered to preside over adjudicative proceedings.

**"Aid to families with dependent children (AFDC) program"** means the federally funded public assistance program for dependent children and their families authorized under Title IV-A of the Social Security Act.

**"Allotment"** means the total value of coupons a household is certified to receive during a calendar month.

**"Application process"** means the filing and completion of an application form, interview or interviews, and verification of certain information.

**"Authorized representative"** means an adult nonhousehold member sufficiently aware of household circumstances designated, in writing, by the head of the household, spouse, or other responsible household member to act on behalf of the household.

**"Beginning months"** means the first month the household is eligible for benefits, and the month thereafter. The first beginning month cannot follow a month in which a household was certified eligible to receive benefits.

**"Benefit level"** means the total value of food stamps a household is entitled to receive based on household income and circumstances.

**"Boarder"** means an individual residing with the household, except a person described under WAC 388-49-190 (2)(a), (b), or (c) who is a person:

(1) Paying reasonable compensation to the household for lodging and meals; or

(2) In foster care.

**"Budget month"** means the first month of the monthly reporting cycle; the month for which the household reports their circumstances.

**"Certification period"** means definite period of time within which the household has been determined eligible to receive food stamps.

**"Child"** means someone seventeen years of age or younger, and under parental control.

**"Collateral contact"** means oral contact in person or by telephone with someone outside of the household to confirm the household's circumstances.

**"Commercial boarding home"** means an enterprise offering meals and lodging for compensation with the intent of making a profit.

**"Department"** means the department of social and health services.

**"Dependent care deduction"** means costs incurred by a household member for care provided by a nonhousehold member when the care is necessary for a household member to seek, accept, or continue employment, or attend training or education preparatory to employment.

**"Destitute household"** means a household with a migrant or seasonal farmworker with little or no income at the time of application and in need of immediate food assistance.

**"Disabled person"** means a person who meets one of the following criteria:

(1) Receives Supplemental Security Income (SSI) under Title XVI of the Social Security Act;

(2) Receives disability or blindness payments under Titles I, II, XIV, or XVI of the Social Security Act;

(3) Is a veteran:

(a) With service-connected or nonservice-connected disability rated or paid as total under Title 38 of the United States Code (USC); or

(b) Considered in need of regular aid and attendance, or permanently housebound under Title 38 of the USC.

(4) Is a surviving:

(a) Spouse of a veteran and considered in need of aid and attendance, or permanently housebound; or

(b) Child of a veteran and considered permanently incapable of self-support under Title 38 of the USC;

(5) A surviving spouse or child of a veteran and:

(a) Entitled to compensation for service-connected death or pension benefits for a nonservice-connected death under Title 38 of the USC; and

(b) Has a disability considered permanent under section 221(i) of the Social Security Act.

(6) Receives disability retirement benefits from a federal, state, or local government agency because of a disability considered permanent under section 221(i) of the Social Security Act;

(7) Receives an annuity payment as part of the Railroad Retirement Act of 1974 under:

(a) Section 2 (a)(1)(iv) and is determined eligible to receive Medicare by the Railroad Retirement Board; or

(b) Section 2 (a)(1)(v) and is determined disabled based on the criteria under Title XVI of the Social Security Act.

(8) Is a recipient of disability-related medical assistance under Title XIX of the Social Security Act.

**"Documentary evidence"** means written confirmation of a household's circumstances.

**"Documentation"** means the process of recording the source, date, and content of verifying information.

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**"Elderly person"** means a person sixty years of age or older.

**"Eligible food"** means:

(1) For a homeless food stamp household, meals prepared and served by an authorized homeless meal provider; or

(2) For a blind or a disabled resident, meals prepared and served by a group living arrangement facility.

**"Entitlement"** means the food stamp benefit a household received including a disqualified household member.

**"Equity value"** means fair market value less encumbrances.

**"Expedited services"** means providing food stamps within five calendar days to an eligible household which:

(1) Has liquid resources of one hundred dollars or less; and

(2) Has gross monthly income under one hundred fifty dollars; or

(3) Has combined gross monthly income and liquid resources which are less than the household's current monthly rent or mortgage and either the:

(a) Standard utility allowance as set forth in WAC 388-49-505; or

(b) Limited utility allowance; or

(c) Actual utility costs, whichever is higher; or

(4) Includes all members who are homeless individuals; or

(5) Includes a destitute migrant or seasonal farmworker.

**"Fair hearing"** means an adjudicative proceeding in which the ((~~department~~)) presiding officer hears and decides an applicant/recipient's appeal from the department's action or decision.

**"Fair market value"** means the value at which a prudent person might sell the property if the person was not forced to sell.

**"Fleeing felon"** means a person who is:

(1) Fleeing to avoid prosecution, or custody or confinement after conviction, for a crime, or attempt to commit a crime, that is a felony under the law of the place from which the person is fleeing; or

(2) Violating a condition of probation or parole imposed under a federal or state law as determined by an administrative body or court of competent jurisdiction.

**"Food coupon"** means any coupon, stamp, type of certificate, authorization card, cash or check issued in lieu of a coupon, or access device, including an electronic benefit transfer card or personal identification number.

**"Food coupon authorization (FCA) card"** means the document issued by the local or state office to authorize the allotment the household is eligible to receive.

**"Food stamp monthly reporting cycle"** means the three-month reporting cycle consisting of the budget month, the process month, and the payment month.

**"Gross income eligibility standard"** means one hundred thirty percent of the federal poverty level for the forty-eight contiguous states.

**"Group living arrangement"** means a public or private nonprofit residential setting which:

(1) Serves not more than sixteen blind or disabled residents as defined under WAC 388-49-020((~~(19)~~)), **"disabled person"**; and

(2) Is certified by the appropriate state agency under section 1616(e) of the Social Security Act.

**"Head of household"** means the person designated by the household to be named on the case file, identification card, and FCA card.

**"Home visit"** means a personal contact at the person's residence by a department employee. The home visit shall be scheduled in advance with the household.

**"Homeless individual"** means a person lacking a fixed and regular nighttime residence or a person whose primary nighttime residence is a:

(1) Supervised shelter designed to provide temporary accommodations;

(2) Halfway house or similar institution providing temporary residence for persons needing or coming out of institutionalization;

(3) Temporary accommodation in the residence of another person for not more than ninety days; or

(4) Place not designed for, or ordinarily used as, a regular sleeping accommodation for humans.

**"Homeless meal provider"** means a public or private nonprofit establishment (for example, soup kitchen, temporary shelter, mission, or other charitable organizations) feeding homeless persons, approved by the division of ((~~income~~)) assistance ((~~(DIA)~~)) programs (DAP) and authorized by food and consumer service (FCS).

**"Household"** means the basic client unit in the food stamp program.

**"Household disaster"** means when food coupons, food purchased with food coupons, or food coupon authorization cards are destroyed by a natural disaster, such as flood, fire, etc.

**"Identification card"** means the document identifying the bearer as eligible to receive and use food stamps.

**"Inadvertent household error overissuance"** means any overissuance caused by either:

(1) Misunderstanding or unintended error by a household:

(a) Not determined categorically eligible under WAC 388-49-180(1); or

(b) Determined categorically eligible under WAC 388-49-180(1) if a claim can be calculated based on a change in net food stamp income and/or household size; or

((~~(3)~~)) (2) Social Security Administration action or failure to take action which resulted in the household's categorical eligibility, if a claim can be calculated based on a change in net food stamp income and/or household size.

**"Ineligible household member"** means the member excluded from the food stamp household because of:

((~~(a)~~)) (1) Disqualification for intentional program violation;

((~~(b)~~)) (2) Failure to apply for or provide a Social Security number;

((~~(c)~~)) (3) Failure to comply with work requirements as described under WAC 388-49-360;

((~~(d)~~)) (4) Status as an ineligible alien;

((~~(e)~~)) (5) Failure to sign the application attesting to the member's citizenship or alien status; ((~~or~~

~~(f)~~)) (6) Status as a fleeing felon; or

(7) Felony conviction involving possession, use, or distribution of a controlled substance occurring after August

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21, 1996 unless the person is convicted of use or possession of a controlled substance and:

(a) Was determined chemically dependent by a state-certified assessment agency; and

(b) Is participating in or completed a rehabilitation plan consisting of chemical dependency treatment and vocational services; and

(c) Was not previously convicted of a felony for possession or use of a controlled substance within three years of the latest conviction.

**"Initial month"** means:

(1) The first month for which a household is issued an allotment; or

(2) The first month for which a household is issued an allotment following any period when the household was not certified due to expired eligibility or termination during a certification period; or

(3) For migrant and seasonal farmworker households, the first month for which the household is issued an allotment when applying more than one calendar month after a prior certification ends.

**"Institution"** means any place of residence (private or public) providing maintenance and meals for two or more persons.

**"Institution of higher education"** means any institution normally requiring a high school diploma or equivalency certificate for enrollment. This includes any two-year or four-year college. Also included is any course in a trade or vocational school that normally requires a high school diploma or equivalency for admittance to the course.

**"Intentional program violation"** means intentionally:

(1) Making a false or misleading statement;

(2) Misrepresenting, concealing, or withholding facts; or

(3) Committing any act constituting a violation of the Food Stamp Act, the food stamp program regulations, or any state statute relating to the use, presentation, transfer, acquisition, receipt, or possession of food stamp coupons or FCAs.

**"Intentional program violation overissuance"** means any overissuance caused by an intentional program violation.

**"Live-in attendant"** means a person residing with a household to provide medical, housekeeping, child care, or other similar personal services.

**"Lump sum"** means money received in the form of a nonrecurring payment including, but not limited to:

(1) Income tax refunds,

(2) Rebates,

(3) Retroactive payments, and

(4) Insurance settlements.

**"Mandatory fees"** means those fees charged to all students within a certain curriculum. Transportation, supplies, and textbook expenses are not uniformly charged to all students and are not considered as mandatory fees.

**"Migrant farmworker"** means a person working in seasonal agricultural employment who is required to be absent overnight from the person's permanent residence.

**"Net income eligibility standard"** means the federal income poverty level for the forty-eight contiguous states.

**"Nonhousehold member"** means a person who is not considered a member of the food stamp household such as a:

(1) Roomer;

(2) Live-in attendant;

(3) Ineligible student;

(4) Person who does not purchase and prepare meals with the food stamp household except for persons described under WAC 388-49-190(2); or

(5) Person eighteen through fifty years old without dependents who is no longer eligible for food stamps because of time limits.

**"Nonstriker"** means any person:

(1) Exempt from work registration the day before the strike for reasons other than their employment;

(2) Unable to work as a result of other striking employees, e.g., truck driver not working because striking newspaper pressmen not printing output;

(3) Not part of the bargaining unit on strike but not wanting to cross picket line due to fear of personal injury or death; or

(4) Unable to work because workplace is closed to employees by employer in order to resist demands of employees, e.g., a lockout.

**"Offset"** means reduce restored benefits by any overissue (claim) owed by the household to the department.

**"Overissuance"** means the amount of coupons issued to a household in excess of the amount eligible to receive.

**"Overpayment"** means the same as "overissuance" and shall be the preferred term used in procedures.

**"Payment month"** means the third month of the budget cycle; the month in which the food stamp allotment is affected by information reported on the monthly report for the budget month.

**"Period of intended use"** means the period for which an FCA or food coupon is intended to be used.

**"Post secondary education"** means a school not requiring a high school diploma or equivalency for enrollment. This includes trade school, vocational schools, business colleges, beauty schools, barber schools, etc.

**"Principal wage earner"** means the household member with the greatest source of earned income in the two months prior to the month of violation of employment and training and voluntary quit provisions, including members not required to register.

**"Process month"** means the second month of the monthly reporting cycle; the month in which the monthly report is to be returned by the household to the local office.

**"Project area"** means the county or similar political subdivision designated by the state as the administrative unit for program operations.

**"Prospective budgeting"** means the computation of a household's income based on income received or anticipated income the household and department are reasonably certain will be received during the month of issuance.

**"Prospective eligibility"** means the determination of eligibility based on prospective budgeting rules and other household circumstances anticipated during the month of issuance.

**"Qualified alien"** means an alien who, at the time the alien applies for or receives food stamps, is:

(1) An alien who is lawfully admitted for permanent residence under the Immigration and Nationality Act,

(2) An alien who is granted asylum under section 208 of such Act,

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(3) A refugee who is admitted to the United States under section 207 of such Act,

(4) An alien who is paroled into the United States under section 212 (d)(5) of such Act for a period of at least one year,

(5) An alien whose deportation is being withheld under section 243(h) of such Act,

(6) An alien who is granted conditional entry pursuant to section 203 (a)(7) of such Act as in effect prior to April 1, 1980, or

(7) An alien who or an alien whose child:

(a) Has been battered or subjected to extreme cruelty in the United States by a spouse, parent, or the family of the spouse or parent living in the same household and the U.S. Attorney General determines that there is a substantial connection between such battery or cruelty and the alien's need for benefits;

(b) Has a petition under the Violence Against Women Act for adjustment for immigration status approved or pending with Immigration and Naturalization Service; and

(c) Does not reside in the same household as the individual responsible for the battery or extreme cruelty.

**"Quality control review"** means a review of a statistically valid sample of cases to determine the accuracy of budgeting, issuance, denial, withdrawal, and termination actions taken by the department.

**"Quality control review period"** means the twelve-month period from October 1 of each calendar year through September 30 of the following calendar year.

**"Recent work history"** means being employed and receiving earned income in one of the two months prior to the payment month.

**"Recertification"** means approval of continuing benefits based on an application submitted prior to the end of the current certification period.

**"Resident of an institution"** means a person residing in an institution that provides the person with the majority of meals as part of the institution's normal service.

**"Retrospective budgeting"** means the computation of a household's income for a payment month based on actual income received in the corresponding budget month of the monthly reporting cycle.

**"Retrospective eligibility"** means the determination of eligibility based on retrospective budgeting rules and other circumstances existing in the budget month.

**"Roomer"** means a person to whom a household furnishes lodging, but not meals, for compensation.

**"Seasonal farmworker"** means a person working in seasonal agricultural employment who is not required to be absent overnight from the person's permanent residence.

**"Shelter costs"** means:

(1) Rent or mortgage payments plus taxes on a dwelling and property;

(2) Insurance on the structure only, unless the costs for insuring the structure and its contents cannot be separated;

(3) Assessments;

(4) Utility costs such as heat and cooking fuel, cooling and electricity, water, garbage, and sewage disposal;

(5) Standard basic telephone allowance;

(6) Initial installation fees for utility services; and

(7) Continuing charges leading to shelter ownership such as loan repayments for the purchase of a mobile home including interest on such payments.

**"Shelter for battered women and children"** means a public or private nonprofit residential facility serving battered women and children.

**"Sibling"** means a natural or an adopted brother, sister, half brother, half sister, or stepbrother or stepsister.

**"Sponsor"** means a person who executed an affidavit of support or similar agreement on behalf of an alien as a condition of the alien's admission into the United States as a permanent resident.

**"Sponsored alien"** means an alien lawfully admitted for permanent residence who has an affidavit of support or similar agreement executed by a person on behalf of the alien as a condition of the alien's admission into the United States as a permanent resident.

**"Spouse"** means:

(1) Married under applicable state law; or

(2) Living with another person and holding themselves out to the community as husband and wife by representing themselves as such to relatives, friends, neighbors, or trades people.

**"Striker"** means any person:

(1) Involved in a strike or concerted stoppage of work by employees including stoppage due to expiration of a collective bargaining agreement; or

(2) Involved in any concerted slowdown or other concerted interruption of operations by employees.

**"Student"** means any person:

(1) At least eighteen but less than fifty years of age;

(2) Physically and mentally fit for employment; and

(3) Enrolled at least half time in an institution of higher education.

**"Systematic alien verification for entitlements (SAVE)"** means the immigration and naturalization service (INS) program whereby the department may verify the validity of documents provided by aliens applying for food stamp benefits by obtaining information from a central data file.

**"Temporary disability"** means a nonpermanent physical illness or injury that incapacitates beyond the initial issuance month.

**"Thrifty food plan"** means the diet required to feed a family of four as determined by the United States Department of Agriculture. The cost of the diet is the basis for all allotments, taking into account the household size adjustments based on a scale.

**"Under parental control"** means living with any adult other than the parent. A person is not under parental control when that person is:

(1) Receiving an AFDC grant as the person's own payee; or

(2) Receiving, as the person's own payee, gross income equal to, or exceeding, the AFDC grant payment standard as described under WAC 388-250-1400(2).

**"Vehicle"** means any device for carrying or conveying persons and objects, including travel by land, water, or air.

**"Vendor payment"** means money payments not owed or payable directly to a household, but paid to a third party for a household expense, such as:

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(1) A payment made in money on behalf of a household whenever another person or organization makes a direct payment to either the household's creditors or a person or organization providing a service to the household; or

(2) Rent or mortgage payments, made to landlords or mortgagees by the department of housing and urban development or by state or local housing authorities.

**"Verification"** means the use of documentation or third-party information to establish the accuracy of statements on the application. Sources of verification shall be documentary evidence, collateral contacts, or a home visit.

## WSR 97-16-050
### PERMANENT RULES
### DEPARTMENT OF FINANCIAL INSTITUTIONS
[Filed July 31, 1997, 4:15 p.m.]

Date of Adoption: July 30, 1997.

Purpose: To add the certified investment management analyst ("CIMA") designation to others as an alternative to the Series 24 or Series 7 examinations; to correct reference to "accredited personal financial specialist" to instead reference "personal financial specialist;" to amend rules relating to the "holding out" provisions applicable to investment advisers or investment adviser representatives and to eliminate duplicative language; and to correct misreferences.

Citation of Existing Rules Affected by this Order: Amending WAC 460-24A-040, 460-24A-045, 460-24A-050, 460-24A-170, and 460-22B-090.

Statutory Authority for Adoption: RCW 21.20.450.

Adopted under notice filed as WSR 97-13-076 on June 18, 1997.

Changes Other than Editing from Proposed to Adopted Version: The director, after a hearing, has determined to adopt the rule changes as proposed.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 1, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 0, amended 4, repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 0, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 5, repealed 0.

Other Findings Required by Other Provisions of Law as Precondition to Adoption or Effectiveness of Rule: Pursuant to RCW 21.20.450, no rule may be made unless the director finds that the action is necessary or appropriate in the public interest or for the protection of investors and consistent with the purposes fairly intended by the policy and provisions of this chapter.

Effective Date of Rule: Thirty-one days after filing.

July 30, 1997
Deborah R. Bortner
Assistant Director

AMENDATORY SECTION (Amending WSR 93-01-113, filed 12/21/92, effective 1/21/93)

**WAC 460-24A-040 Use of certain terms.** (1) For the purposes of RCW 21.20.040(2), use of any term, or abbreviation for a term, including the word "financial planner" or the word "investment counselor" is considered the same as the use of either of those terms alone. ((~~For example, use of the term Certified Financial Planner, and its abbreviation CFP, is considered the same as the use of "financial planner."~~))

(2) For the purposes of RCW 21.20.040(2), terms that are deemed similar to "financial planner" and "investment counselor" include, but are not limited to, the following:

(a) Financial consultant;

(b) Investment consultant;

(c) Money manager;

(d) Investment manager;

(e) Investment planner; ((~~or~~))

(f) Chartered financial consultant or its abbreviation ChFC; or

(g) The abbreviation CFP.

AMENDATORY SECTION (Amending WSR 93-01-113, filed 12/21/92, effective 1/21/93)

**WAC 460-24A-045 Holding out as a financial planner.** A person using a term deemed similar to "financial planner" or "investment counselor" under WAC 460-24A-040(2) will not be considered to be holding himself out as a financial planner for purposes of RCW 21.20.005(6) and 21.20.040 under the following circumstances:

(1) The person is not in the business of providing advice relating to the purchase or sale of securities, and would not, but for his use of such a term, be an investment adviser required to register pursuant to RCW 21.20.040; and

(2) The person does not directly or indirectly receive a fee for providing investment advice. Receipt of any portion of a "wrap fee," that is, a fee for some combination of brokerage and investment advisory services, constitutes receipt of a fee for providing investment advice for the purpose of this section; and

(3) The person delivers to every customer, at least 48 hours before accepting any compensation, including commissions from the sale of any investment product, a written disclosure including the following information:

(a) The person is not registered as an investment adviser or investment adviser salesperson in the state of Washington;

(b) ((~~The person is not a financial planner, investment adviser or investment counselor;~~

~~(c)~~)) The person is not authorized to provide financial planning or investment advisory services and does not provide such services; and

((~~(d)~~)) (c) A brief description the person's business which description should include a statement of the kind of products offered or services provided (e.g., the person is in the business of selling securities and insurance products) and of the basis on which the person is compensated for the products sold or services provided; and

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(4) The person has each customer to whom a disclosure described in subsection (3) of this section is given sign a written dated acknowledgment of receipt of the disclosure; and

(5) The person shall retain the executed acknowledgments of receipt required by subsection (4) of this section and of the disclosure given for so long as the person continues to receive compensation from such customers, but in no case for less than three years from date of execution of the acknowledgment;

(6) If the person received compensation from the customer on more than one occasion, the person need give the customer the disclosure described in subsection (3) of this section only on the first occasion unless the information in the disclosure becomes inaccurate, in which case the person must give the customer updated disclosure before receiving further compensation from the customer.

AMENDATORY SECTION (Amending WSR 95-16-026 and 95-17-002, filed 7/21/95 and 8/2/95, effective 8/21/95 and 9/2/95)

**WAC 460-24A-050 Investment adviser and investment adviser salesperson (representative) registration and examinations.** (1) In order for an applicant to become licensed in this state as an investment adviser the individual applicant, an officer of the applicant if the applicant is a corporation, or a general partner of the applicant if the applicant is a partnership, shall:

(a) Pass the uniform investment adviser law examination (series 65); or the uniform combined state law examination (series 66); and

(b)(i) Pass the NASD general securities principal examination (series 24); or

(ii) Hold one of the following designations:

(A) Chartered investment counselor;

(B) Chartered financial analyst;

(C) Certified financial planner;

(D) Chartered financial consultant;

(E) ((~~Accredited~~)) Personal financial specialist; ((~~and~~))

(F) Certified investment management analyst; and

(c) File a completed Form ADV.

(2) If the individual officer who takes the examination on behalf of a corporate applicant or the individual general partner who takes the examination on behalf of a partnership ceases to be an officer or general partner, then the investment adviser must notify the securities division of a substitute officer or general partner who has passed the examinations required in subsection (1) of this section within two months in order to maintain the investment adviser license.

(3) In order to become licensed in this state as an investment adviser salesperson (representative), an applicant shall:

(a) Pass the uniform investment adviser law examination (series 65); or the uniform combined state law examination (series 66); and

(b)(i) Pass the NASD general securities representative examination (series 7); or

(ii) Pass the general securities representative examination (series 2); or

(iii) Hold one of the following designations:

(A) Chartered investment counselor;

(B) Chartered financial analyst;

(C) Certified financial planner;

(D) Chartered financial consultant;

(E) ((~~Accredited~~)) Personal financial specialist; ((~~and~~))

(F) Certified investment management analyst; and

(c) File a completed Form U-4.

(4) The administrator may waive the testing requirements in subsection (3) of this section for an investment adviser representative whose activities will be limited to supervising the firm's investment advisory activities in Washington, provided that the applicant has been employed for five years preceding the filing of the application in a supervisory capacity, or as a portfolio manager, by an investment adviser registered under the Investment Advisers Act of 1940 for at least five years and the investment adviser has been engaged in rendering "investment supervisory services" as defined in section 202 (a)(13) of the Investment Advisers Act of 1940.

(5) Any individual who has been retained or employed by an investment adviser to solicit clients or offer the services of the investment adviser or manage the accounts of said clients any time during the two years prior to application and who has previously passed the required examination in subsection (1) or (3) of this section or the Washington state investment advisers examination shall not be required to retake the examination(s) to be eligible to be relicensed as an investment adviser salesperson (representative) upon application.

AMENDATORY SECTION (Amending Order 304, filed 2/28/75, effective 4/1/75)

**WAC 460-24A-170 Capital requirements.** (1) Any investment adviser who takes any power of attorney from any investment advisory client to execute transactions or has custody of any or [of] his investment advisory clients' securities or funds is subject to the minimum capital requirement and the requirement regarding the ratio of net capital to aggregate indebtedness, in accordance with WAC ((~~460-20A-100~~)) 460-21B-030 of these rules.

(2) The administrator may, upon written application, exempt from the provisions of this section, either unconditionally or on specified terms and conditions, any investment adviser who satisfies the administrator that, because of the special nature of his business, his financial position, and the safeguards he has established for the protection of customers' funds and securities, it is not necessary in the public interest or for the protection of investors to subject the particular investment adviser to the provisions of this section.

AMENDATORY SECTION (Amending WSR 95-16-026, filed 7/21/95, effective 8/21/95)

**WAC 460-22B-090 Dishonest and unethical business practices-salespersons.** The phrase "dishonest or unethical practices" as used in RCW 21.20.110(7) as applied to salespersons, is hereby defined to include any of the following:

(1) Engaging in the practice of lending or borrowing money or securities from a customer, or acting as a custodian for money, securities or an executed stock power of a customer;



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(2) Effecting securities transactions not recorded on the regular books or records of the broker-dealer which the agent represents, unless the transactions are authorized in writing by the broker-dealer prior to execution of the transaction;

(3) Establishing or maintaining an account containing fictitious information in order to execute transactions which would otherwise be prohibited;

(4) Sharing directly or indirectly in profits or losses in the account of any customer without the written authorization of the customer and the broker-dealer which the agent represents;

(5) Dividing or otherwise splitting the agent's commissions, profits or other compensation from the purchase or sale of securities with any person not also registered for the same broker-dealer, or for a broker-dealer under direct or indirect common control;

(6) Inducing trading in a customer's account which is excessive in size or frequency in view of the financial resources and character of the account;

(7) Recommending to a customer the purchase, sale or exchange of any security without reasonable grounds to believe that such transaction or recommendation is suitable for the customer based upon reasonable inquiry concerning the customer's investment objectives, financial situation and needs, and any other relevant information known by the broker-dealer;

(8) Executing a transaction on behalf of a customer without authorization to do so;

(9) Exercising any discretionary power in effecting a transaction for a customer's account without first obtaining written discretionary authority from the customer, unless the discretionary power relates solely to the time and/or price for the execution of orders;

(10) Executing any transaction in a margin account without securing from the customer a properly executed written margin agreement promptly after the initial transaction in the account;

(11) Entering into a transaction with or for a customer at a price not reasonably related to the current market price of the security or receiving an unreasonable commission or profit;

(12) Failing to furnish to a customer purchasing securities in an offering, no later than the date of confirmation of the transaction, a final or preliminary prospectus, and if the latter, failing to furnish a final prospectus within a reasonable period after the effective date of the offering;

(13) Effecting any transaction in, or inducing the purchase or sale of, any security by means of any manipulative, deceptive or fraudulent device, practice, plan, program, design or contrivance, which may include but not be limited to:

(a) Effecting any transaction in a security which involves no change in the beneficial ownership thereof;

(b) Entering an order or orders for the purchase or sale of any security with the knowledge that an order or orders of substantially the same size, at substantially the same time and substantially the same price, for the sale of any such security, has been or will be entered by or for the same or different parties for the purpose of creating a false or misleading appearance of active trading in the security or a false or misleading appearance with respect to the market for the security;

(c) Effecting, alone or with one or more other persons, a series of transactions in any security creating actual or apparent active trading in such security or raising or depressing the price of such security, for the purpose of inducing the purchase or sale of such security by others;

(14) Guaranteeing a customer against loss in any securities account for such customer carried by the broker-dealer or in any securities transaction effected by the broker-dealer with or for such customer;

(15) Publishing or circulating, or causing to be published or circulated, any notice, circular, advertisement, newspaper article, investment service, or communication of any kind which purports to report any transaction as a purchase or sale of any security unless such broker-dealer believes that such transaction was a bona fide purchase or sale of such security; or which purports to quote the bid price or asked price for any security, unless such broker-dealer believes that such quotation presents a bona fide bid for, or offer of, such security;

(16) Using any advertising or sales presentation in such a fashion as to be deceptive or misleading. An example of such practice would be a distribution of any nonfactual data, material or presentation based on conjecture, unfounded or unrealistic claims or assertions of any brochure, flyer, or display by words, pictures, graphs or otherwise designed to supplement, detract from, supersede or defeat the purpose or effect of any prospectus or disclosure;

(17) In connection with the solicitation of a sale or purchase of an OTC non-NASDAQ security, failing to promptly provide the most current prospectus or the most recently filed periodic report filed under Section 13 of the Securities Exchange Act, when requested to do so by a customer;

(18) Marking any order ticket or confirmation as unsolicited when in fact the transaction is solicited;

(19) Failing to comply with any applicable provision of the Rules of Fair Practice of the National Association of Securities Dealers or any applicable fair practice or ethical standard promulgated by the Securities and Exchange Commission or by a self-regulatory organization approved by the Securities and Exchange Commission; or

(20) Any act or practice enumerated in WAC ((~~460-21A-010~~)) 460-21B-010.

The conduct set forth above is not inclusive. Engaging in other conduct such a forgery, embezzlement, nondisclosure, incomplete disclosure or misstatement of material facts, or manipulative or deceptive practices shall also be grounds for denial, suspension or revocation of registration.

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## WSR 97-16-051
### PERMANENT RULES
### DEPARTMENT OF FINANCIAL INSTITUTIONS
[Filed July 31, 1997, 4:16 p.m.]

Date of Adoption: July 30, 1997.

Purpose: Provide an exemption from registration for substantial foreign issuers that might otherwise have to register. Domestic issuers of similar financial standing would typically qualify for an exemption from registration.

Statutory Authority for Adoption: RCW 21.20.450.

Other Authority: RCW 21.20.310(8).

Adopted under notice filed as WSR 97-13-077 on June 18, 1997.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 1, amended 0, repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 1, amended 0, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 1, amended 0, repealed 0.

Other Findings Required by Other Provisions of Law as Precondition to Adoption or Effectiveness of Rule: Pursuant to RCW 21.20.450, no rule may be made unless the director finds the action is necessary or appropriate in the public interest or for the protection of investors and consistent with the purposes fairly intended by policy and provisions of this chapter.

Effective Date of Rule: Thirty-one days after filing.

July 30, 1997
John L. Bley
Director

PERMANENT

NEW SECTION

**WAC 460-42A-082 World class foreign issuer exemption.** (1) Any security meeting all of the following conditions is exempted under RCW 21.20.310(8):

(a) The securities are:

(i) Equity securities except options, warrants, preferred stock, subscription rights, securities convertible into equity securities or any right to subscribe to or purchase such options, warrants, convertible securities or preferred stock;

(ii) Units consisting of equity securities permitted by (a)(i) of this subsection and warrants to purchase the same equity security being offered in the unit;

(iii) Nonconvertible debt securities that are rated in one of the four highest rating categories of Standard and Poor's, Moody's, Dominion Bond Rating Services of Canadian Bond Rating Services or such other rating organization which the administrator by rule or order may designate. For purposes of this subsection (1)(a)(iii) of this section, nonconvertible debt securities means securities that cannot be converted for at least one year from the date of issuance and then only into equity shares of the issuer or its parent; or

(iv) American Depository receipt representing securities described in (a)(i), (ii) or (iii) of this subsection.

(b) The issuer is not organized under the laws of the United States, or of any state, territory or possession of the United States, or of the District of Columbia or Puerto Rico.

(c) The issuer, at the time an offer or sale is made under this subsection, has been a going concern engaged in continuous business operations for the immediate past five years and during that period, has not been the subject of a proceeding relating to insolvency, bankruptcy, involuntary administration, receivership or similar proceeding. For purposes of this subsection (1)(c) of this section, the operating history of any predecessor that represented more than fifty percent of the value of the assets of the issuer that otherwise would have met the conditions of this section may be used toward the five year requirement.

(d) The issuer, at the time an offer or sale is made under this subsection (1)(d) of this section, has public float of one billion dollars (United States) or more.

(e) The market value of the issuer's equity shares, at the time an offer or sale is made under this subsection, is three billion dollars (United States) or more.

(f) The issuer, at the time an offer or sale is made under this subsection (1)(f) of this section, has a class of equity securities listed for trading on or through the facilities of a foreign securities exchange or recognized foreign securities market included in Rule 902 (a)(1) or successor rule promulgated under the Securities Act of 1933 or designated by the U.S. Securities and Exchange Commission under Rule 902 (a)(2) promulgated under the Securities Act of 1933.

(2) For purposes of this section:

(a) "Public float" means the market value of all outstanding equity shares owned by nonaffiliates.

(b) "Equity shares" means common shares, nonvoting equity shares and subordinate or restricted voting equity shares, but does not include preferred shares.

(c) An "affiliate" of a person is anyone who beneficially owns, directly or indirectly, or exercises control or direction over, more than ten percent of the outstanding equity shares of such person.

## WSR 97-16-073
### PERMANENT RULES
### OFFICE OF MINORITY AND WOMEN'S BUSINESS ENTERPRISES
[Filed August 4, 1997, 3:37 p.m.]

Date of Adoption: July 30, 1997.

Purpose: To implement RCW 39.19.030(4) and encourage MWBE participation in state contracting and procurement.

Citation of Existing Rules Affected by this Order: Amending WAC 326-30-041 Annual goals.

Statutory Authority for Adoption: RCW 39.19.030(7).

Adopted under notice filed as WSR 97-13-067 on June 17, 1997.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 0, amended 0, repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 0, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making:

New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 0, repealed 0.

Effective Date of Rule: Thirty-one days after filing.

July 30, 1997
James A. Medina
Director

AMENDATORY SECTION (Amending WSR 96-14-064, filed 6/28/96, effective 7/29/96)

**WAC 326-30-041 Annual goals.** The annual overall goals for participation by certified firms in the public works, other contracting, and procurement of each state agency and educational institution, subject to this chapter, shall be as follows:

July 1, ((~~1996~~)) 1997, through June 30, ((~~1997~~)) 1998,

| | | |
|---|---|---|
| Construction/Public Works | 10% MBE | 6% WBE |
| Architect/Engineering | 10% MBE | 6% WBE |
| Purchased Goods | 8% MBE | 4% WBE |
| Purchased Services | 10% MBE | 4% WBE |
| Professional Services | 10% MBE | 4% WBE |

## WSR 97-16-106
PERMANENT RULES
## DEPARTMENT OF SOCIAL AND HEALTH SERVICES
(Aging and Adult Services Administration)
(Public Assistance)
[Filed August 6, 1997, 9:27 a.m.]

Date of Adoption: August 6, 1997.

Purpose: Amend WAC 388-15-196(6). Amendment will (1) exempt certain in-home care providers from the required twenty-two hour "Fundamentals of Caregiving" curriculum and the mandatory continuing education requirements, and (2) allow in-home care providers to challenge the required twenty-two hour "Fundamentals of Caregiving" or the "Modified Fundamentals of Caregiving" training through competency testing.

Citation of Existing Rules Affected by this Order: Amending WAC 388-15-196.

Statutory Authority for Adoption: RCW 74.04.050, 74.08.090, 74.39A.005, 74.39A.007, 74.39A.050, 74.39A.070.

Adopted under notice filed as WSR 97-13-090 on June 18, 1997.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 0, amended 1, repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 0, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 0, repealed 0.

Effective Date of Rule: Thirty-one days after filing.

August 6, 1997
Merry A. Kogut, Manager
Rules and Policies Assistance Unit

AMENDATORY SECTION (Amending WSR 96-20-093, filed 10/1/96, effective 11/1/96)

**WAC 388-15-196 Home and community services—Minimum qualifications for care providers in home and community settings.** To protect the health and welfare of a long-term care service client receiving an AASA administered service, the adult client's care provider shall:

(1) Be eighteen years of age or older;

(2) Complete and submit a criminal history background inquiry form prescribed by the department;

(3) Possess the following minimum standards of knowledge and experience:

(a) General knowledge of acceptable standards of performance, including the necessity to perform dependably, report punctually, maintain flexibility, and to demonstrate kindliness and caring to the client;

(b) Knowledge of when and how to contact the client's representative and the client's case manager.

(4) Have the following required skills:

(a) Adequate skills to read, either directly or through an interpreter, understand and implement the client's service plan;

(b) Adequate communication skills to convey and understand either directly or through an interpreter information required to implement the client's written service plan and verbal instructions;

(c) Adequate skills to maintain provider records of services performed and payments received.

(5) Be able to:

(a) Understand specific directions for providing the care which the individual client requires;

(b) Observe the client for change in health status, including weakness, confusion, and loss of appetite;

(c) Identify problem situations and take appropriate action;

(d) Respond to emergencies without direct supervision;

(e) Perform authorized housework functions competently;

(f) Perform authorized direct personal care functions competently;

(g) Accept the client's individual differences and preferences when performing routine tasks; and

(h) Work independently and perform responsibly within the boundaries of the nonmedical personal care task limits.

(6)(a) Complete the department's fundamentals of caregiving training according to the following schedule:

(i) All in-home personal care providers hired on or after the effective date of this section shall successfully complete the department-designated fundamentals of caregiving training within one hundred twenty days of employment, unless he or she meets the requirements under (iii) or (iv) of this subsection or in subsection (6)(c) or (6)(f);

(ii) All in-home care providers hired prior to ((~~the effective date of this section~~)) November 1, 1996 shall

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successfully complete the department designated fundamentals of caregiving training prior to October 31, 1997, unless he or she meets the requirements under (iii) or (iv) of this subsection or in subsection (6)(c) or (6)(f);

(iii) Natural, step, or adoptive parents hired as personal care providers for their division of developmental disabilities (DDD) adult children prior to the effective date of this section, will have until September 1, 1998 to complete the caregiving training;

(iv) Natural, step, or adoptive parents hired as personal care providers for their own adult children on or after the effective date of this section will have one hundred eighty days to complete the training requirements.

(b) Complete a minimum of ten hours of continuing education credits per calendar year, on topics relevant to caregiving unless he or she is a parent hired as a personal care provider for their own DDD adult child:

(i) Topics include, but are not limited to:

(A) Residents' rights;

(B) Personal care (such as transfers or skin care);

(C) Dementia;

(D) Mental illness;

(E) Developmental disabilities;

(F) Depression;

(G) Medication assistance;

(H) Communication skills;

(I) Alternatives to restraints; and

(J) Activities for clients.

(ii) Parent providers of their own DDD adult children are exempt from continuing education requirements;

(iii) Other caregivers are required to earn a certificate of completion to meet the requirement for continuing education credit and each hour of completed instruction will count as one hour of continuing education credit; and

((~~(iii)~~)) (iv) The continuing education requirement begins the calendar year after the year in which the caregiver completes the fundamentals or modified fundamentals of caregiving training.

(c) The following providers are exempt from the fundamentals of caregiving training requirement in subsection (6)(a) of this section if the provider successfully completes the department designated modified fundamentals of caregiving training in accordance with the dates specified in subsection (6)(a) of this section.

(i) A provider who ((~~is~~)) has successfully completed training as a registered or licensed practical nurse, a physical or occupational therapist, a certified nursing assistant, a Medicare-certified home health aide, or who has successfully completed department-approved adult family home training, or department-approved personal care training from an area agency on aging or their subcontractor((~~, is exempt from the fundamentals of caregiving training in subsection (6)(a) of this section if the provider successfully completes the department designated modified fundamentals of caregiving training in accordance with the dates specified in subsection (6)(a) of this section~~)).

(ii) A provider who has successfully completed the ((~~division of developmental disabilities~~)) DDD staff training as required by chapter 275-26 WAC is exempt from the fundamentals of caregiving training in subsection (6)(a) of this section as long as the provider continues to work for a ((~~division of developmental disabilities~~)) DDD-contracted agency. This exemption no longer applies if the provider leaves the DDD-contracted agency.

(iii) Parent hired as a personal care provider for their own DD adult child. This exemption no longer applies if the parent provides services to anyone who is not their own adult child.

(d) The provider shall provide documentation upon request that the provider has met the education and training requirements.

(e) The department shall not continue to authorize reimbursement for services rendered by a care provider who does not meet the educational requirement in subsection (6) of this section.

(f) All in-home personal care providers are exempt from attending the "fundamentals of caregiving" or "modified fundamentals of caregiving" training if they successfully pass the department's challenge test for the class they are required to take. The provider only has one opportunity to successfully pass the challenge test. If the provider does not pass the challenge test then he/she must attend the "fundamentals of caregiving" or "modified fundamentals of caregiving" training as required.

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## WSR 97-16-117
### PERMANENT RULES
### DEPARTMENT OF HEALTH
[Filed August 6, 1997, 11:40 a.m.]

Date of Adoption: July 28, 1997.

Purpose: The proposed revisions are needed to comply with regulatory reform legislation, to synchronize the rule with the retailer contract, and to streamline the hearing process. Other changes are language simplification and rearranging of sections to improve clarity and flow.

Citation of Existing Rules Affected by this Order: Repealing WAC 246-790-110; and amending WAC 246-790-010, 246-790-050, 246-790-060, 246-790-070, 246-790-080, 246-790-090, 246-790-100, 246-790-120, and 246-790-130.

Statutory Authority for Adoption: RCW 43.70.120.

Adopted under notice filed as WSR 97-13-098 on June 18, 1997.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 2, repealed 0; or Recently Enacted State Statutes: New 0, amended 2, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 1, amended 0, repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 9, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 0, repealed 0.

Effective Date of Rule: Thirty-one days after filing.

August 6, 1997
Bruce Miyahara
Secretary

AMENDATORY SECTION (Amending Order 314, filed 10/27/92, effective 11/27/92)

**WAC 246-790-010 Definitions.** (1) "Appeal process" means a formal proceeding to appeal a program decision. The appeal hearing process provides a contractor the opportunity to review the case record prior to the hearing, to present its case in an impartial setting, to confront and cross-examine witnesses, and to be represented by counsel.

(2) "Applicant retailer" means any ((~~food vendor making a written request for authorization to participate~~)) retailer submitting a completed request for authorization requesting participation in the program.

(((~~2~~))) (3) "Authorized" or "authorization" means the applicant retailer has ((~~been given approval by the department~~)) met selection criteria and signed a contract with the department signifying eligibility to participate in the WIC program.

(((~~3~~))) (4) "CFR" means the Code of Federal Regulations.

(((~~4~~))) (5) "Contract" means a written legal document ((~~with the department, which allows the food vendor to accept food instruments from WIC in exchange for specified supplemental foods. The contract shall be signed by the food vendor's legal representative and the contracting officer of the department of health~~)) binding the contractor and the department to designated terms and conditions.

(((~~5~~))) (6) "Contractor" means ((~~a WIC authorized food vendor~~)) the owner, chief executive officer, controller, or other person legally authorized to obligate a retailer to a contract.

(((~~6~~))) (7) "Department" means the Washington state department of health.

(((~~7~~))) (8) "Disqualification" means the act of ((~~ending the participation~~)) revoking the authorization and terminating the contract of an authorized ((~~food vendor, participant, or local agency in the~~)) retailer for noncompliance with WIC program requirements.

(((~~8~~))) (9) "Food company" means a manufacturer or broker of food items.

((~~(9) "Food instrument" means a WIC check which is used by a participant to obtain specified supplemental foods.~~

~~(10) "Food vendor" means the owner, chief executive officer, controller, or other person legally authorized to obligate a store location to a contract.~~

~~(11) "Fine" means a sum of money imposed as a penalty for an offense.~~

~~(12) "Fraud" means any act in which a food vendor misuses the WIC program for monetary gain.~~

~~(13)~~))) (10) "Local WIC agency" means the contracted clinic or agency where a ((~~participant~~)) client receives WIC services.

((~~(14) "Program" means the special supplemental food program for women, infants and children (WIC).~~

~~(15)~~))) (11) "Monetary penalty" means a sum of money imposed by the program for noncompliance with program requirements.

(12) "Reauthorization" means the process when a retailer who has a contract with the department which is expiring, has again applied and met the selection criteria, and signed a subsequent contract with the department signifying eligibility to participate in the WIC program.

(13) "Supplemental WIC foods" means those foods containing nutrients determined to be beneficial for pregnant, breast-feeding, and postpartum women, infants and children, as prescribed by federal regulations and state ((~~regulations~~)) requirements, and, as authorized by the Washington state WIC program.

((~~(16) "Termination" means discontinuing:~~

~~(a) Authorization of a food vendor to participate in the program; or~~

~~(b) Authorization of a participant to receive WIC benefits.~~

~~(17)~~))) (14) "WIC program" or "program" means the federally funded special supplemental nutrition program for women, infants, and children administered in Washington state by the department of health.

(15) "WIC retailer" or "retailer" means an individual store owned by a contractor which is authorized to participate in the WIC program.

(16) "Wholesaler" means a business entity which sells food and other items to a ((~~food vendor~~)) retailer.

(17) "WIC check" means a negotiable instrument issued to and used by a WIC client or a WIC client's designee to obtain specified supplemental WIC foods at a contracted WIC retailer.

(18) "WIC ((~~participant~~)) client" or "client" means ((~~any individual~~)) a pregnant, breast-feeding, or postpartum woman, infant, or child receiving WIC benefits.

(19) "WIC client's designee" means a person authorized by the client to pick up WIC checks at the local WIC agency and use the WIC checks at the retailer when the client is unable to do so.

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AMENDATORY SECTION (Amending Order 314, filed 10/27/92, effective 11/27/92)

**WAC 246-790-050 ((~~Description of WIC program.~~)) What is the WIC program?** (1) The WIC program in the state of Washington is administered by the division of community and family health, office of public health nutrition services in the department of health.

(2) The WIC program is a federally funded program established in 1972 by an amendment to the Child Nutrition Act of 1966. ((~~The purpose of the program is to serve as an adjunct to health care by providing nutritious food;~~)) It is the purpose of the program to provide nutrition and health assessment, nutrition education ((~~and~~)), nutritious food; breast-feeding counseling; ((~~health screening;~~)) and referral services to pregnant ((~~and~~)), breast-feeding, and postpartum women, infants, and children in ((~~certain high risk~~)) specific risk categories.

(((~~2~~))) (3) Federal regulations governing the WIC program (7 CFR Part 246) require implementation of standards and procedures to guide the state's administration of the WIC program and are hereby incorporated by reference. These regulations are designed to promote consistent and high quality services to clients, promote consistent application of procedures for eligibility and food issuance, and ((~~lessen the possibility of participant, food vendor, and local agency abuse of the WIC program~~)) promote client and retailer compliance. These regulations define the rights, responsibilities, and legal procedures of ((~~participants, vendors, and local agencies.~~

~~(3) The WIC program in the state of Washington is administered by the office of WIC services in the department of health~~)) clients and retailers.

AMENDATORY SECTION (Amending Order 314, filed 10/27/92, effective 11/27/92)

**WAC 246-790-060 ((~~Authorized foods.~~)) What is the process for getting a food WIC authorized?** (1) ((~~The department shall provide one or more of the following foods to eligible women, infants, and children:~~)) WIC eligible women, infants, and children receive supplemental WIC foods from one or more of the following food categories. These foods shall meet nutritional standards established by federal regulations and state requirements:

(a) Cereals,
(b) Juices,
(c) Infant formula,
(d) Infant cereal,
(e) Liquid nutritional supplements,
(f) Milk,
((~~(f)~~)) (g) Eggs,
((~~(g)~~)) (h) Dry beans and peas,
((~~(h)~~)) (i) Peanut butter, ((~~and~~
~~(i)~~)) (j) Cheese,
(k) Tuna, and
(l) Carrots.

((~~These foods shall meet nutritional standards established by federal regulations.~~))

Additionally, the ((~~department shall approve~~)) WIC program authorizes specific brands of juice, cereal, and infant formula((~~, juice, and cereal~~)) based on federal and state nutritional requirements. ((~~In addition, the department specifies juice provided to WIC clients must be unsweetened.~~

~~The department shall designate specific types of domestic, pasteurized cheese for the WIC program.~~

~~(2) A copy of the authorized WIC food list shall be included in the annually revised state plan which is available for public comment and is submitted to the United States Department of Agriculture Food and Nutrition Services regional office.~~

~~(3)~~)) The WIC program limits the selection of authorized WIC foods in accordance with federal cost containment requirements, including, but not limited to, the competitive procurement of a single manufacturer's infant formula.

(2) The ((~~following steps have been established by the department as the formal~~)) procedure for ((~~adding~~)) initially authorizing a food ((~~product to the WIC program~~)) is:

(a) By December 31 of odd-numbered years, a food company or other entity, such as a local WIC clinic, shall submit a written request to the WIC program for authorization of a ((~~product;~~

~~(b) The food company representative shall furnish the state WIC office with~~)) food, to include:

(i) Package flats or labels, information on package sizes and prices, and a summary of current distribution((~~; and~~

~~(ii) The food company's summary of current distribution shall be in writing and shall include, but not be limited to:~~

~~(A)~~)), including identification of the wholesaler carrying the ((~~product~~)) food; and

((~~(B)~~))) (ii) Assessment of when the new ((~~product~~)) food replaces the old on store shelves when there is a change in ((~~the product~~)) formulation.

((~~This information must be received ninety days or more before WIC food instrument revision deadlines.~~

~~(c) When the product meets federal and state requirements, the department shall verify product availability and price;~~

~~(d) The nutrition services work group of the office of WIC~~)) (b) The WIC program shall verify if a food considered for authorization fits within one of the authorized food categories, meets the federal requirements of nutritional standards, is available to retailers, and has been available to retailers for one year or more;

(c) A public health nutrition services work group shall make a recommendation based on the ((~~product's~~)) food's ingredients and value to the promotion of healthful and economic food buying practices;

((~~(c)~~)) (d) The ((~~department shall~~)) WIC program has the option to survey local WIC agency staff and clients for their recommendation ((~~in regard to~~)) regarding need and demand for the ((~~product~~)) food;

((~~(f)~~)) (e) The ((~~department~~)) WIC program shall review data and recommendations and shall notify the food company of the ((~~department's~~)) program's decision;

((~~(g)~~)) (f) The ((~~department~~)) WIC program shall add the newly authorized foods ((~~items~~)) to the WIC ((~~food instrument at the next scheduled printing.~~

~~(4) State WIC monitor staff shall determine if a food product considered for authorization is available to retail outlets, statewide, and has a history of availability for one year or more~~)) check and related materials to coincide with the retailer contract period.

(3) Food companies shall notify the WIC program in writing of any changes in product formulation, product name, packaging, label design, size, or availability. A food company shall notify the WIC program of any such changes before any Washington state wholesaler receives the new product.

If a food company fails to notify the WIC program of any changes, the WIC program may revoke or deny the food's WIC authorization.

(4) A food company shall not use the term "WIC approved" or the WIC program logo without prior written approval from the WIC program.

(5) The ((~~department reserves the right to~~)) WIC program may require a food company to submit a statement guaranteeing a minimum period of time during which a food ((~~product~~)) will be available ((~~throughout~~)) in the state of Washington.

(6) The ((~~department reserves the right to~~)) WIC program shall refuse any food ((~~product~~)) that ((~~appears in contradiction to~~)) contradicts the principles promoted by the WIC program's nutrition service component.

(7) The ((~~department reserves the right to~~)) WIC program may limit the number of authorized foods within a food category.

(8) ((~~Food companies shall notify the department of any changes in product content, name, label design, or availability.~~

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~~(a) If a food company fails to notify the department of the changes in writing, the WIC program shall revoke the product's authorization; and~~

~~(b) A food company shall notify the department of changes before a Washington state wholesaler receives the new product.~~

~~(9) A food company shall not use the term "WIC approved" without prior department approval~~)) The WIC program may initiate reassessment of any WIC authorized food.

AMENDATORY SECTION (Amending Order 314, filed 10/27/92, effective 11/27/92)

**WAC 246-790-070 ((~~Food vendor participation.~~)) How do I become a WIC retailer?** (1) ((~~The department shall authorize food vendors who may redeem WIC food instruments or otherwise provide supplemental foods to WIC participants. Unauthorized vendors who redeem WIC food instruments are subject to the penalties specified in WAC 246-790-100.~~)) Applicant retailers interested in participating in the WIC program must apply for authorization and enter into a contract with the department.

(2) Application procedure.

(a) ((~~Food vendors~~)) Upon request, the WIC program will send an application packet to interested applicant retailers. Applicant retailers shall submit ((~~an~~)) the completed application to the ((~~department~~)) WIC program, including a price list for authorized WIC foods. ((~~Forms used in the application process are contained in the state plan which is submitted annually to the United States Department of Agriculture Food and Nutrition Service regional office.~~))

(b) The ((~~department~~)) WIC program may require applicant((~~s~~)) retailers to provide information regarding ((~~gross food sales~~)) shelf price records and inventory records ((~~for WIC approved foods~~)) showing all purchases, both wholesale and retail, including but not limited to, wholesale receipts, cash and carry receipts, purchase orders, books of account, invoices that identify the quantity and prices of specific WIC foods and other pertinent records that substantiate the volume and the prices charged. Cash register receipts without specific identification of the quantity, unit price, and WIC food purchased are not acceptable as evidence of WIC food purchases.

(c) The ((~~department~~)) WIC program shall conduct ((~~a documented~~)) and document an on-site visit prior to, or at the time of, initial authorization of ((~~a new food vendor~~)) an applicant retailer, for the purpose of evaluating the inventory of WIC foods and providing training on ((~~rules and regulations of WIC transactions~~)) the WIC retailer handbook.

(d) ((~~The department shall issue contracts for a maximum period of two years. All contracts expire on March 31 of odd-numbered years. No new applications will be accepted after October 1 in even-numbered years, except~~)) Applications are accepted from April 1 of odd-numbered years until September 30 of even-numbered years. Exceptions can be made in the case of an ownership change or where there is a documented need for a location in order to ((~~solve~~)) assure client access ((~~problems~~)). The ((~~department has the authority to~~)) WIC program may limit acceptance of new applications ((~~to other specific times as well~~)).

(3) The ((~~department~~)) WIC program shall authorize ((~~an appropriate number and~~)) a distribution of ((~~food vendors to assure adequate participant convenience and~~)) retailers that facilitates client access, and ((~~to assure the department can effectively manage review of these food vendors~~)) enables effective management of the retailers. The ((~~department has the authority to~~)) WIC program may limit the number of authorized ((~~food vendors~~)) retailers in any given geographic area or state-wide.

(4) Selection is based on the following ((~~conditions~~)):

(a) The applicant retailer shall have requests from or the potential of serving ((~~six~~)) fifteen or more WIC ((~~participants~~)) clients as verified by the local WIC agency.

((~~(i) For vendors without prior contracts, the local WIC agency shall document six or more WIC participants requesting use of a location.~~

~~(ii) Vendors~~)) (b) Applicant retailers applying for reauthorization shall have a check redemption record averaging ((~~fifteen~~)) forty or more checks per month over a six-month period, documented by ((~~department~~)) WIC program statistics reports.

((~~(iii)~~)) (c) Exceptions may be made for:

((~~(A)~~)) (i) Pharmacies needed as suppliers of special infant formulas; or

((~~(B) Retail grocery stores~~)) (ii) Applicant retailers in isolated areas where client access cannot otherwise be assured.

In either case, the need shall be documented by the local WIC agency.

((~~(b) Food vendors~~)) (d) Applicant retailers shall stock representative items with current shelf lives from all food categories on the authorized WIC food list ((~~that apply to the vendor's classification~~)). Minimum quantities specified on the authorized WIC food list shall be ((~~stocked~~)) on the shelf available for purchase before a contract is offered to the ((~~food vendor~~)) retailer. ((~~A food vendor~~)) An applicant retailer seeking a waiver from the minimum formula stock requirement shall request the waiver in writing for each ((~~contracting~~)) contract period. No waivers shall be granted unless there is an insufficient number of authorized ((~~vendors~~)) retailers in a given service area to assure client access;

((~~(c)~~)) (e) Prices of individual foods ((~~items~~)) shall not exceed one hundred twenty percent of the state-wide average price((~~. The state WIC office shall have the prerogative to grant waivers to the price percentage requirement when client access is jeopardized~~)) as calculated at least annually. An applicant retailer seeking a waiver from the one hundred twenty percent requirement shall request the waiver in writing for each contract period. No waivers shall be granted unless there is an insufficient number of authorized retailers in a given service area to assure client access;

((~~(d)~~)) (f) The ((~~food vendor~~)) applicant retailer shall possess a valid Washington state tax registration number;

((~~(e)~~)) (g) The ((~~food vendor~~)) applicant retailer shall agree to comply with training sessions((~~,~~)) and monitor visits, and provide ((~~invoices and~~)) shelf price((~~s~~)) records and inventory records showing all purchases, both wholesale and retail, including but not limited to, wholesale receipts, cash and carry receipts, purchase orders, books of account, invoices that identify the quantity and prices of specific WIC foods, and other pertinent records that substantiate the

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volume and prices charged upon the ((~~department's~~)) WIC program's request;

(((~~f~~))) (h) The applicant retailer shall operate from a fixed location;

(i) The ((~~food vendor's store~~)) applicant retailer shall be open for business at a minimum eight or more hours per day, six days per week.

(((~~4) The department shall give written notification of denial, stating the reason, and advising the food vendor of the vendor's right of appeal. The department may deny a food vendor authorization for reasons including, but not limited to the following:~~

~~(a)~~))) (j) The applicant retailer shall be in compliance with local sanitation rules;

(k) The applicant retailer with a history of any of the following shall be denied authorization unless client access can not otherwise be assured:

(i) WIC or food stamp disqualification;

(ii) Redeeming WIC ((~~food instruments~~)) checks without authorization;

(((~~b~~))) (iii) Changing ownership more than twice during a two-year contracting period;

(((~~c) Failure~~)) (iv) Failing to implement corrective action imposed by the ((~~department~~)) program;

(((~~d) Failure~~)) (v) Failing to complete payment within the time specified, of an imposed ((~~fine~~)) monetary penalty or reimbursement of an overcharge ((~~within the time specified~~)); and

(((~~e~~))) (vi) Refusing to accept training from the WIC program((~~; and~~

~~(f) Repeated department documented noncompliance with program regulations~~)).

(5) The WIC program may deny a retailer authorization for failure to meet any of the stated selection criteria.

AMENDATORY SECTION (Amending Order 314, filed 10/27/92, effective 11/27/92)

**WAC 246-790-080 ((~~Food vendor contracts.~~)) What do I need to know about WIC retailer contracts?** (1) All authorized ((~~food vendors~~)) retailers shall enter into written contracts with the department. The contract shall be signed by the ((~~food vendor's legal representative~~)) contractor and the designee of the contracting officer of the department of health.

(2) ((~~When the food vendor obligates more than one store location,~~)) The contract shall list all ((~~participating store locations shall be listed~~)) authorized retailers by name and location ((~~on the contract~~)). Individual ((~~store locations~~)) retailers may be added, changed, disqualified, or terminated by contract amendment without affecting the remaining ((~~store locations~~)) retailers.

(3) ((~~The department shall have the authority to contract with a sole source for a specified WIC food product or food product category.~~

~~(4) WIC vendor rules. The food vendor contract shall contain the following rules:~~

~~(a) The food vendor shall stock sufficient quantities of authorized WIC foods to meet the needs of WIC customers;~~

~~(b) The food vendor shall redeem food instruments made payable only to that specific store or with the words "any authorized WIC vendor;"~~

~~(c) The food vendor shall accept food instruments from a WIC customer within thirty days of the time period specified on the food instrument and submit for payment within the time period stated on the food instrument;~~

~~(d) The food vendor shall ensure both signatures on the WIC check match;~~

~~(e) The food vendor shall not accept WIC food instruments altered in any way;~~

~~(f) The food vendor shall redeem WIC food instruments for only the supplemental foods specified and in the quantity specified on the food instrument;~~

~~(g) The food vendor shall post the prices of WIC foods so they are visible to the public;~~

~~(h) The food vendor shall provide supplemental foods at the current price or at less than the current price charged other customers;~~

~~(i) The food vendor shall not sell WIC authorized foods after the manufacturer's expiration date;~~

~~(j) The food vendor shall not accept WIC checks exceeding the maximum amount allowable;~~

~~(k) The department has the right to demand refunds from the food vendors for documented overcharges;~~

~~(l) The department may deny payment to the food vendor for improperly handled food instruments or may demand refunds for payments already made on improperly handled food instruments.~~

~~(m) The food vendor shall not seek restitution from WIC participants for food instruments not honored by the WIC program, nor shall the food vendor seek restitution through a collection agency;~~

~~(n) The food vendor shall not request cash or give change in a WIC transaction;~~

~~(o) The food vendor shall not impose a surcharge or charge sales tax on any product purchased with WIC food instruments;~~

~~(p) The food vendor shall not issue refunds for returned WIC foods or allow exchanges of WIC foods;~~

~~(q) The food vendor shall not issue rain checks or any form of credit;~~

~~(r) The food vendor shall treat WIC customers with the same courtesy provided to other customers;~~

~~(s) The department shall hold the food vendor responsible for the actions of employees or agents of the vendor with regard to any WIC transaction;~~

~~(t) The manager of the store or an authorized representative such as head cashier shall agree to accept training on WIC program requirements and procedures. The department shall provide this training;~~

~~(u) The food vendor shall inform and train cashiers or other employees on WIC program rules and food instrument cashing procedures;~~

~~(v) The department shall monitor the food vendor for compliance with WIC program rules;~~

~~(w) During the department monitoring visit of a food vendor, the food vendor shall provide access to redeemed food instruments for the purpose of review by the department representative;~~

~~(x) Food vendors shall provide department reviewers access to shelf price records, wholesale receipts, and purchase orders;~~

~~(y) Each food vendor shall provide the department with a complete price list of authorized WIC foods not more than twelve times per year; and~~

~~(z) The food vendor shall notify the department of any store closure or change of ownership, store name, and/or location no later than the tenth of the month before the month during which the change is effective. Notices from the vendor shall be addressed to DOH WIC Program, P.O. Box 47880, Olympia, Washington 98504-7880.~~

~~(5) Renewal of contract.~~

~~(a) Neither the department nor the food vendor is obligated to renew the food vendor contract. The department shall notify food vendors in writing not less than fifteen days before the expiration of a contract not being renewed by the department.~~

~~(b) Food vendors shall observe time lines, such as deadlines for submitting price lists and returning properly signed contracts. Failure of food vendors to do so may result in denial of authorization.~~

~~(6) Contract terminations.~~

~~(a) Either the department or the food vendor may terminate the contract at any time by submitting a written notice to the other party thirty days in advance.~~

~~(b) The food vendor contract shall automatically be terminated without advance notice from the department in the event of a store closure or change in ownership.~~

~~(c) The food vendor must reapply to be considered for participation in the WIC program.~~

~~(d) The food vendor shall remain in compliance with selection criteria (WAC 246-790-070(3)) and WIC food vendor rules (WAC 246-790-080)~~)) Duration of contract.

(a) The WIC program shall issue contracts for a maximum period of two years. All contracts expire on March 31 of odd-numbered years.

(b) Neither the WIC program nor the contractor is obligated to renew the contract. The WIC program shall notify contractors in writing not less than fifteen days before the expiration of a contract not being renewed by the program.

(c) Authorization is valid for no longer than the period stated in the contract. The retailer must reapply to be considered for authorization in the WIC program.

(d) The contractor or the WIC program may terminate the contract at any time by submitting a written notice to the other party thirty days in advance.

(e) The contract is null and void in the event of a retailer closure or change in ownership.

NEW SECTION

**WAC 246-790-085 What is expected of WIC retailers?** (1) The retailer shall comply with WIC program requirements and terms of the retailer contract.

(2) The retailer shall stock sufficient quantities of authorized WIC foods to meet the needs of WIC customers, but not less than the minimum stock levels.

(3) The retailer shall redeem WIC checks made payable only to that specific retailer or with the words "any authorized WIC vendor."

(4) The retailer shall accept WIC checks from a WIC customer on the "first day to use," the "last day to use," or any day in between the dates printed on the WIC check. The retailer shall submit the WIC check for payment within sixty days from the "first day to use."

(5) The retailer shall refuse to accept WIC checks that have the purchase price missing, the client's signature missing, the "first day to use" or the "last day to use" missing, or that are postdated or stale dated.

(6) The retailer shall enter the actual purchase price of the specific quantity of WIC authorized foods on each WIC check before the WIC customer countersigns the check.

(7) The retailer shall accept only WIC checks on which the WIC customer's countersignature matches the first customer signature on the check.

(8) The retailer shall refuse to accept WIC checks that are altered in any way.

(9) The retailer shall redeem WIC checks for only the supplemental WIC foods and in no more than the quantity specified on the check.

(10) The retailer shall post the prices of WIC foods so they are visible to the public.

(11) The retailer shall provide supplemental foods at the current price or at less than the current price charged to other customers.

(12) The retailer shall not sell WIC-authorized foods after the manufacturer's expiration date.

(13) The retailer shall not accept WIC checks with purchase amounts over the "not to exceed" amount printed on the check.

(14) The retailer shall reimburse the WIC program for documented overcharges and payments made on improperly handled WIC checks.

(15) The retailer shall not seek restitution from WIC clients for WIC checks not paid by the WIC program, nor shall the retailer seek restitution through a collection agency.

(16) The retailer shall not request cash or give change in a WIC transaction.

(17) The retailer shall not impose a surcharge or charge sales tax on any food purchased with WIC checks.

(18) The retailer shall refuse WIC client's requests for exchanges or cash refunds for returned WIC foods. Exceptions may be made for exchange of food due to spoilage or expired date not noticed by the WIC client at the time of the WIC transaction.

(19) The retailer shall not issue rain checks, any form of credit, or otherwise charge the WIC program for foods not received by the WIC customer at the time the WIC check is redeemed.

(20) The retailer shall treat WIC customers with the same courtesy provided to other customers.

(21) The contractor shall be responsible for the actions of employees, agents, and authorized retailers with regard to participation in the WIC program.

(22) The manager of the retailer or an authorized representative such as head cashier shall attend training on WIC program requirements and procedures prior to issuance of a contract and as otherwise required by the WIC program. The WIC program shall provide this training at no cost to the retailer.

(23) Those who attend training shall inform and train other employees on WIC program requirements and WIC check cashing procedures.

(24) The retailer shall provide access to its facilities at all reasonable times for WIC program representatives to

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monitor, to provide training or technical assistance, and to evaluate performance, compliance, and quality assurance.

(25) During any WIC program visit of a retailer, the retailer shall provide access to redeemed WIC checks for the purpose of review by the program representative.

(26) Retailers shall maintain inventory records showing all purchases, both wholesale and retail, for a period of at least three years, including, but not limited to shelf price records, wholesale receipts, cash and carry receipts, purchase orders, books of account, invoices that identify the quantity and prices of specific WIC foods, and other pertinent records that substantiate the volume and prices charged and provide WIC program representatives access to those records on request.

(27) Each retailer shall provide the WIC program with a completed price list of authorized WIC foods on request, but not more than twelve times per year.

(28) The contractor shall notify the WIC program of any change of ownership, retailer name, location and/or cessation of operation for any reason no later than the tenth of the month prior to the effective date of the change.

(29) Contractors shall observe time lines, such as deadlines for submitting price lists and returning properly signed contracts. Failure of contractors to do so may result in denial of authorization.

(30) Contractors shall take corrective action as directed by the WIC program.

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AMENDATORY SECTION (Amending Order 314, filed 10/27/92, effective 11/27/92)

**WAC 246-790-090 ((~~Food vendor monitoring.~~)) How are WIC retailer contracts monitored?** (1) The ((~~department shall identify high risk food vendors and ensure~~)) WIC program conducts on-site ((~~monitoring, further investigation, and sanctioning of such food vendors. Criteria for identifying high risk vendors shall include, but not be limited to, such considerations as participant complaints and the amount or frequency of suspected overcharges or other improper handling of redeemed food instruments~~)) compliance reviews at retailer locations to monitor retailer compliance with program requirements.

(2) ((~~The department shall conduct on-site monitoring visits as required by CFR 246. Vendors shall take corrective action as directed by the department.~~

~~(3) The department shall submit a summary of the results of the monitoring of high risk and representative food vendors and of the review of food instruments to USDA Food and Nutrition Service on an annual basis within four months after the end of the federal fiscal year.~~

~~(4)~~)) Preauthorization visits.

(a) Visit is scheduled in advance.

(b) The WIC program representative identifies self.

(c) The WIC program representative provides training on the WIC retailer handbook which includes information on WIC foods and WIC check handling, and collects information on WIC food stock levels and shelf prices.

(d) The retailer signs the preauthorization visit form verifying receipt of the training, understanding of program requirements, and the commitment to train store personnel.

(3) Compliance visits.

(a) Visit may or may not be scheduled in advance;

(b) The WIC program representative identifies self;

(c) The WIC program representative may do some or all of the following during a visit: Review WIC check handling procedures, WIC food stock levels, expiration dates and prices, WIC checks negotiated but not yet deposited, shelf price records, wholesale receipts, cash and carry receipts, purchase orders, books of account, invoices that identify the quantity and prices of specific WIC foods, and other pertinent records that substantiate the volume and prices charged, provide training or technical assistance, and verify implementation of a corrective action plan.

(d) The ((~~department shall~~)) WIC program representative documents ((~~the following for all on-site vendor monitoring visits:~~

~~(a)~~)) the name((~~s~~)) of ((~~vendor, reviewer, and, except for compliance buys,~~)) the retailer, the name of the program representative, the names of all persons interviewed((~~;~~

~~(b)~~)), the date of ((~~review;~~

~~(c) Nature of problem or~~)) the visit, any problems or concerns detected or the observation ((~~that~~)) the ((~~food vendor~~)) retailer appears to be in compliance ((~~with program requirements;~~

~~(d)~~)), any corrective action plan if ((~~the deficiencies~~)) problems are detected, ((~~how the food vendor plans to correct those deficiencies;~~)) and

(((~~(e)~~))) the signatures of ((~~reviewer~~)) the program representative and the retailer.

((~~(5) Methods of on-site monitoring visits include, but are not limited to:~~

~~(a)~~)) (4) Compliance purchases((~~;~~

~~(b) Review of cashier check-out procedures;~~

~~(c) Review of inventory records;~~

~~(d) Review of the availability, prices, and expiration dates of authorized WIC foods; and~~

~~(e) Review of food instruments negotiated the day of the review.~~

~~(6) The department may conduct compliance purchases to collect evidence of improper food vendor practices, or arrange for this responsibility to be assumed by the proper federal, state, or local authorities.~~

~~(7) The department shall establish procedures to document the handling of complaints by WIC participants against food vendors. The department shall deal with complaints of civil rights discrimination in accordance with 7 CFR 246.8(b).~~

~~(8) The department shall establish procedures to document the handling of complaints by food vendors against WIC participants or other food vendors~~)).

(a) The WIC program representative does not identify self;

(b) The WIC program representative makes a purchase using WIC checks applying a predetermined methodology;

(c) The WIC program representative completes a report on the visit itemizing information including but not limited to, a description of the checker involved, the time and date of the transaction, the number of checkstands opened and closed, other customers in line, exact items purchased and/or refused, the prices charged or the purchase prices, comments of the checker, observations of the investigator or the investigative aide, any stock deficiencies noted, any other pertinent information, and the signature of the investigator.

AMENDATORY SECTION (Amending Order 314, filed 10/27/92, effective 11/27/92)

**WAC 246-790-100 ((~~Food vendor sanctions.~~)) What happens if I don't comply with the WIC retailer contract or rules?** (1) ((~~The department may disqualify a food vendor for reasons of program abuse, and terminate the food vendor's participation in the WIC program for a specified period of time. At the end of the disqualification period, the food vendor shall be required to reapply for authorization.~~

~~(2) Food vendors may be subject to sanctions in addition to, or in lieu of, disqualification, such as fines for improperly handled food instruments. Prior to disqualifying a food vendor, the department shall consider whether the disqualification would create undue hardships for WIC participants.~~

~~(3) The department shall set the period of disqualification from program participation at a minimum of one year and shall not exceed three years.~~

~~(4) The department shall disqualify a food vendor from the WIC program if that food vendor is suspended or disqualified from another FNS program.~~

~~(5) The department shall recover funds due the WIC program and impose a fine of not less than one hundred dollars on food vendors for the offenses in subsection (5) of this section. The department shall account for these funds in accordance with federal regulations.~~

~~Money shall be paid to the department within the time period specified in the notice of adverse action or the food vendor shall be disqualified from the WIC program for a period of at least one year. Offenses include:~~

~~(a) Providing cash, unauthorized food, nonfood items, or other items to WIC customers in lieu of or in addition to authorized WIC supplemental foods;~~

~~(b) Charging the WIC program for foods not received by the customer;~~

~~(c) Charging the WIC program more for authorized WIC supplemental foods than other customers are charged for the same food item;~~

~~(d) Providing rain checks or credit to customers in a WIC transaction;~~

~~(e) Charging WIC customers cash or giving change to customers in a WIC transaction; and~~

~~(f) Redeeming WIC food instruments without having authorization from the department.~~

~~Repeating any offense listed in subsection (5) of this section shall subject a food vendor to additional sanctions including disqualification.~~

~~(6) A food vendor who fails to give the specified notice of a change in ownership, store name, and/or location shall be liable for resultant costs incurred by the WIC program. In addition, a food vendor who fails to furnish the state WIC office with written notice of a change in ownership before the effective date of sale shall be subject to a fine of not less than one hundred dollars.~~

~~(7) A food vendor's failure to maintain a sufficient stock of WIC authorized foods or to follow the appropriate WIC food instrument cashing procedure may result in a one-year disqualification.~~

~~(8) Food vendors who have willfully misapplied, stolen, or fraudulently obtained program funds shall be subject to a fine of not more than one thousand dollars or imprisonment for not more than five years or both, if the value of the funds is one hundred dollars or more. If the value is less than one hundred dollars, the penalties are a fine of not more than one thousand dollars or imprisonment for not more than one year or both. The department shall refer these food vendors to federal, state, or local authorities for prosecution under applicable statutes.~~)) Retailers who commit acts of noncompliance are liable to prosecution in accordance with federal regulations (7 CFR 246.12 and 7 CFR 246.23). Noncompliance is failure to follow WIC program requirements including, but not limited to:

(a) Providing cash, unauthorized food, nonfood items, or other items to WIC customers in lieu of or in addition to authorized WIC supplemental foods;

(b) Selling or offering to sell foods with expired shelf lives;

(c) Charging the WIC program for foods not received by the customer;

(d) Charging the WIC program more for authorized WIC supplemental foods than other customers are charged for the same food;

(e) Inflating the purchase price of a WIC transaction;

(f) Providing rain checks or credit to customers in a WIC transaction;

(g) Charging WIC customers cash or giving change in a WIC transaction;

(h) Redeeming WIC checks without having authorization from the WIC program;

(i) Failing to write the actual purchase price on the WIC check at the time of the WIC transaction; and

(j) Failing to maintain adequate stock of WIC foods on the retailer's shelves.

(2) The WIC program may deny payment to, impose monetary penalties on and disqualify retailers for noncompliance with WIC program requirements and terms of the retailer contract.

(3) The WIC program shall seek reimbursement from retailers for documented overcharges and for payments made on improperly handled WIC checks.

(4) Retailers found in noncompliance, except for the offenses listed in subsection (9) of this section, will be notified by the WIC program and given the opportunity to correct the deficiency. Methods of notification include, but are not limited to, technical assistance contacts and notice of correction letters. Repeating any act of noncompliance may subject a retailer to sanctions.

(5) When the WIC program denies a retailer authorization, denies payment, imposes a monetary penalty, requests reimbursement, or disqualifies a retailer, the program shall give the contractor written notice not less than fifteen days prior to the effective date of the action. The notice shall state what action is being taken, the effective date of the action, and the procedure for requesting an appeal hearing.

(6) Monetary penalties shall be imposed when noncompliance of a same or similar type of noncompliance occurs following notification and the opportunity for correction.

(7) Monetary penalties, in accordance with federal regulations, are:

(a) If the value of the unauthorized items was less than one hundred dollars, the monetary penalty shall be not less than one hundred dollars and not more than one thousand dollars.

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(b) If the value of the unauthorized items was one hundred dollars or more, the monetary penalty shall be not less than five hundred dollars and not more than ten thousand dollars.

(8) Monetary penalties and reimbursements shall be paid to the revenue section of the department within the time period specified in the notice. Retailers who fail to pay within the time period specified in the notice shall be referred to a commercial collection agency and may be disqualified.

(9) The WIC program shall disqualify the WIC retailer for the following, after providing advance notice of not less than fifteen days:

(a) Redeeming a WIC check for the purchase of any form of alcohol or tobacco;

(b) Purchasing a WIC check for partial value and redeeming at full value (commonly referred to as trafficking or discounting);

(c) Redeeming a WIC check for the purchase of nonfood items;

(d) Using a pattern of overcharging;

(e) Noncomplying in a same or similar nature following notification and the opportunity for correction;

(f) Being disqualified from the food stamp program by the food and consumer service.

(10) The WIC program shall disqualify the retailer from the WIC program for a specified period of time, not to exceed three years. At the end of the disqualification period, the retailer must reapply to be considered for authorization.

(11) Prior to disqualifying a retailer, the WIC program shall consider whether the disqualification would create undue hardships for WIC clients. In these cases, the WIC program may agree on a monetary penalty in lieu of disqualification.

(12) A contractor who fails to give the specified notice of closure, a change in ownership, retailer name, and/or location shall be liable for resultant costs incurred by the WIC program.

AMENDATORY SECTION (Amending Order 314, filed 10/27/92, effective 11/27/92)

**WAC 246-790-120** ((~~**WIC food vendor—Administrative review—Contract dispute resolution.**~~)) **How do I appeal a WIC decision I don't agree with?** (1) ((~~Administrative review.~~

~~(a) A food vendor whose application to participate in the WIC program is denied has the right to administrative review which is an informal meeting between the department and the food vendor to discuss the reasons for the denial. With the exception of required reimbursements, contracted food vendors dissatisfied with department decisions regarding sanctions or affecting the food vendor's participation may request an administrative review.~~

~~(b)~~)) The contractor may appeal notice of denial of payment, denial of authorization, monetary penalty, reimbursement, or disqualification. Expiration and nonrenewal of a WIC contract is not subject to appeal.

(2) When the action being appealed is disqualification, the retailer shall cease redeeming WIC checks effective the date specified in the notice and shall not accept WIC checks during the appeal period. Payments shall not be made for any WIC checks redeemed by a retailer during a period of disqualification.

(3) A request for an ((~~administrative review~~)) appeal hearing shall be in writing and:

(((~~(i)~~))) (a) State the issue raised;

((~~(ii) State the grounds for contesting the aggrieving department action;~~

~~(iii) State the law and allegations of fact on which the appeal relies;~~

~~(iv) Contain the appellant's current address and telephone number, if any; and~~

~~(v)~~)) (b) Contain a summary of the contractor's position on the issue, indicating whether each charge is admitted, denied, or not contested;

(c) State the name and address of the contractor requesting the appeal hearing;

(d) State the name and address of the attorney representing the contractor, if applicable;

(e) State the contractor's need for an interpreter or other special accommodations, if necessary; and

(f) Have a copy of the ((~~adverse department~~)) notice from the program attached.

(((~~(c)~~))) (4) A request for an ((~~administrative review~~)) appeal hearing shall be ((~~made by personal service on parent child health services headquarters office or by certified mail to the address given in the notice of adverse action~~)) filed at the Office of Professional Standards (OPS), Department of Health, P.O. Box 47872, Olympia, WA 98504-7872. The request shall be made within ((~~thirty~~)) twenty days of the date the ((~~food vendor~~)) contractor received the notice ((~~of adverse action. When the request is mailed, it shall be treated as having been made on the date it was postmarked provided it is received by the division of parent child health services properly addressed and with no postage due.~~

~~(d) The director of parent child health services, or the director's designee, shall conduct the administrative review~~)).

(5) The ((~~time limit for making the determination is thirty~~)) decision concerning the appeal shall be made within sixty days from the date the request for an ((~~administrative review~~)) appeal hearing was received by the office of professional standards (OPS). The time shall be extended by as many days as the ((~~vendor~~)) contractor requests, assents to, or necessitates a delay in the proceedings with due cause.

(((~~(e) Administrative review is the sole administrative remedy the department offers a WIC contract applicant. Contracted food vendors dissatisfied with administrative review decisions may request a contract dispute resolution.~~

~~(2) Contract dispute resolution.~~

~~(a) A WIC food vendor who is disqualified from participating in the program or who is aggrieved by any other adverse action the department takes which affects participation, has the right to a contract dispute resolution. This shall not apply to a nonrenewal of the contract.~~

~~(b) A request for a contract dispute resolution shall be in writing and:~~

~~(i) State the issue raised;~~

~~(ii) State the grounds for contesting the aggrieving department action;~~

~~(iii) State the law and allegations of fact on which the appeal relies;~~



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~~(iv) Contain the contractor's current address and telephone number, if any; and~~

~~(v) Have a copy of the adverse department notice attached.~~

~~(c) A request for a contract dispute resolution shall be made by personal service on the office of contracts management in Olympia or by certified mail addressed to the Office of Contracts Management, 1300 SE Quince, P.O. Box 47902, Olympia, Washington 98504-7902. The request shall be made within thirty days of the date the contractor received the notice of adverse action. When the request is mailed, it shall be treated as having been made on the date it was postmarked provided it is received by the office of contracts management properly addressed and with no postage due.~~

~~(d) The time limit for making the determination is thirty days from the date the request for a contract dispute resolution was received by the office of contracts management. The time shall be extended by as many days as the contractor requests, assents to, or causes a delay in the proceedings.~~

~~(e) The contract dispute resolution is the sole administrative remedy the department offers a WIC contractor.~~))

AMENDATORY SECTION (Amending Order 314, filed 10/27/92, effective 11/27/92)

**WAC 246-790-130** ((~~WIC contractor—Continued participation pending contract dispute resolution.~~)) **How does the WIC program get input from the food industry?** (((~~(1) If the action being appealed is a disqualification of a WIC authorized food vendor, that food vendor shall cease redeeming WIC checks effective on the date specified in the sanction notice. The food vendor shall not accept WIC food instruments during the appeal period. Payments shall not be made for any food instruments submitted by a food vendor for payment during a period of disqualification.~~

~~(2) The department may at its discretion permit the contractor to continue participating in the WIC program pending the proceedings outcome when implementing the action would unduly inconvenience WIC participants.~~)) (1) The WIC program may establish a retailer advisory committee for the purpose of soliciting input on policies, procedures, and other matters pertinent to retailer participation in the WIC program.

(2) The retailer advisory committee shall meet at least two times per year.

(3) The membership of the retailer advisory committee will consist of representation of at least the following:

(a) The Washington food industries;

(b) Manager or checker trainer from a large chain;

(c) Manager or checker trainer from a small chain;

(d) Minority-owned retailer;

(e) Instructor of a checker training program with a technical college;

(f) Local WIC agency staff person;

(g) Current or former WIC client;

(h) Administrative representative, such as loss prevention or risk manager or human resources representative, from any size retailer;

(i) Owner of an independent retailer (single store); and

(j) A military commissary.

REPEALER

The following section of the Washington Administrative Code is repealed:

| | |
|---|---|
| WAC 246-790-110 | Notice of adverse action to WIC food vendor—Denial of food vendor application, contract nonrenewal. |

## WSR 97-16-121
### PERMANENT RULES
### DEPARTMENT OF FINANCIAL INSTITUTIONS
[Filed August 6, 1997, 11:54 a.m.]

Date of Adoption: August 6, 1997.

Purpose: Adoption of WAC 460-44A-300, an exemption from registration for offers and sales of securities to accredited investors which permits public solicitation consistent with the North American Securities Administrators Association (NASAA) model accredited investor exemption.

Statutory Authority for Adoption: RCW 21.20.450.

Other Authority: RCW 21.20.320(17).

Adopted under notice filed as WSR 97-08-061 on April 1, 1997.

Changes Other than Editing from Proposed to Adopted Version: Subsections (4), (5)(b)(iii), and (6)(b)(vi)(B) have been altered to conform the adopted version to the final version of the NASAA model accredited investor exemption. These changes are made for purposes of uniformity, clarity, and readability only. The changes are not substantive or material.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 1, amended 0, repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 0, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 1, amended 0, repealed 0.

Other Findings Required by Other Provisions of Law as Precondition to Adoption or Effectiveness of Rule: Pursuant to RCW 21.20.450, no rule may be made unless the director finds the action is necessary or appropriate in the public interest or for the protection of investors and consistent with the purposes fairly intended by policy and provisions of this chapter.

Effective Date of Rule: Thirty-one days after filing.

August 6, 1997
John L. Bley
Director

PERMANENT

NEW SECTION

**WAC 460-44A-300 Exemption for offers and sales to accredited investors pursuant to a public solicitation.** (1) Any offer or sale of a security by an issuer in a transaction that meets the requirements of this rule and any exemption adopted by the Securities and Exchange Commission pursuant to Section 3(b) of the Securities Act of 1933 which provides for public solicitation of accredited investors, shall be exempt under RCW 21.20.320(17).

(2) Sales of securities shall be made only to persons who are or the issuer reasonably believes are accredited investors. "Accredited investor" shall have the meaning indicated in WAC 460-44A-501(1).

(3) The exemption is not available to an issuer that is in the development stage that either has no specific business plan or purpose or has indicated that its business plan is to engage in a merger or acquisition with an unidentified company or companies, or other entity or person.

(4) The issuer reasonably believes that all purchasers are purchasing for investment and not with the view to or for sale in connection with a distribution of the security. Any resale of a security sold in reliance on this exemption within twelve months of sale shall be presumed to be with a view to distribution and not for investment, except a resale pursuant to a registration statement effective under RCW 21.20.190 or RCW 21.20.230 or to an accredited investor pursuant to an exemption available under the Securities Act of Washington, chapter 21.20 RCW. Securities issued under this exemption may only be resold pursuant to registration or an exemption under the Securities Act of Washington, chapter 21.20 RCW.

(5)(a) The exemption is not available to an issuer if the issuer, any of the issuer's predecessors, any affiliated issuer, any of the issuer's directors, officers, general partners, beneficial owners of ten percent or more of any class of its equity securities, any of the issuer's promoters presently connected with the issuer in any capacity, any underwriter of the securities to be offered, or any partner, director or officer of such underwriter:

(i) Within the last five years, has filed a registration statement which is the subject of a currently effective registration stop order entered by any state securities administrator or the United States Securities and Exchange Commission;

(ii) Within the last five years, has been convicted of any criminal offense in connection with the offer, purchase or sale of any security, or involving fraud or deceit;

(iii) Is currently subject to any state or federal administrative enforcement order or judgment, entered within the last five years, finding fraud or deceit in connection with the purchase or sale of any security; or

(iv) Is currently subject to any order, judgment or decree of any court of competent jurisdiction, entered with the last five years, temporarily, preliminarily or permanently restraining or enjoining such party from engaging in or continuing to engage in any conduct or practice involving fraud or deceit in connection with the purchase or sale of any security.

(b) Subsection (5)(a) shall not apply if:

(i) The party subject to the disqualification is licensed or registered to conduct securities related business in the state in which the order, judgment or decree creating the disqualification was entered against such party;

(ii) Before the first offer under this exemption, the state securities administrator, or the court or regulatory authority that entered the order, judgment or decree, waives the disqualification; or

(iii) The issuer establishes that it did not know and in the exercise of reasonable care, based on a factual inquiry, could not have known that a disqualification existed under subsection (5)(a).

(6)(a) A general announcement of the proposed offering may be made by any means.

(b) The general announcement shall include only the following information, unless additional information is specifically permitted by the securities administrator:

(i) The name, address and telephone number of the issuer of the securities;

(ii) The name, a brief description and price (if known) of any security to be issued;

(iii) A brief description of the business of the issuer in twenty-five words or less;

(iv) The type, number and aggregate amount of securities being offered;

(v) The name, address and telephone number of the person to contact for additional information; and

(vi) A statement that:

(A) Sales will only be made to accredited investors;

(B) No money or other consideration is being solicited or will be accepted by way of this general announcement; and

(C) The securities have not been registered with or approved by any state securities agency or the U.S. Securities and Exchange Commission and are being offered and sold pursuant to an exemption from registration.

(7) The issuer, in connection with an offer, may provide information in addition to the general announcement under subsection (6), if such information:

(a) Is delivered through an electronic database that is restricted to persons who have been prequalified as accredited investors; or

(b) Is delivered after the issuer reasonably believes that the prospective purchaser is an accredited investor.

(8) No telephone solicitation shall be permitted unless prior to placing the call, the issuer reasonably believes that the prospective purchaser to be solicited is an accredited investor.

(9) Dissemination of the general announcement of the proposed offering to persons who are not accredited investors shall not disqualify the issuer from claiming the exemption under this rule.

(10) The issuer shall file with the administrator a notice of transaction, a consent to service of process, a copy of the general announcement, and a fee of three hundred dollars within fifteen days after the first sale in this state.

**Reviser's note:** The typographical error in the above section occurred in the copy filed by the agency and appears in the Register pursuant to the requirements of RCW 34.08.040.

PERMANENT

## WSR 97-16-002
EMERGENCY RULES
DEPARTMENT OF
FISH AND WILDLIFE
(Fisheries)

[Order 97-129—Filed July 23, 1997, 4:26 p.m., effective July 24, 1997, 12:01 a.m.]

Date of Adoption: July 23, 1997.

Purpose: Personal use rules.

Citation of Existing Rules Affected by this Order: Repealing WAC 220-56-19000J; and amending WAC 220-56-190.

Statutory Authority for Adoption: RCW 75.08.080.

Under RCW 34.05.350 the agency for good cause finds that immediate adoption, amendment, or repeal of a rule is necessary for the preservation of the public health, safety, or general welfare, and that observing the time requirements of notice and opportunity to comment upon adoption of a permanent rule would be contrary to the public interest.

Reasons for this Finding: The harvestable quota of 550 chinook salmon will have been attained in Catch Record Card Area 4. There is insufficient time to promulgate permanent rules.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own initiative: New 1, amended 0, repealed 1.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 0, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 0, repealed 0.

Effective Date of Rule: July 24, 1997, 12:01 a.m.

July 23, 1997
Dirk Brazil
for Bern Shanks
Director

NEW SECTION

**WAC 220-56-19000K Coastal salmon—Seasons and limits.** Notwithstanding the provisions of WAC 220-56-190, effective 12:01 a.m., July 24, 1997 until further notice it is unlawful to fish for or possess salmon taken for personal use from Catch Record Card Areas 1 through 4 except as provided for in this section:

(1) Area 1 - Special daily limit of 2 salmon, special cumulative limit of 4 salmon in any seven consecutive days - Sundays through Thursdays only, July 21 through September 25, except closed 0-3 miles offshore and closed in the Columbia River Mouth Control Zone 1.

(2) Area 2 - Special daily limit of 2 salmon of which only one may be chinook. Special cumulative limit of 4 salmon in any seven consecutive days - Sundays through Thursdays only, July 21 through September 25, except closed 0-3 miles offshore.

(3) Area 2.1 - Special daily limit of 6 salmon, not more than 3 of which may be adult salmon as defined in WAC 220-56-190 - August 16 until further notice.

(4) Area 2.2 - The Westport Boat Basin fishery as provided for in WAC 220-56-190 is unchanged. Waters east of the Channel Marker 13 line -Daily limit A except release coho salmon - September 1 through September 30.

(5) Area 3 - Special daily limit of 2 salmon - July 21 through September 25.

(6) Area 4 - Closed through July 31, 1997.

(7) Area 4 - Effective 12:01 a.m. August 1, 1997 through 11:59 p.m. August 29, 1997, in those waters east of the Bonilla-Tatoosh line special daily limit of 2 salmon, except chinook salmon and coho salmon must be released.

(8) Area 4 - Effective 12:01 a.m. August 30, 1997 through 11:59 p.m. August 31, 1997, in those waters of Catch Record Card Area 4 east of the Bonilla-Tatoosh line special daily limit of 2 salmon, except chinook salmon must be released.

(9) Size limits - Chinook salmon minimum size 24 inches in length. Coho salmon minimum size 16 inches in length.

REPEALER

The following section of the Washington Administrative Code is repealed effective 12:01 a.m., July 24, 1997:

WAC 220-56-19000J Coastal salmon—Seasons and limits. (97-128)

EMERGENCY

## WSR 97-16-003
EMERGENCY RULES
DEPARTMENT OF
FISH AND WILDLIFE
(Fisheries)

[Order 97-130—Filed July 23, 1997, 4:29 p.m.]

Date of Adoption: July 23, 1997.

Purpose: Commercial fishing regulations.

Citation of Existing Rules Affected by this Order: Repealing WAC 220-47-802.

Statutory Authority for Adoption: RCW 75.08.080.

Under RCW 34.05.350 the agency for good cause finds that immediate adoption, amendment, or repeal of a rule is necessary for the preservation of the public health, safety, or general welfare, and that observing the time requirements of notice and opportunity to comment upon adoption of a permanent rule would be contrary to the public interest.

Reasons for this Finding: A harvestable surplus of sockeye salmon is available, as determined by the Fraser River Salmon Management Forum. Opening in Areas 7 and 7A is consistent with management agreements among parties within this forum, and provides opportunity to harvest the nontreaty allocation of Early Stuart-origin sockeye salmon relative to preseason run size forecasts, relative to Pacific Salmon Commission update of Early Stuart run size to 1.6 million, and a target of 38,000 Early Stuart sockeye remain in the nontreaty allocation. All other Puget Sound areas are closed to prevent overharvest of local salmon stocks.

An emergency exists in that there is insufficient time to promulgate permanent rules before the fish have [been] removed from the fishing grounds.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 1, amended 0, repealed 1.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 0, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 0, repealed 0.

Effective Date of Rule: Immediately.

July 23, 1997
Bern Shanks
Director

NEW SECTION

**WAC 220-47-803 Puget Sound all-citizen commercial salmon fishery.** Notwithstanding the provisions of Chapter 220-47 WAC, effective immediately until further notice, it is unlawful to take, fish for, or possess salmon for commercial purposes taken from the following Puget Sound Salmon Management and Catch Reporting Areas except in accordance with the following open periods and mesh and area restrictions:

* AREAS **7 and 7A** - Purse seines may fish from 7:05 a.m. to 9:00 p.m. Thursday July 24, 1997. Gillnets using 5-inch minimum, 6-inch maximum mesh may fish from 7:05 a.m. to 11:59 p.m. Thursday July 24, 1997. Purse seines may not retain chinook salmon in area 7. Atlantic salmon may be retained by purse seines and gillnets in areas 7 and 7A.

* Areas 4B, 5, 6, 6A, 6B, 6C, 6D, 7B, 7C, 7D, 7E, 8, 8A, 8D, 9, 9A, 10, 10A, 10C, 10D, 10E, 10F, 10G, 11, 11A, 12, 12A, 12B, 12C, 12D, 13, 13A, 13C, 13D, 13E, 13F, 13G, 13H, 13I, 13J, and 13K, all freshwater areas, and exclusion zones provided for in WAC 220-47-307 - Closed.

REPEALER

The following section of the Washington Administrative Code is repealed:

| | |
|---|---|
| WAC 220-47-802 | Puget Sound all-citizen commercial salmon fishery. (97-122) |

## WSR 97-16-016
## EMERGENCY RULES
## DEPARTMENT OF FISH AND WILDLIFE
(Fisheries)
[Order 97-131—Filed July 25, 1997, 4:30 p.m.]

Date of Adoption: July 25, 1997.

Purpose: Commercial fishing regulations.

Citation of Existing Rules Affected by this Order: Repealing WAC 220-52-07100D; and amending WAC 220-52-071.

Statutory Authority for Adoption: RCW 75.08.080.

Under RCW 34.05.350 the agency for good cause finds that immediate adoption, amendment, or repeal of a rule is necessary for the preservation of the public health, safety, or general welfare, and that observing the time requirements of notice and opportunity to comment upon adoption of a permanent rule would be contrary to the public interest.

Reasons for this Finding: The non-Indian share of sea cucumbers in the strait management region is expected to be harvested in two days of fishing.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 1, amended 0, repealed 1.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 0, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 0, repealed 0.

Effective Date of Rule: Immediately.

July 25, 1997
Chris Drivdahl
for Bern Shanks
Director

NEW SECTION

**WAC 220-52-07100D Sea cucumbers.** Notwithstanding the provisions of WAC 220-52-071, effective immediately until further notice, it is unlawful for non-treaty sea cucumber harvesters to take or possess sea cucumbers taken for commercial purposes except as provided for in this section:

(1) Sea cucumber harvest using shellfish diver gear is allowed in Sea Cucumber District 1 (Marine Fish-Shellfish Management and Catch Reporting Areas 20A, 20B, 21A, 21B, 22A, 22B, and 23B), and Marine Fish-Shellfish Management and Catch Reporting Areas 27A, 27B, and 27C Monday, Tuesday, and Wednesday of each week from 6:00 a.m. to one-half hour before official sunset of each day, and in Sea Cucumber District 2 (Marine Fish-Shellfish Management and Catch Reporting Areas 23A, 23C, 23D, 25A, 25B, 25C, 25D, 25E, 29 and those waters west of the Bonilla-Tatoosh Line, Pacific Ocean waters, Grays Harbor, Willapa

Bay, and the waters at the mouth of the Columbia River west of the Buoy 10 Line) Monday and Tuesday, July 28 and 29, 1997, 6:00 a.m. to one-half hour before official sunset of each day, except for closures as provided for in this section.

(2) The following waters are closed to the harvest of sea cucumbers at all times:

(a) Those waters closed under WAC 220-52-071.

(b) Tatoosh Island - Those waters within one-quarter mile of Tatoosh Island.

(c) Sund Rock Marine Preserve - Waters within 100 yards of the salmon net pens near Sund Rock in Hood Canal.

REPEALER

The following section of the Washington Administrative Code is repealed:

WAC 220-52-07100C Sea cucumbers. (97-125)

## WSR 97-16-025
EMERGENCY RULES
## DEPARTMENT OF HEALTH
[Filed July 29, 1997, 10:02 a.m.]

Date of Adoption: July 29, 1997.

Purpose: These regulations are for the purpose of establishing procedures necessary to assure the effective communication required between health officials and correctional and jail administrators in the event a correctional or jail staff member is substantially exposed to the bodily fluids of an offender or detainee in the course of their official duties. In addition, the rules require certain reports be submitted to the Department of Health.

Statutory Authority for Adoption: Section 6, chapter 345, Laws of 1997.

Under RCW 34.05.350 the agency for good cause finds that immediate adoption, amendment, or repeal of a rule is necessary for the preservation of the public health, safety, or general welfare, and that observing the time requirements of notice and opportunity to comment upon adoption of a permanent rule would be contrary to the public interest.

Reasons for this Finding: The legislature has found that the health and safety of corrections staff and jail staff is jeopardized when communicable disease information is not disclosed to such staff in a timely manner following a substantial exposure. These rules implement the requirements of chapter 345, Laws of 1997.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 0, amended 0, repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 0, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 0, repealed 0.

Effective Date of Rule: Immediately.

July 29, 1997
K. Van Gorkom
for Bruce Miyahara
Secretary

### Chapter 246-136 WAC
### HUMAN IMMUNODEFICIENCY VIRUS (HIV) INFECTION—OCCUPATIONAL EXPOSURE NOTIFICATION

NEW SECTION

**WAC 246-136-001 Purpose.** These regulations are adopted for the purpose of establishing procedures necessary to assure the effective communication required between health officials and correctional and jail administrators in the event a correctional or jail staff member is substantially exposed to the bodily fluids of an offender or detainee in the course of their official duties.

NEW SECTION

**WAC 246-136-010 Definitions.** The following definitions shall apply in the interpretation and enforcement of chapter 246-136
WAC:

(1) "HIV" means human immunodeficiency virus.

(2) "Local health department" means the city, town, county, or district agency providing public health services to persons within the area, as provided in chapters 70.05 and 70.08 RCW.

(3) "Local health officer" means the individual appointed under chapter 70.05 RCW as the health officer for the local health department, or appointed under chapter 70.08 RCW as the director of public health of a combined city-county health department.

(4) "Local jail administrator" means the individual appointed to operate a jail facility as defined in RCW 70.48.020.

(5) "State health officer" means the person designated by the secretary of the department to serve as state-wide health officer, or, in the absence of such designation, the person having primary responsibility for public health matters in the state.

NEW SECTION

**WAC 246-136-020 Agreements between local health jurisdictions and local jails.** By September 1, 1997, local health officials and local jail administrators shall establish interagency agreements to include at a minimum:

(1) The title of the position in the local health jurisdiction assigned the duty for disclosing sexually transmitted disease information as required by RCW 70.24.105 (4)(b) and the title of the position in the local jail assigned the duty of receiving of such information;

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(2) A statement indicating that sexually transmitted disease status information is confidential and that release of such information is governed by law;

(3) The title of the position in the local jail or local health jurisdiction assigned the duty for disclosing sexually transmitted disease information or other communicable disease information to the exposed jail staff member in accordance with RCW 70.24.105 (4)(b);

(4) The anticipated number of days or hours from the time:

(a) That a member of a jail staff has been possibly substantially exposed to the bodily fluids of a detained person to the time that report has been provided to the local health officer;

(b) That such a report has been received by the local health officer to the time that a determination of substantial exposure has been made and, if appropriate, the detained person is ordered to be tested for HIV;

(c) That mandated or other known HIV test results and other communicable disease information is disclosed to the exposed jail staff person, after the detained person has been ordered to be tested for HIV; and

(d) That the results of a new HIV test done as a result of the exposure is disclosed to the exposed jail staff person, after the detained person has been ordered to be tested for HIV;

(5) The title and position of the position responsible for submitting to the department of health by December 1, 1997, a report to include:

(a) The number of negative, positive and other HIV test results disclosed to department of corrections health staff or local jail health staff as required by RCW 70.24.105 (4)(a) and (b);

(b) A listing, without jail staff or detainee identifying information, of the requests for determination of substantial exposure, the determination made and the circumstances of the exposure, and the information disclosed to the exposed jail staff person from existing records, and information disclosed to the exposed jail staff person as a new HIV or other testing.

NEW SECTION

**WAC 246-136-030 Duties of local jail administrators.** Local jail administrators shall:

(1) Develop communicable disease prevention guidelines as required by chapter 70.48 RCW that are consistent with chapter 246-100 WAC, WAC 296-62-08001 and the most recent edition of *Control of Communicable Diseases in Man*;

(2) Submit those communicable disease prevention guidelines to the local health officer for review and comment;

(3) Develop and implement policies and procedures for the distribution of communicable disease prevention guidelines to all jail staff who are at risk of occupational exposure to communicable diseases; and

(4) By November 1, 1997, submit to the department of health a summary of changes in polices and procedures as a result of chapter 345, Laws of 1997.

NEW SECTION

**WAC 246-136-040 Duties of health officers.** State and local health officers shall:

(1) Comply with the provisions of RCW 70.24.105(4);

(2) Make available the sexually transmitted disease status of a department of corrections offender who has had a mandatory test conducted pursuant to RCW 70.24.340(1), 70.24.360, or 70.24.370 to the department of corrections health care administrator or infection control coordinator identified above;

(3) Make available the sexually transmitted disease status of a person detained in a jail who has had a mandatory test conducted pursuant to RCW 70.24.340(1), 70.24.360, or 70.24.370 as per the interagency agreement in WAC 246-136-020; and

(4) Submit a copy of the interagency agreement required under WAC 246-136-020 to the Department of Health, Post Office Box 47840, Olympia, WA 98504-7840 upon execution of the agreement.

## WSR 97-16-031
### EMERGENCY RULES
### DEPARTMENT OF FISH AND WILDLIFE
(Fisheries)

[Order 97-133—Filed July 29, 1997, 4:52 p.m.]

Date of Adoption: July 29, 1997.

Purpose: Commercial fishing regulations.

Citation of Existing Rules Affected by this Order: Repealing WAC 220-47-803.

Statutory Authority for Adoption: RCW 75.08.080.

Under RCW 34.05.350 the agency for good cause finds that immediate adoption, amendment, or repeal of a rule is necessary for the preservation of the public health, safety, or general welfare, and that observing the time requirements of notice and opportunity to comment upon adoption of a permanent rule would be contrary to the public interest.

Reasons for this Finding: A harvestable surplus of sockeye salmon is available, as determined by the Fraser River Salmon Management Forum. Opening in Areas 7 and 7A is consistent with management agreements among parties within this forum, and provides opportunity to harvest the nontreaty allocation of Early Stuart-origin sockeye salmon relative to preseason run size forecasts, relative to Pacific Salmon Commission update of Early Stuart run size to 1.55 million, and to a target of 1,400,000 sockeye remaining in the nontreaty allocation. All other Puget Sound areas are closed to prevent overharvest of local salmon stocks.

An emergency exists in that there is insufficient time to promulgate permanent rules before the fish have [been] removed from the fishing grounds.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

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Number of Sections Adopted on the Agency's own Initiative: New 1, amended 0, repealed 1.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 0, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 0, repealed 0.

Effective Date of Rule: Immediately.

July 29, 1997
Chris Drivdahl
for Bern Shanks
Director

NEW SECTION

**WAC 220-47-804 Puget Sound all-citizen commercial salmon fishery.** Notwithstanding the provisions of Chapter 220-47 WAC, effective immediately until further notice, it is unlawful to take, fish for, or possess salmon for commercial purposes taken from the following Puget Sound Salmon Management and Catch Reporting Areas except in accordance with the following open periods and mesh and area restrictions:

* AREAS 7 and 7A - Reef nets may fish from 5:00 a.m. to 9:00 p.m. daily, Wednesday and Thursday July 30 and 31, 1997. Gillnets using 5-inch minimum, 6-inch maximum mesh may fish from 7:10 a.m. to 11:59 p.m. Thursday July 31, 1997. Purse seines may fish from 5:00 a.m. to 9:00 p.m. Friday August 1, 1997. Purse seines may not retain chinook salmon in area 7. Atlantic salmon may be retained.

* Areas 4B, 5, 6, 6A, 6B, 6C, 6D, 7B, 7C, 7D, 7E, 8, 8A, 8D, 9, 9A, 10, 10A, 10C, 10D, 10E, 10F, 10G, 11, 11A, 12, 12A, 12B, 12C, 12D, 13, 13A, 13C, 13D, 13E, 13F, 13G, 13G, 13H, 13I, 13J, and 13K, all freshwater areas, and exclusion zones provided for in WAC 220-47-307 - Closed.

REPEALER

The following section of the Washington Administrative Code is repealed:

WAC 220-47-803

## WSR 97-16-038
### EMERGENCY RULES
### DEPARTMENT OF ECOLOGY
[Order 97-28—Filed July 30, 1997, 10:55 a.m.]

Date of Adoption: July 21, 1997.

Purpose: Readopt emergency rule revising forest practices rules definitions of Type 2 and 3 Streams to protect riparian areas and water quality upstream of fish hatchery intakes. Forest practices rule changes (WAC 222-16-030) are incorporated by reference, pursuant to WAC 173-202-020, Washington forest practices rules and regulations to protect water quality.

Citation of Existing Rules Affected by this Order: Amending WAC 173-202-020.

Statutory Authority for Adoption: RCW 90.48.420 and 76.09.040.

Under RCW 34.05.350 the agency for good cause finds that immediate adoption, amendment, or repeal of a rule is necessary for the preservation of the public health, safety, or general welfare, and that observing the time requirements of notice and opportunity to comment upon adoption of a permanent rule would be contrary to the public interest.

Reasons for this Finding: Readoption of emergency stream typing rule filed (WSR 97-05-039). Studies show many streams incorrectly typed resulting in inadequate protection of resources. Emergency rule will correct that deficiency, make specific requirements upstream of hatcheries, and provide legally required state protection. Immediate amendment of rule is necessary for general public welfare and observing notice/comment requirements as a permanent rule would be contrary to public interest. Developed by TFW policy for copromulgation by Forest Practices Board and ecology.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 0, amended 1, repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 0, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 1, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 0, repealed 0.

Effective Date of Rule: Immediately.

July 21, 1997
Tom Fitzsimmons
Director

AMENDATORY SECTION (Amending WSR 94-17-011, filed 8/8/94, effective 9/8/94)

**WAC 173-202-020 Certain WAC sections adopted by reference.** The following sections of the Washington Administrative Code existing on ((~~September 15, 1994~~)) July 16, 1997, are hereby adopted by reference as part of this chapter in all respects as though the sections were set forth herein in full:

WAC 222-08-035—Continuing review of forest practices regulations.
WAC 222-12-010—Authority.
WAC 222-12-040—Alternate plans.
WAC 222-12-045—Adaptive management.
WAC 222-12-046—Cumulative effect
WAC 222-12-070—Enforcement policy.
WAC 222-12-090—Forest practices board manual.
WAC 222-16-010—General definitions.
WAC 222-16-030—Water typing system.
WAC 222-16-035—Wetland typing system.

EMERGENCY

WAC 222-16-050 (1)(a), (1)(e), (1)(h), (1)(i), (3)(b), (3)(c), (3)(d), (3)(e), (3)(f), (3)(n), (3)(o), (3)(p), (4)(c), (4)(d), (4)(e), (5)(b), (5)(c), (5)(d), (5)(e), (5)(f), (5)(h), (5)(n)—Classes of forest practices.
WAC 222-16-070—Pesticide uses with the potential for a substantial impact on the environment.
WAC 222-22-010—Policy.
WAC 222-22-020—Watershed administrative units.
WAC 222-22-030—Qualification of watershed resource analysts, specialists, and field managers.
WAC 222-22-040—Watershed prioritization.
WAC 222-22-050—Level 1 watershed resource assessment.
WAC 222-22-060—Level 2 watershed resource assessment.
WAC 222-22-070—Prescription recommendation.
WAC 222-22-080—Approval of watershed analysis.
WAC 222-22-090—Use and review of watershed analysis.
WAC 222-22-100—Application review prior to watershed analysis.
WAC 222-24-010—Policy.
WAC 222-24-020 (2), (3), (4), (6)—Road location.
WAC 222-24-025 (2), (5), (6), (7), (8), (9), (10)—Road design.
WAC 222-24-030 (2), (4), (5), (6), (7), (8), (9)—Road construction.
WAC 222-24-035 (1), (2)(c), (2)(d), (2)(e), (2)(f)—Landing location and construction.
WAC 222-24-040 (1), (2), (3), (4)—Water crossing structures.
WAC 222-24-050—Road maintenance.
WAC 222-24-060 (1), (2), (3), (6)—Rock quarries, gravel pits, borrow pits, and spoil disposal areas.
WAC 222-30-010—Policy—Timber harvesting.
WAC 222-30-020 (2), (3), (4), (5), (7)(a), (7)(e), (7)(f), (8)(c)—Harvest unit planning and design.
WAC 222-30-025—Green-up: Even-aged harvest size and timing.
WAC 222-30-030—Stream bank integrity.
WAC 222-30-040—Shade requirements to maintain stream temperature.
WAC 222-30-050 (1), (2), (3)—Felling and bucking.
WAC 222-30-060 (1), (2), (3), (5)(c)—Cable yarding.
WAC 222-30-070 (1), (2), (3), (4), (5), (7), (8), (9)—Tractor and wheeled skidding systems.
WAC 222-30-080 (1), (2)—Landing cleanup.
WAC 222-30-100 (1)(a), (1)(c), (4), (5)—Slash disposal.
WAC 222-34-040—Site preparation and rehabilitation.
WAC 222-38-010—Policy—Forest chemicals.
WAC 222-38-020—Handling, storage, and application of pesticides.
WAC 222-38-030—Handling, storage, and application of fertilizers.
WAC 222-38-040—Handling, storage, and application of other forest chemicals.

EMERGENCY

## WSR 97-16-052
## EMERGENCY RULES
## DEPARTMENT OF SOCIAL AND HEALTH SERVICES
(Economic Services Administration)
(Public Assistance)

[Filed July 31, 1997, 4:40 p.m., effective August 1, 1997]

Date of Adoption: July 28, 1997.

Purpose: To comply with the state requirement in EHB 3901 that temporary assistance for needy families (TANF) be denied to unmarried pregnant minors who are (1) not living with an adult relative or in an appropriate adult-supervised setting as determined by the department and (2) not progressing towards completion of a high school education or equivalent. It also excludes an adult parent from receiving TANF when residing with their child and the child's other parent (unmarried minor) if the elements of child rape exist between the parents.

Citation of Existing Rules Affected by this Order: WAC 388-215-1620, 388-215-1650 and 388-215-1660; and new section WAC 388-215-1670.

Statutory Authority for Adoption: RCW 74.12.255 and 74.08.090.

Other Authority: EHB 3901, sections 501 and 503 (1997).

Under RCW 34.05.350 the agency for good cause finds that immediate adoption, amendment, or repeal of a rule is necessary for the preservation of the public health, safety, or general welfare, and that observing the time requirements of notice and opportunity to comment upon adoption of a permanent rule would be contrary to the public interest; and that state or federal law or federal rule or a federal deadline for state receipt of federal funds requires immediate adoption of a rule.

Reasons for this Finding: (a) A state-wide problem exists wherein juveniles are sexually exploited by adults in violation of child rape laws, particularly young girls by adult males which result in a large percentage of out-of-wedlock teen pregnancies. The department recognizes that current assistance unit rules encourage the continued exploitation of underage girls by adult males. (b) Under state law, EHB 3901 becomes law July 27, 1997.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 1, amended 2, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 0, amended 1, repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 0, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 0, repealed 0.

Effective Date of Rule: August 1, 1997.

July 28,199

Merry A. Kogut, Manager
Rules and Policies Assistance Unit

AMENDATORY SECTION (Amending Order 3799, filed 10/26/94, effective 11/26/94)

**WAC 388-215-1620 Assistance unit—Excluded persons ((~~excluded due to factors not related to need~~)).** The department shall exclude from the assistance unit those persons ineligible due to ((~~factors not related to~~)) program requirements other than need. Exclusions include, but are not limited to:

(1) A recipient of SSI benefits;

(2) A child who is not deprived of parental support or care as defined under WAC 388-215-1300 through 388-215-1390;

(3) An alien not meeting the citizenship and alienage requirements (see WAC 388-215-1200);

(4) Adopted children receiving Title IV-E, state or local adoption assistance if inclusion of such children and their income will result in a decrease in benefits to the assistance unit;

(5) Children who receive Title IV-E, state and local foster care maintenance payments except as provided for under WAC 388-215-1100 and 388-215-1120;

(6) A person under sanction for noncooperation with((~~:~~ ~~(a)~~)) the job opportunities and basic skills (JOBS) training (((~~JOBS~~))) program (see WAC 388-215-1520); ((~~or~~ ~~(b) The department's division of child support (see WAC 388-215-1400).~~))

(7) A child who does not live with a relative of specified degree as defined under WAC 388-215-1060 and 388-215-1080;

(8) An adult parent of a minor child who:

(a) Resides with the child and the child's other parent, who is unmarried and a minor; and

(b) Meets the age criteria for the offense of rape of a child in relation to the minor parent as set forth in RCW 9A.44.073, 9A.44.076 or 9A.44.079.

AMENDATORY SECTION (Amending WSR 97-06-076, filed 2/28/97, effective 3/31/97)

**WAC 388-215-1650 Assistance to a minor ((~~child~~)).** (1) ((~~A minor is a person seventeen years of age and younger.~~

~~(2) Under state law, (chapter 74.13 RCW, Child welfare services), the department shall protect and care for homeless, dependent, or neglected children or children in danger of becoming delinquent.~~

~~(3) If a minor applies for assistance for himself or herself, the department shall determine eligibility for AFDC as required under this chapter. If an unmarried pregnant minor is requesting an abortion, parental consent is not required. The decision to proceed with an abortion rests solely with the minor. Involvement and/or consultation with parents in reaching this decision should be a matter of individual case judgment.~~

~~(4) Prior to authorizing assistance for a minor, the department shall determine the parent's ability to financially support and willingness to contribute. See WAC 388-506-0610 (1) and (2) for responsibility for medical care. Parental contact is not required when the minor applicant~~)) Minors may apply for TANF from the department.

(2) The department will inform a minor applicant that it will contact the minor's parent or guardian to ask whether they are willing to contribute to the support of the minor before authorizing assistance, unless the minor:

(a) Is married; or

(b) ((~~Is~~)) In the military ((~~service~~)); or

(c) ((~~Has been declared~~)) Is emancipated by a court ((~~of competent jurisdiction prior to the application for assistance~~)); or

(d) Is applying for medical assistance related to pregnancy.

(((~~(5) The minor's emancipation status is not an eligibility factor. The identification of emancipation status is necessary to determine if there is parental responsibility for support.~~

~~(6) The department shall inform the minor applicant that there will be communication with the minor's parents during the eligibility determination process in order to determine the parents' willingness to contribute to the support of the minor.~~

~~(7) If a minor parent and his or her child live with such minor's parent or parents, the department shall establish the assistance unit of the minor according to WAC 388-215-1600 through 388-215-1610. If the minor parent's parent is not included in the assistance unit of the minor parent, the department shall consider the income of such parent available to meet the needs of the minor parent as specified under WAC 388-218-1660 and 388-218-1680.~~

~~(8) If a minor parent's~~)) (3) When the legal guardian has a court-ordered responsibility ((~~for the~~)) to support ((~~of such~~)) a minor parent, the department ((~~shall treat such legal~~)) will use the guardian's income((~~, with respect to determining the availability of such income to meet the needs of the minor parent, the same as the income of a minor parent's parent as specified in subsection (7) of this section.~~

~~(9) The department shall require an unmarried minor parent who has not completed a high school education (or its equivalent), and whose youngest child is at least twelve weeks old, to participate in educational activities leading to the attainment of a high school diploma or its equivalent, or participate in an alternative educational or training program that has been approved by the department. The following conditions apply:~~

~~(a) "Participate" means maintaining satisfactory attendance as required by the school or program in which the minor parent is enrolled.~~

~~(b) No TANF benefits will be issued for a minor parent who is not participating as required above. The eligibility of the minor parent's child is not affected by this rule.~~

~~(c) The income of a minor parent who is disqualified under this section shall be allocated under WAC 388-218-1640 as if the minor parent were ineligible due to sanction or noncooperation~~)) to figure the amount of the grant according to WAC 388-218-1670.

AMENDATORY SECTION (Amending WSR 97-09-029, filed 4/10/97, effective 5/11/97)

**WAC 388-215-1660 Unmarried ((~~minor parents~~)) pregnant or parenting teens under age eighteen—Required ((~~to live with adult relative or legal guardian~~)) living arrangement.** (1) ((~~The department shall deny~~)) To be eligible for cash assistance ((~~to~~)), an unmarried ((~~minor parent, by excluding the needs of that individual in determin-~~



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~~ing the need and payment amount of the assistance unit, if that individual and that individual's child do not reside in one of the living situations described in subsection (2) of this section~~)) pregnant or parenting teen under age eighteen and the teen parent's child must:

(a) Live in a home approved by the department; and

(b) Have a protective payee as required by WAC 388-265-1275.

(2) ((~~An unmarried minor parent and the minor parent's child must live in either:~~

~~(a)~~)) The department will approve the home of a parent, legal guardian, or other adult relative ((~~of the minor parent; or~~

~~(b)~~)) , as defined under RCW 74.15.020(4), of the pregnant or parenting teen, unless:

(a) The pregnant or parenting teen has no living parent, legal guardian, or other adult relative that can be located, or if the parent, legal guardian, or other adult relative does not meet applicable sate criteria to act as the individual's legal guardian or otherwise does not want the pregnant or parenting teen to reside with them; or

(b) The pregnant or parenting teen or teen parent's child is being or has been subjected to serious physical, emotional or sexual harm, abuse or exploitation in the home of the parent, legal guardian, or other adult relative; or

(c) Substantial evidence exists of an act or failure to act by the parent, legal guarding, or other adult relative that presents an imminent or serious harm to the pregnant or parenting teen or teen parent's child if they resided there; or

(d) The department determines that it is in the best interest of the teen parent's child or the pregnant teen to waive the requirement of living in the home of a parent, legal guardian, or other adult relative.

(3) If the home of a parent, legal guardian, or other adult relative is not available or suitable, the department will approve:

(a) A facility or home licensed under ((~~RCW~~)) chapter 74.15 RCW that provides a supportive and supervised living arrangement requiring residents to learn parenting skills((~~,~~)); or

(b) A maternity home((~~,~~)); or

(c) Other ((~~appropriate~~)) adult-supervised living arrangement((~~,~~)); or

(d) The client's current or proposed living arrangement if the department determines it is appropriate((~~, if:~~

~~(i) The minor parent has no living parent, legal guardian, or other adult relative that can be located, or if the parent, legal guardian, or other adult relative does not meet applicable state criteria to act as the individual's legal guardian or otherwise does not want the minor parent to reside with them; or~~

~~(ii) The minor parent or minor parent's child is being or has been subjected to serious physical, emotional or sexual harm, abuse or exploitation in the home of the parent, legal guardian, or other adult relative; or~~

~~(iii) Substantial evidence exists of an act or failure to act by the parent, legal guardian, or other adult relative that presents an imminent or serious harm to the minor parent or minor parent's child if they resided there; or~~

~~(iv) The department determines that it is in the best interest of the minor child to waive the requirement in subsection (2)(a) of this section.~~

~~(3) For the purposes of this section, an unmarried minor parent's living arrangement is not appropriate if, at the time of the minor parent's eligibility determination, the other natural parent of the minor parent's child:~~

~~(a) Resides in the home;~~

~~(b) Is at least eighteen years of age; and~~

~~(c) The minor parent and the adult parent meet the age criteria for the offenses of rape of a child in the first, second or third degree as set forth in RCW 9A.44.073, 9A.44.076 and 9A.44.079.~~

~~(4) The income of a minor parent who is denied benefits under this section shall be allocated under WAC 388-218-1640 as if the minor parent were ineligible due to sanction or noncooperation~~)).

(4) The department will never approve a home that includes the other natural parent of the teen's child or unborn when:

(a) The unmarried pregnant or parenting teen is under age sixteen; and

(b) The other parent is eighteen or older and meets the age criteria for the offenses of rape of a child in the first, second, or third degree as set forth in RCW 9A.44.073, 9A.44.076 and 9A.44.079.

(5) If an unmarried pregnant or parenting teen is disqualified because of this rule:

(a) No child in the assistance unit will be disqualified; and

(b) If the teen parent has income, the department will use it to figure the amount of the child's grant according to WAC 388-218-1640.

**Reviser's note:** The typographical error in the above section occurred in the copy filed by the agency and appears in the Register pursuant to the requirements of RCW 34.08.040.

NEW SECTION

**WAC 388-215-1670 Unmarried pregnant or parenting teens under age eighteen—Required school attendance.** (1) In order to receive assistance, an unmarried pregnant or parenting teen under age eighteen who has not completed a high school education or General Equivalency Diploma (GED) must participate in educational activities leading to the attainment of a high school diploma or GED.

(2) A teen parent with a child under twelve weeks old is exempt from this rule.

(3) The school or program in which the unmarried pregnant or parenting teen is enrolled will set standards for satisfactory attendance that the teen has to meet.

(4) If an unmarried pregnant or parenting teen is disqualified because of this rule:

(a) No one else in the assistance unit is disqualified; and

(b) If the teen parent has income, the department will use it to figure the amount of the child's grant according to WAC 388-218-1640.

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## WSR 97-16-053
EMERGENCY RULES
DEPARTMENT OF
SOCIAL AND HEALTH SERVICES
(Public Assistance)
[Filed July 31, 1997, 4:45 p.m., effective August 1, 1997]

Date of Adoption: July 31, 1997.

Purpose: To implement portions of federal and state legislation concerning welfare reform, implementation of TANF, and immigration reform as it impacts eligibility for medical programs.

Citation of Existing Rules Affected by this Order: Amending WAC 388-500-0005, 388-503-0310, 388-505-0520, 388-507-0740, 388-510-1020, and 388-523-2305.

Statutory Authority for Adoption: RCW 74.04.050, 74.04.057, 74.08.090, 74.09.530, and ESB 6098 (1997).

Other Authority: Public Law 104-193, EHB 3901 (1997).

Under RCW 34.05.350 the agency for good cause finds that state or federal law or federal rule or a federal deadline for state receipt of federal funds requires immediate adoption of a rule.

Reasons for this Finding: The department is required to change rules by August 1, 1997, to implement, and comply with, state and federal welfare reform legislation.

Number of Sections Adopted in Order to Comply with Federal Statute: New 1, amended 6, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 1, amended 6, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 0, amended 0, repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 0, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 0, repealed 0.

Effective Date of Rule: August 1, 1997.

July 31, 1997
Merry A. Kogut, Manager
Rules and Policies Assistance Unit

**Reviser's note:** The material contained in this filing exceeded the page-count limitations of WAC 1-21-040 for appearance in this issue of the Register. It will appear in the 97-17 issue of the Register.

## WSR 97-16-055
EMERGENCY RULES
DEPARTMENT OF
SOCIAL AND HEALTH SERVICES
(Public Assistance)
[Filed July 31, 1997, 4:51 p.m., effective August 1, 1997]

Date of Adoption: July 31, 1997.

Purpose: This is a new rule which applies to legal immigrants who enter the United States on or after August 22, 1997. It prohibits certain legal immigrant families from receiving assistance under the temporary assistance to needy families (TANF) program until an adult in the assistance unit has resided in Washington state for twelve consecutive months.

Statutory Authority for Adoption: RCW 74.04.050.

Other Authority: ESB 6098 (1997), chapter 57, Laws of 1997.

Under RCW 34.05.350 the agency for good cause finds that state or federal law or federal rule or a federal deadline for state receipt of federal funds requires immediate adoption of a rule.

Reasons for this Finding: This rule is mandated by ESB 6098, which was signed into law by Governor Locke in April 1997. As a condition of eligibility for the TANF program, the department is required to impose a 12-month Washington state residency requirement on certain legal immigrants who enter the United States on or after August 22, 1997.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 1, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 0, amended 0, repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 0, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 0, repealed 0.

Effective Date of Rule: August 1, 1997.

July 31, 1997
Merry A. Kogut, Manager
Rules and Policies Assistance Unit

NEW SECTION

**WAC 388-215-1210 Special residency requirement for aliens.** (1) An alien who physically enters the United States after August 21, 1996, and is otherwise eligible, may receive TANF only after an adult caretaker relative or legal guardian in the assistance unit has resided in Washington state for twelve consecutive months. This twelve-month residency requirement does not apply to:

(a) A refugee who entered the United States under section 207 of the Immigration and Nationality Act;

(b) An alien granted asylum under section 208 of the Immigration and Nationality Act;

(c) An alien whose deportation is being withheld under section 243(h) of the Immigration and Nationality Act;

(d) An alien who is on active military duty in the Armed Forces of the United States, the alien's spouse or unmarried dependent children; and

(e) An alien who is an honorably discharged veteran of the Armed Forces of the United States, the alien's spouse or unmarried children.

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(2) The twelve-month residency requirement specified in subsection (1) only applies to an alien once during his or her lifetime.

## WSR 97-16-056
EMERGENCY RULES
## DEPARTMENT OF SOCIAL AND HEALTH SERVICES
(Public Assistance)
[Filed July 31, 1997, 4:55 p.m., effective August 1, 1997]

Date of Adoption: July 31, 1997.

Purpose: Federal regulations at 45 CFR 400.61 and 400.102 require that consideration of income and resources for the refugee cash assistance (RCA) and refugee medical assistance (RMA) programs be based on aid to families with dependent children (AFDC) regulations at 45 CFR 233.20 (a)(3) through (11). Under federal welfare reform, AFDC was replaced by the temporary assistance for needy families (TANF) program. States may establish TANF income and resource rules that are more liberal than those which were required under federal AFDC rules. The department's RCA and RMA income and resource rules are tied to its TANF (formally AFDC) rules by reference with exceptions noted to ensure compliance with federal regulations. Effective August 1, 1997, the department is changing income and resource rules for Washington's TANF program in response to state welfare reform legislation EHB 3901 (1997). Because the new TANF rules create income and resource exemptions which exceed those allowed under federal AFDC rules, this issuance is necessary to ensure that the department's RCA/RMA income and resource rules continue to conform to federal AFDC rules as required by federal regulation.

Citation of Existing Rules Affected by this Order: Amending WAC 388-55-030 Refugee assistance—Treatment of income and resources.

Statutory Authority for Adoption: RCW 74.04.050; EHB 3901 (1997).

Other Authority: RCW 74.08.090, 45 CFR 400.61, 45 CFR 400.102, and 45 CFR 233.20 (a)(3) through (11).

Under RCW 34.05.350 the agency for good cause finds that state or federal law or federal rule or a federal deadline for state receipt of federal funds requires immediate adoption of a rule.

Reasons for this Finding: Effective August 1, 1997, the department is changing the income and resource rules to comply with state welfare reform legislation under EHB 3901. According to federal rules, however, RCA/RMA income and resource rules cannot exceed those of the AFDC program in effect prior to passage of welfare reform legislation. This rule is needed to keep the RCA/RMA program rules in compliance with federal regulation.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 1, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 0, amended 0, repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 0, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 0, repealed 0.

Effective Date of Rule: August 1, 1997.

July 31, 1997
Merry A. Kogut, Manager
Rules and Policies Assistance Unit

AMENDATORY SECTION (Amending Order 3944, filed 2/9/96, effective 3/11/96)

**WAC 388-55-030 Treatment of income and resources.** (1) The ((~~department shall treat the~~)) income and resources of ((~~an applicant or recipient of~~)) RCA/RMA ((~~in accordance with provisions~~)) clients shall be treated according to the rules in chapters 388-216 WAC((~~, AFDC resources,~~)) and ((~~chapter~~)) 388-218 WAC, ((~~AFDC income~~)) except that RCA/RMA clients do not qualify for:

(a) The fifty percent gross earned income disregard allowed under WAC 388-218-1440. Instead, the first ninety dollars of an RCA/RMA client's monthly gross earned income shall be disregarded;

(b) The three thousand dollar savings account exemption allowed to recipients under WAC 388-216-2650;

(c) The exemption for a motor vehicle used to transport a physically disabled household member under WAC 388-216-2500; and

(d) The five thousand dollar vehicle equity value exemption under WAC 388-216-2650. Instead, the equity value exemption for a used and useful vehicle owned by an RCA/RMA client is one thousand five hundred dollars.

(2) ((~~With the exception of the thirty dollar and one-third earned income disregard, adult refugee recipients shall be eligible for earned income exemptions as specified in WAC 388-218-1420, regardless of assistance unit composition.~~

~~(3)~~)) The department shall not consider resources which are unavailable, including property remaining in other countries, in determining eligibility for RCA/RMA.

((~~(4)~~)) (3) The income of a refugee dependent child shall be treated as specified in WAC 388-218-1410.

## WSR 97-16-057
EMERGENCY RULES
## DEPARTMENT OF FISH AND WILDLIFE
(Fisheries)
[Order 97-135—Filed July 31, 1997, 4:58 p.m., effective August 2, 1997, 12:01 a.m.]

Date of Adoption: July 31, 1997.

Purpose: Personal use rules.

Citation of Existing Rules Affected by this Order: Repealing WAC 220-56-25500F; and amending WAC 220-56-255.

Statutory Authority for Adoption: RCW 75.08.080.

Under RCW 34.05.350 the agency for good cause finds that immediate adoption, amendment, or repeal of a rule is necessary for the preservation of the public health, safety, or general welfare, and that observing the time requirements of notice and opportunity to comment upon adoption of a permanent rule would be contrary to the public interest.

Reasons for this Finding: The 1997 quota established by the International Pacific Halibut Commission and the Pacific Fisheries Management Council, for Catch Record Card Areas 2, 3 and that portion of Catch Record Card Area 4 west of the Bonilla-Tatoosh Line, will have been taken. There is insufficient time to promulgate permanent rules.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 1, amended 0, repealed 1.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 0, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 0, repealed 0.

Effective Date of Rule: August 2, 1997, 12:01 a.m.

July 31, 1997
Chris Drivdahl
for Bern Shanks
Director

NEW SECTION

**WAC 220-56-25500G Halibut—Season.** Notwithstanding the provisions of WAC 220-56-255, effective 12:01 a.m. August 2, 1997, until further notice:

(1) It is unlawful to fish for or possess halibut taken for personal use from Catch Record Card Area 2, and it is unlawful to land halibut taken for personal use from any open area into Catch Record Card Area 2.

(2) It is unlawful to fish for halibut taken for personal use from Catch Record Card Area 3 and that portion of Catch Record Card Area 4 west of the Bonilla-Tatoosh line.

REPEALER

The following section of the Washington Administrative Code is repealed effective 12:01 a.m. August 2, 1997:

WAC 220-56-25500F Halibut seasons. (97-82)

## WSR 97-16-058
EMERGENCY RULES
## DEPARTMENT OF FISH AND WILDLIFE
(Fisheries)
[Order 97-137—Filed July 31, 1997, 4:59 p.m.]

Date of Adoption: July 31, 1997.

Purpose: Commercial fishing regulation.

Citation of Existing Rules Affected by this Order: Amending WAC 220-36-021, 220-40-021, and 220-40-027.

Statutory Authority for Adoption: RCW 75.08.080.

Under RCW 34.05.350 the agency for good cause finds that immediate adoption, amendment, or repeal of a rule is necessary for the preservation of the public health, safety, or general welfare, and that observing the time requirements of notice and opportunity to comment upon adoption of a permanent rule would be contrary to the public interest.

Reasons for this Finding: Harvestable numbers of salmon exist. Permanent rule filing process is underway for later fishing but cannot be promulgated in time for this fishery.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 3, amended 0, repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 0, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 0, repealed 0.

Effective Date of Rule: Immediately.

July 31, 1997
Chris Drivdahl
for Bern Shanks
Director

NEW SECTION

**WAC 220-36-02100M Salmon—Grays Harbor—Summer fishery.** Notwithstanding the provisions of WAC 220-36-02, effective immediately through August 15 1997, it is unlawful to fish for salmon in Grays Harbor for commercial purposes or to possess salmon taken from those waters for commercial purposes.

**Reviser's note:** The typographical errors in the above section occurred in the copy filed by the agency and appear in the Register pursuant to the requirements of RCW 34.08.040.

NEW SECTION

**WAC 220-40-02100V Willapa Bay salmon—Summer fishery.** Notwithstanding the provisions of WAC 220-40-021, effective immediately through August 15 1997, it is unlawful to fish for salmon in Willapa Bay for commercial

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purposes or to possess salmon taken from those waters for commercial purposes.

**Reviser's note:** The typographical error in the above section occurred in the copy filed by the agency and appears in the Register pursuant to the requirements of RCW 34.08.040.

NEW SECTION

**WAC 220-40-02700P Salmon—Willapa Bay fall fishery.** Notwithstanding the provisions of WAC 220-40-027, the following provisions apply:

**Fishing period**

(1) Gill net gear may be used for salmon from: 6:00 p.m. August 18 to 6:00 p.m. August 19, 6:00 p.m. August 21 to 6:00 p.m. August 22, 6:00 p.m. August 27 to 6:00 p.m. August 28, 6:00 p.m. September 2 to 6:00 p.m. September 4, and 6:00 p.m. September 8 to 6:00 p.m. September 10, 1997, in SMCRA 2M, that portion of SMCRA 2G east of a line drawn true north-south through Willapa Channel Entrance Buoy 12, that portion of SMCRA 2H west of Willapa Channel Marker 35, and that portion of SMCRA 2J north of an east-west line through the north entrance marker to the Nahcotta boat basin (red flasher no. 2).

**Gear**

(2) Gill net gear shall be used as provided in WAC 220-40-051 except that before 6:00 p.m. September 17, there is no maximum mesh size limit.

EMERGENCY

## WSR 97-16-067
## EMERGENCY RULES
## DEPARTMENT OF FISH AND WILDLIFE
(Fisheries)

[Order 97-138—Filed August 1, 1997, 4:33 p.m., effective August 3, 1997, 12:01 a.m.]

Date of Adoption: August 1, 1997.

Purpose: Personal use rules.

Citation of Existing Rules Affected by this Order: Repealing WAC 220-56-19000K; and amending WAC 220-56-190.

Statutory Authority for Adoption: RCW 75.08.080.

Under RCW 34.05.350 the agency for good cause finds that immediate adoption, amendment, or repeal of a rule is necessary for the preservation of the public health, safety, or general welfare, and that observing the time requirements of notice and opportunity to comment upon adoption of a permanent rule would be contrary to the public interest.

Reasons for this Finding: The harvestable quota of 800 coho salmon will have been taken in Catch Record Card Area 3. There is insufficient time to promulgate permanent rules.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 1, amended 0, repealed 1.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 0, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 0, repealed 0.

Effective Date of Rule: August 3, 1997, 12:01 a.m.

August 1, 1997
Chris Drivdahl
for Bern Shanks
Director

NEW SECTION

**WAC 220-56-19000L Coastal salmon—Seasons and limits.** Notwithstanding the provisions of WAC 220-56-190, effective 12:01 a.m., August 3, 1997, until further notice it is unlawful to fish for or possess salmon taken for personal use from Catch Record Card Areas 1 through 4 except as provided for in this section:

(1) Area 1 - Special daily limit of 2 salmon, special cumulative limit of 4 salmon in any seven consecutive days - Sundays through Thursdays only, July 21 through September 25, except closed 0-3 miles offshore and closed in the Columbia River Mouth Control Zone 1.

(2) Area 2 - Special daily limit of 2 salmon of which only one may be chinook. Special cumulative limit of 4 salmon in any seven consecutive days - Sundays through Thursdays only, July 21 through September 25, except closed 0-3 miles offshore.

(3) Area 2.1 - Special daily limit of 6 salmon, not more than 3 of which may be adult salmon as defined in WAC 220-56-190 - August 16 until further notice.

(4) Area 2.2 - The Westport Boat Basin fishery as provided for in WAC 220-56-190 is unchanged. Waters east of the Channel Marker 13 line -Daily limit A except release coho salmon - September 1 through September 30.

(5) Area 3 - Closed until further notice.

(6) Area 4 - Effective 12:01 a.m. August 1, 1997 through 11:59 p.m. August 29, 1997, in those waters east of the Bonilla-Tatoosh line special daily limit of 2 salmon, except chinook salmon and coho salmon must be released.

(7) Area 4 - Effective 12:01 a.m. August 30, 1997 through 11:59 p.m. August 31, 1997, in those waters of Catch Record Card Area 4 east of the Bonilla-Tatoosh line special daily limit of 2 salmon, except chinook salmon must be released.

(8) Size limits - Chinook salmon minimum size 24 inches in length. Coho salmon minimum size 16 inches in length.

REPEALER

The following section of the Washington Administrative Code is repealed effective 12:01 a.m., August 3, 1997:

| | |
|---|---|
| WAC 220-56-19000K | Coastal salmon—Seasons and limits. (97-129) |

## WSR 97-16-068
EMERGENCY RULES
DEPARTMENT OF
FISH AND WILDLIFE
(Fisheries)
[Order 97-136—Filed August 1, 1997, 4:35 p.m.]

Date of Adoption: August 1, 1997.

Purpose: Commercial fishing regulations.

Citation of Existing Rules Affected by this Order: Repealing WAC 220-47-804.

Statutory Authority for Adoption: RCW 75.08.080.

Under RCW 34.05.350 the agency for good cause finds that immediate adoption, amendment, or repeal of a rule is necessary for the preservation of the public health, safety, or general welfare, and that observing the time requirements of notice and opportunity to comment upon adoption of a permanent rule would be contrary to the public interest.

Reasons for this Finding: A harvestable surplus of sockeye salmon is available, as determined by the Fraser River Salmon Management forum. Opening in Areas 7 and 7A is consistent with management agreements among parties within this forum, and provides opportunity to harvest the nontreaty allocation of Early Stuart-origin sockeye salmon relative to preseason run size forecasts, relative to Pacific Salmon Commission update of Early Stuart run size to 1.55 million, and to a target of over 1,400,000 sockeye remaining in the nontreaty allocation. All other Puget Sound areas are closed to prevent overharvest of local salmon stocks.

Atlantic salmon have recently escaped from commercial net pen operations in the Puget Sound region, and removal of this nonnative species is required to eliminate any possibility of adverse impacts on indigenous fishes.

An emergency exists in that there is insufficient time to promulgate permanent rules before the fish have [been] moved from the fishing grounds.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 1, amended 0, repealed 1.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 0, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 0, repealed 0.

Effective Date of Rule: Immediately.

August 1, 1997
Chris Drivdahl
for Bern Shanks
Director

NEW SECTION

**WAC 220-47-805 Puget Sound all-citizen commercial salmon fishery.** Notwithstanding the provisions of Chapter 220-47 WAC, effective immediately until further notice, it is unlawful to take, fish for, or possess salmon for commercial purposes taken from the following Puget Sound Salmon Management and Catch Reporting Areas except in accordance with the following open periods and mesh and area restrictions:

* AREAS **7 and 7A** - Reef nets may fish from 5:00 a.m. to 9:00 p.m. daily, Saturday, August 2, 1997 through Wednesday, August 6, 1997. Gillnets using 5-inch minimum, 6-inch maximum mesh may fish from 7:10 a.m. to 11:59 p.m. daily, Monday, August 4, 1997 through Tuesday, August 5, 1997. Purse seines may fish from 5:00 a.m. to 9:00 p.m. daily, Saturday, August 2, 1997 through Sunday, August 3, 1997. Purse seines may not retain chinook salmon in area 7. Atlantic salmon may be retained during openings listed in this section.

* Areas 4B, 5, 6, 6A, 6B, 6C, 6D, 7B, 7C, 7D, 7E, 8, 8A, 8D, 9, 9A, 10, 10A, 10C, 10D, 10E, 10F, 10G, 11, 11A, 12, 12A, 12B, 12C, 12D, 13, 13A, 13C, 13D, 13E, 13F, 13G, 13H, 13I, 13J, and 13K, all freshwater areas, and exclusion zones provided for in WAC 220-47-307 - Closed.

REPEALER

The following section of the Washington Administrative Code is repealed:

| | |
|---|---|
| WAC 220-47-804 | Puget Sound all-citizen commercial salmon fishery. (97-133) |

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## WSR 97-16-069
EMERGENCY RULES
DEPARTMENT OF
FISH AND WILDLIFE
(Fisheries)
[Order 97-134—Filed August 1, 1997, 4:36 p.m.]

Date of Adoption: August 1, 1997.

Purpose: Commercial fishing regulations.

Citation of Existing Rules Affected by this Order: Repealing WAC 220-52-07100D; and amending WAC 220-52-071.

Statutory Authority for Adoption: RCW 75.08.080.

Under RCW 34.05.350 the agency for good cause finds that immediate adoption, amendment, or repeal of a rule is necessary for the preservation of the public health, safety, or general welfare, and that observing the time requirements of notice and opportunity to comment upon adoption of a permanent rule would be contrary to the public interest.

Reasons for this Finding: This rule allows for a two-day harvest of sea cucumbers in Sea Cucumber District 1. More than a two-day harvest risks overfishing of the harvest share, and there is insufficient time to promulgate permanent rules.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 1, amended 0, repealed 1.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 0, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 0, repealed 0.

Effective Date of Rule: Immediately.

August 1, 1997
Chris Drivdahl
for Bern Shanks
Director

NEW SECTION

**WAC 220-52-07100E Sea cucumbers.** Notwithstanding the provisions of WAC 220-52-071, effective immediately until further notice, it is unlawful for non-treaty sea cucumber harvesters to take or possess sea cucumbers taken for commercial purposes except as provided for in this section:

(1) Sea cucumber harvest using shellfish diver gear is allowed in Sea Cucumber District 1 (Marine Fish-Shellfish Management and Catch Reporting Areas 20A, 20B, 21A, 21B, 22A, 22B, and 23B), Monday and Tuesday, August 4 and 5, 1997 from 6:00 a.m. to one-half hour before official sunset of each day, except for those waters permanently closed under WAC 220-51-071.

REPEALER

The following section of the Washington Administrative Code is repealed:

WAC 220-52-07100D Sea cucumbers. (97-131)

EMERGENCY

## WSR 97-16-070
### EMERGENCY RULES
### DEPARTMENT OF LABOR AND INDUSTRIES
[Filed August 1, 1997, 4:37 p.m.]

Date of Adoption: August 1, 1997.

Purpose: In order to protect the residents of Washington state and to further the conservation of electricity, a reduced inspection fee is established for the inspection of residential water heater load control devices installed as part of an energy conservation program.

Citation of Existing Rules Affected by this Order: Amending WAC 296-46-910 Inspection fees.

Statutory Authority for Adoption: RCW 19.28.060.

Under RCW 34.05.350 the agency for good cause finds that immediate adoption, amendment, or repeal of a rule is necessary for the preservation of the public health, safety, or general welfare, and that observing the time requirements of notice and opportunity to comment upon adoption of a permanent rule would be contrary to the public interest.

Reasons for this Finding: The safety of Washington residents is jeopardized due to hazardous wiring conditions on existing circuits which will be modified as part of an electrical energy conservation program. The permit fee will allow program sponsors to upgrade existing substandard wiring to meet current safety code requirements and further the conservation of electrical energy.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 0, amended 0, repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 0, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 0, repealed 0.

Effective Date of Rule: Immediately.

August 1, 1997
Gary Moore
Director

AMENDATORY SECTION (Amending WSR 97-12-016, filed 5/28/97, effective 6/30/97)

**WAC 296-46-910 Inspection fees.** To calculate the inspection fees, the amperage is based on the conductor ampacity or the overcurrent device rating.

(1) RESIDENTIAL

(a) Single and two family residential (new construction)

(i) First 1300 sq. ft. or less . . . . . $62

Each additional 500 sq. ft. or portion of . . . . . $20

(ii) Each outbuilding or detached garage inspected with the service . . . . . $26

(iii) Each outbuilding or detached garage inspected separately . . . . . $41

(b) Multifamily residential (new construction)

Each service and or feeder

| Service Ampacity | Service | Feeder |
|---|---|---|
| 0 to 200 | 67 | $ 20 |
| 201 to 400 | 83 | 41 |
| 401 to 600 | 114 | 57 |
| 601 to 800 | 146 | 78 |
| 801 and over | 208 | 156 |

(c) Single family or multifamily altered services including circuits

(i)

| Service Ampacity | Service or Feeder |
|---|---|
| 0 to 200 | $ 57 |
| 201 to 600 | 83 |
| over 600 | 125 |

(ii) Maintenance or repair of meter or mast (no alterations to service or feeder) ..... $31

(d) Single or multi-family residential circuits only (no service inspection)

(i) 1 to 4 circuits (see note) ..... $41

Except: Water heater load control devices installed in residences as part of an energy conservation program ..... $25
The $25 permit fee for water heater load control devices will expire on December 31, 2001.

(ii) Each additional circuit ..... 5

Note: Total fee per panel not to exceed (c)(i) of this subsection Service/Feeder

(e) Mobile homes; mobile home parks; and RV parks

(i) Mobile home service or feeder only ..... $41
(ii) Mobile home service and feeder ..... 67
(iii) Mobile home park sites and RV park sites
(A) First service or feeder ..... 41
(B) Each additional service; or a feeder inspected at same time as service ..... 26

Note: For master service installations, see subsection (2).

(2) COMMERCIAL/INDUSTRIAL

(a) Service/feeder; and feeders inspected at the same time as service (circuits included)

(i)

| Service/ Feeder Ampacity | Service/ Feeder | Additional Feeder inspected at the same time |
|---|---|---|
| 0 to 100 | $ 67 | $ 41 |
| 101 to 200 | 83 | 52 |
| 201 to 400 | 156 | 62 |
| 401 to 600 | 182 | 73 |
| 601 to 800 | 235 | 99 |
| 801 to 1000 | 287 | 120 |
| Over 1000 | 313 | 167 |

(ii) Over 600 volts surcharge ..... $52

(b) Altered services or feeders (no circuits)

(i)

| Service Ampacity | Service/ Feeder |
|---|---|
| 0 to 200 | $ 67 |
| 201 to 600 | 156 |
| 601 to 1000 | 235 |
| Over 1000 | 261 |

(ii) Over 600 volts surcharge ..... $52
(iii) Maintenance or repair of meter or mast (no alteration of service equipment) ..... 57

(c) Circuits only

(i) First five circuits per branch circuit panel ..... $52
(ii) Each additional circuit per branch circuit panel ..... 5

Note: Total fee per panel not to exceed (a)(i) of this subsection service/feeder

(3) TEMPORARY SERVICES

(a) Residential ..... $36

(b) Commercial/industrial

| Service or Feeder Ampacity | |
|---|---|
| 0 to 100 | $41 |
| 101 to 200 | 52 |
| 201 to 400 | 62 |
| 401 to 600 | 83 |
| Over 600 | 94 |

Each additional feeder inspected at the same time as service or first feeder add 50% of the fee above.

(4) IRRIGATION MACHINES, PUMPS AND EQUIPMENT
Irrigation machines
(a) Each tower when inspected at same time as service and feeder ..... $5
(b) When not inspected at same time as service and feeders - first 6 ..... 62
Each additional tower per (a) of this subsection ..... 5

(5) MISCELLANEOUS - commercial/industrial and residential

(a) Thermostats
(i) First thermostat ..... $31
(ii) Each additional thermostat inspected at the same time as first thermostat ..... 10

Note: Thermostat is defined as:

(A) A device that interrupts electrical current while performing its function of controlling building, zonal, or room environmental air temperature; or
(B) In the case of environmental air temperature control by the use of sensors which do not interrupt current but rather transmit data to a zonal or central processing unit, "Thermostat" shall be considered to be the circuit extending from the central processing unit to the local controller. At times this local unit could control several zones or rooms individually or in concert.

(b) Low voltage fire alarm and burglar alarm
(i) First 2500 sq. ft. or less. Includes nurse call intercom, security systems and similar low energy circuits and equipment ..... $36
(ii) Each additional 500 sq. ft. or portion thereof ..... 10

Exception: Low voltage fire alarm and burglar alarm for commercial and industrial
Each control panel and up to four circuits or zones ..... $29

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Each additional circuit or zone ..... 7

(c) Signs and outline lighting
(i) First sign (no service) ..... $31
(ii) Each additional sign inspected at the same time on the same bldg. or structure ..... 15

(d) Berth at a marina or dock ..... $41
Each additional berth inspected at the same time ..... 26

(e) Yard pole meter loops only ..... $41
Meters installed remote from service equipment: Inspected at same time as service, temporary service or other installations ..... 10

(f) Emergency inspections requested outside normal work hours. Regular fee plus surcharge of ..... $78

(g) Generators, refer to appropriate service/ feeder section

(h) Annual permit fee for plant location employing regular electrical maintenance staff - Each inspection two hour maximum.

| | Fee | Inspections |
|---|---|---|
| 1 to 3 plant electricians | $1,493 | 12 |
| 4 to 6 plant electricians | 2,987 | 24 |
| 7 to12 plant electricians | 4,480 | 36 |
| 13 to25 plant electricians | 5,974 | 52 |
| more than 25 plant electricians | 7,468 | 52 |

(i) Carnival inspections
(i) First field inspection each year
(A) Each ride and generator truck ..... $15
(B) Each remote distribution equipment, concession or gaming show ..... 5
(C) Minimum fee ..... 78

(ii) Subsequent inspections
(A) First 10 rides, concessions, generators, remote distribution equipment or gaming show ..... $78
(B) Each additional ride, concession, generator, remote distribution equipment or gaming show ..... 5

(j) Trip fees
(i) Requests to inspect existing installations ..... $62
(ii) Submitter notifies the department that work is ready for inspection when it is not ..... 31
(iii) Additional inspection required because submitter has provided wrong address ..... 31
(iv) More than one additional inspection required to inspect corrections; or for repeated neglect, carelessness, or improperly installed electrical work ..... 31
(v) Each trip necessary to remove a noncompliance notice ..... 31
(vi) Corrections have not been made in the prescribed time, unless an exception has been requested and granted ..... 31
(vii) Installations that are covered or concealed before inspection. ..... 31

(k) Progress inspections
On partial or progress inspections, each one-half hour ..... $31

(l) Plan review fee
(i) Fee is thirty-five percent of the electrical work permit fee as determined by WAC 296-46-495, plus a plan submission fee of ..... $52
(ii) Supplemental submissions of plans per hour or fraction of an hour ..... $62

(m) Other inspections
Inspections not covered by above inspection fees shall be charged portal to portal per hour ..... $62

## WSR 97-16-075
### EMERGENCY RULES
## DEPARTMENT OF FISH AND WILDLIFE
(Fisheries)

[Order 97-139—Filed August 4, 1997, 4:55 p.m., effective August 4, 1997, 9:00 p.m.]

Date of Adoption: August 1, 1997.

Purpose: Commercial fishing regulations.

Citation of Existing Rules Affected by this Order: Repealing WAC 220-33-01000P; and amending WAC 220-33-010.

Statutory Authority for Adoption: RCW 75.08.080.

Under RCW 34.05.350 the agency for good cause finds that immediate adoption, amendment, or repeal of a rule is necessary for the preservation of the public health, safety, or general welfare, and that observing the time requirements of notice and opportunity to comment upon adoption of a permanent rule would be contrary to the public interest.

Reasons for this Finding: Harvestable numbers of sturgeon are available. This season is consistent with actions of the August 1, 1997, Columbia River Compact Hearing, and will allow a directed sturgeon fishery while providing protection for salmon. There is insufficient time to promulgate permanent rules in order to access the commercial sturgeon allocation and maximize economic benefits.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 1, amended 0, repealed 1.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 0, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 0, repealed 0.

Effective Date of Rule: August 4, 1997, 9:00 p.m.

EMERGENCY

August 1, 1997
Bern Shanks
Director

NEW SECTION

**WAC 220-33-01000P Columbia River seasons below Bonneville.** Notwithstanding the provisions of WAC 220-33-010, 220-33-020, and 220-33-030, it is unlawful for a person to take or possess salmon, or sturgeon taken for commercial purposes from Columbia River Salmon Management and Catch Reporting Areas 1A, 1B, 1C, 1D, and 1E, except as provided in the following subsections:

**OPEN AREA**

(1) Zone 1

**FISHING PERIODS**

(2) 9:00 p.m. August 4 to 3:00 a.m. August 5, 1997.

**GEAR**

(3) It is unlawful to fish for salmon and sturgeon with gill net gear that:

(a) exceeds 1,500 feet in length along the corkline;

(b) is constructed of monofilament webbing;

(c) has webbing with a minimum mesh size of 9 inches and maximum size 9 3/4 inches.

(d) has lead or weight on the leadline that exceeds two pounds in any one fathom, measurement to be taken along the corkline of the net.

(4)(a) It is unlawful to gaff sturgeon

(b) White sturgeon less than 48 inches or greater than 60 inches or green sturgeon less than 48 inches or greater than 66 inches may not be retained for commercial purposes and shall be returned immediately to the water. The length of a sturgeon is the shortest distance between the tip of the nose and the extreme tip of the tail measures while the fish is lying on its side on a flat surface with its tail in a normal position.

(c) Sturgeon must be delivered to wholesale dealers and fish buyers undressed (in the round).

(d) It is unlawful for a wholesale dealer or fish buyer to possess a sturgeon from which the head and/or tail have been removed if the remaining carcass is less than 28 inches in length. A carcass length of less than 28 inches is prima facie evidence that the total length of the whole sturgeon was less than 48 inches.

(e) It is unlawful to sell unprocessed eggs from lower Columbia sturgeon.

REPEALER

The following section of the Washington Administrative Code is repealed effective 3:01 a.m. August 5, 1997:

WAC 220-33-01000P Columbia River seasons below Bonneville.

## WSR 97-16-103
## EMERGENCY RULES
## DEPARTMENT OF FISH AND WILDLIFE
(Wildlife)

[Order 97-140—Filed August 5, 1997, 5:00 p.m., effective August 5, 1997, 12:01 a.m.]

Purpose: Personal use rules.

Citation of Existing Rules Affected by this Order: Repealing WAC 232-28-61900M; and amending WAC 232-28-619.

Statutory Authority for Adoption: RCW 77.12.040.

Under RCW 34.05.350 the agency for good cause finds that immediate adoption, amendment, or repeal of a rule is necessary for the preservation of the public health, safety, or general welfare, and that observing the time requirements of notice and opportunity to comment upon adoption of a permanent rule would be contrary to the public interest.

Reasons for this Finding: These lakes are scheduled for rehabilitation. Seasons are extended, and/or catch, size, and possession limits waived to provide additional recreational opportunity.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, amended 0, repealed 0; Federal Rules or Standards: New 0, amended 0, repealed 0; or Recently Enacted State Statutes: New 0, amended 0, repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, amended 0, repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 1, amended 0, repealed 1.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, amended 0, repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, amended 0, repealed 0; Pilot Rule Making: New 0, amended 0, repealed 0; or Other Alternative Rule Making: New 0, amended 0, repealed 0.

Effective Date of Rule: August 5, 1997, 12:01 a.m.

August 4, 1997
Bern Shanks, Ph.D.
Director

NEW SECTION

**WAC 232-28-61900M Washington game fish—Exceptions to state-wide rules.** Notwithstanding the provisions of WAC 232-12-619 and WAC 232-28-619, the following game fish seasons, catch, size, and possession limits apply:

Heritage Lake (Stevens Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Thomas Lake (Stevens Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

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Gillette Lake (Stevens Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Sherry Lake (Stevens Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Leo Lake (Stevens/Pend Oreille Cos.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Deadman Lake (Adams Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived.

Coyote/Bobcat Ponds (Adams Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived.

Shiner Lake (Adams Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived.

Hutchinson Lake (Adams Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived.

Coyote/Bobcat/Hays Creeks (Adams Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived.

Halfmoon Lake (Pend Oreille Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Jump Off Joe (Stevens Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Morgan Lake (Adams Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived.

Halfmoon Lake (Adams Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived

Corral Lake (Grant Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Blythe Lake (Grant Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Chukar Lake (Grant Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Scaup Lake (Grant Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Aztec Lake (Grant Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Desert Lake (Grant Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Dune Lake (Grant Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Lizard Lake (Grant Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Meadowlark Lake (Grant Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Sedge Lake (Grant Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

Tern Lake (Grant Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

North Desert Lake (Grant Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

EMERGENCY

Aeneas Lake (Okanogan Co.): Effective 12:01 a.m., August 15, 1997 through 12:00 midnight, September 30, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., October 1, 1997 through 12:00 midnight, October 31, 1997.

June Lake (Grant Co.): Effective 12:01 a.m., August 5, 1997 through 12:00 midnight, September 14, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., September 15, 1997 through 12:00 midnight, October 31, 1997.

No. North Windmill Lake (Grant Co.): Effective 12:01 a.m., August 5, 1997 through 12:00 midnight, September 14, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., September 15, 1997 through 12:00 midnight, October 31, 1997.

North Windmill Lake (Grant Co.): Effective 12:01 a.m., August 5, 1997 through 12:00 midnight, September 14, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., September 15, 1997 through 12:00 midnight, October 31, 1997.

Windmill Lake (Grant Co.): Effective 12:01 a.m., August 5, 1997 through 12:00 midnight, September 14, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., September 15, 1997 through 12:00 midnight, October 31, 1997.

Canal Lake (Grant Co.): Effective 12:01 a.m., August 5, 1997 through 12:00 midnight, September 14, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., September 15, 1997 through 12:00 midnight, October 31, 1997.

Heart Lake (Grant Co.): Effective 12:01 a.m., August 5, 1997 through 12:00 midnight, September 14, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., September 15, 1997 through 12:00 midnight, October 31, 1997.

Pit Lake (Grant Co.): Effective 12:01 a.m., August 5, 1997 through 12:00 midnight, September 14, 1997; catch, size, and possession limits on all game fish species are waived. CLOSED WATERS 12:01 a.m., September 15, 1997 through 12:00 midnight, October 31, 1997.

REPEALER

The following section of the Washington Administrative Code is repealed effective 12:01 a.m., November 1, 1997:

| | |
|---|---|
| WAC 232-28-61900M | Washington game fish—Exceptions to state-wide rules. |

EMERGENCY

## WSR 97-15-050
### RULES OF COURT
### STATE SUPREME COURT
[July 10, 1997]

| | | |
|---|---|---|
| IN THE MATTER OF THE ADOPTION OF THE AMENDMENTS TO RLD 1.1; 2.2; 2.3; 2.4; 2.5; 2.6; 2.7; 2.9; 3.2; NEW 3.3; 4.2; 4.13; 4.14; 5.2; 5.3; 5.5A; 5.6; 5.7; 6.1; 6.3; 6.5; 6.7; 7.1; 7.3; 7.5; 7.6; 9.3; 9.6; 10.2; 12.1; 12.8 AND 12.10 | ) ) ) ) ) ) ) ) ) | ORDER NO. 25700-A-611 |

The Washington State Bar Association having recommended the adoption of the proposed amendments to RLD 1.1; 2.2; 2.3; 2.4; 2.5; 2.6; 2.7; 2.9; 3.2; New 3.3; 4.2; 4.13; 4.14; 5.2; 5.3; 5.5A; 5.6; 5.7; 6.1; 6.3; 6.5; 6.7; 7.1; 7.3; 7.5; 7.6; 9.3; 9.6; 10.2; 12.1; 12.8 and 12.10, and the Court having considered the amendments, proposed new rule and comment submitted thereto, and having determined that the proposed amendments and new rule will aid in the prompt and orderly administration of justice;

Now, therefore, it is hereby

ORDERED:

(a) That the amendments and new rule as attached hereto are adopted.

(b) That the amendments and new rule will be published in the Washington Reports and will become effective September 1, 1997.

DATED at Olympia, Washington this 10th day of July, 1997.

| | |
|---|---|
| | Durham, C.J. |
| Dolliver, J. | Madsen, J. |
| Smith, J. | Talmadge, J. |
| Guy, J. | Alexander, J. |
| Johnson, J. | |

PROPOSED AMENDMENTS TO RULES
FOR LAWYER DISCIPLINE

### RLD 1.1
GROUNDS FOR DISCIPLINE

A lawyer may be subjected to the disciplinary sanctions or actions set forth in these rules for any of the following:

(a) The commission of any act involving moral turpitude, dishonesty, or corruption, or any unjustified act of assault or other act which reflects disregard for the rule of law, whether the same be committed in the course of his or her conduct as a lawyer, or otherwise, and whether the same constitutes a felony or misdemeanor or not; and if the act constitutes a felony or misdemeanor, conviction thereof in a criminal proceeding shall not be a condition precedent to disciplinary action, nor shall acquittal or dismissal thereof preclude the commencement of a disciplinary proceeding;

(b) Willful disobedience or violation of a court order directing him or her to do or cease doing an act which he or she ought in good faith to do or forbear;

(c) Violation of his or her oath or duties as a lawyer;

(d) Willfully purporting to act as a lawyer for any person without the authority of that person;

(e) Permitting his or her name to be used as a lawyer by another person who is not a lawyer authorized to practice law in the state of Washington;

(f) Misrepresentation or concealment of a material fact made in his or her application for admission to the bar or admission to the bar examination or reinstatement or in support thereof;

(g) Suspension, disbarment or other disciplinary sanction by competent authority in any state, federal or foreign jurisdiction;

(h) Practicing law with or in cooperation with a disbarred or suspended lawyer, or maintaining an office for the practice of law in a room or office occupied or used in whole or in part by a disbarred or suspended lawyer, or permitting a disbarred or suspended lawyer to use his or her name for the practice of law, or practicing law for or on behalf of a disbarred or suspended lawyer, or practicing law under any arrangement or understanding for division of fees or compensation of any kind with a disbarred or suspended lawyer;

(i) Violation of the Rules of Professional Conduct of the profession adopted by the Supreme Court of the State of Washington;

(j) Violation of duties imposed by these rules, including but not limited to violation of rule 2.8, failing to respond to inquiries or requests regarding matters under investigation; rule 4.5, failing to file an answer to a formal complaint; rule 4.6(c), failing to file an answer to an amendment to a formal complaint; rule 4.7(e), failing to cooperate with discovery; rule 4.10(g), failing to attend a hearing or failing to bring materials requested by disciplinary counsel; rule 5.5(b), failing to appear to receive a reprimand; rule 8.1, failing to notify clients and others of inability to act; rule 8.2, failing to discontinue practice; rule 8.3, failing to file an affidavit of compliance; rule 11.1(~~h~~), wrongful disclosure; rule 13.2, failing to cooperate with an examination of books and records; rule 13.4(d), failing to notify Association of trust account overdraft; rule 13.5, failing to file a declaration or questionnaire certifying compliance with RPC 1.14;

(k) Violation of the Code of Judicial Conduct;

(l) Engaging in the practice of law while on inactive status, or while suspended from the practice of law for any cause;

(m) Failure to meet conditions of probation imposed pursuant to rule 5.2, or conditions of a stipulation approved pursuant to rule 4.14;

(n) Willful failure to pay restitution where required pursuant to rule 5.3, or to pay costs where required pursuant to rule 2.8(b) or rule 5.7;

(o) Attempting to commit an act, or assisting another in committing or attempting to commit an act, which if completed would be prohibited by this rule;

(p) Conduct demonstrating unfitness to practice law.

### RULE 2.2
BOARD OF GOVERNORS

**(a) Authority.** The Board of Governors of the Association shall have the power and authority to:

(1) Supervise the general functioning of the Disciplinary Board, review committees, disciplinary counsel, bar staff and special district counsel;

(2) Make appointments, remove persons appointed, and fill vacancies as provided in these rules;

~~((3.) Review recommendations of the Character and Fitness Committee to deny petitions for reinstatement after disbarment pursuant to Title 9;~~

(43.) Perform such other functions and take such other actions as provided in these rules or as may be delegated to it by the Supreme Court or as may be necessary and proper to carry out its duties.

**(b) Limitation of Authority.** The Board of Governors shall have no right or responsibility to review decisions or recommendations of a hearing officer or panel or of the Disciplinary Board in specific cases ~~except as provided in rule 7.3(e)~~.

RULE 2.3
DISCIPLINARY BOARD

**(a) Membership.**

(1) *Composition.* The Board shall consist of not less than three nonlawyer members, appointed by the Supreme Court, and not less than one lawyer member from each congressional district, appointed by the Board of Governors.

(2) *Qualifications.* Lawyer members must have been active members of the Association for at least 7 years.

(3) *Quorum.* A majority of the Board members shall constitute a quorum. Given a quorum, the concurrence of a majority of those present shall constitute action of the Board.

(4) *Disqualification.* In the event a grievance is filed with the Association alleging an act of misconduct by a lawyer member of the Board, such member shall take a leave of absence from the Board until the matter is resolved, unless otherwise directed by the Board of Governors. If a disciplinary sanction is imposed against the member, he or she shall be ineligible to serve further on the Board. The resulting vacancy shall be filled as set forth in section (d).

(5) *Voting.* Each member, whether nonlawyer or lawyer, shall have one vote.

**(b) Terms Of Office.** The term of office for a member of the Board shall be 3 years. Newly created Board positions may be filled by appointments of less than 3 years, as designated by the court or the Board of Governors, to permit as equal a number of positions as possible to be filled each year. All terms of office begin October 1 and end September 30 or when a successor has been appointed, whichever occurs later. Members may not serve more than one term except as otherwise provided in these rules. Members heretofore appointed shall continue to serve until replaced.

**(c) Chairperson.** The Board of Governors shall annually designate one lawyer member of the Board to act as chairperson and another as vice-chairperson. The vice-chairperson shall serve in the absence of or at the request of the chairperson.

**(d) Vacancies.** Vacancies in lawyer membership on the Board and in the office of the chairperson and the vice-chairperson shall be filled by the Board of Governors. Vacancies in nonlawyer membership shall be filled by the Supreme Court. A person appointed to fill a vacancy shall complete the unexpired term of the person he or she replaces, and if that unexpired term is less than 18 months he or she may be reappointed to a consecutive term.

**(e) Pro Tempore Members.** When a member of the Board is disqualified or unable to function on a case for good cause, the chairperson of the Board may, by written order, designate a member pro tempore to sit with the Board to hear and determine the cause. A member pro tempore may be appointed from among those persons who have previously served as members of the Disciplinary Board, or from among lawyers appointed as alternate Board members by the Board of Governors and nonlawyers appointed as alternate Board members by the Supreme Court. A lawyer shall be appointed to substitute for a lawyer member of the Board, and a nonlawyer to substitute for a nonlawyer member of the Board.

**(f) Authority of Board.** The Board shall have the power and authority to:

(1) Review each proceeding in which a recommendation of disbarment, suspension, or transfer to disability inactive status has been made by a hearing officer or panel;

(2) Review each proceeding in which a recommendation other than disbarment or suspension from the practice of law has been made by a hearing officer or panel, including a recommendation of dismissal, upon an appeal filed pursuant to rule 6.1(b);

(3) Review *sua sponte* a decision of a hearing officer or panel recommending reprimand or censure, or recommending dismissal of the charges against the respondent lawyer, upon referral from the chairperson of the Board pursuant to rule 6.1(c). *Sua sponte* review will be used in the discretion of the Board only in extraordinary circumstances to prevent substantial injustice or where a clear error has been made. Any *sua sponte* review will be subject to the same standards of review as applied to other cases;

(34) Review stipulations entered into pursuant to rule 4.14;

(45) Review any prehearing ruling of a hearing officer or panel, upon request for review by either the respondent lawyer or disciplinary counsel, where the chairperson of the Board determines that such review is necessary and appropriate and will serve the ends of justice;

(56) Review the decision of a review committee dismissing allegations of misconduct by a lawyer when ~~such review~~ the grievant has served a request for review upon the Association within 45 days of mailing of the notice of dismissal by the review committee, and review is directed by the chairperson of the Board, and upon such review order a hearing on the alleged misconduct, dismiss the matter, issue an advisory letter pursuant to rule 5.6, issue an admonition pursuant to rule 5.5A, or order such further investigation as may appear appropriate;

(7) Monitor the performance of hearing officers;

(8) Review recommendations of the Character and Fitness Committee to deny petitions for reinstatement after disbarment pursuant to Title 9; and

(69) Perform such other functions and take such other actions as provided in these rules or as may be delegated to it by the Board of Governors or Supreme Court, or as may be necessary and proper to carry out its duties.

**(g) Meetings.** The Board shall hold meetings at such times and places as it may determine. Where the chairperson of the Board determines that prompt action is necessary

for protection of the public, and that circumstances do not permit a full meeting of the Board, the Board may vote on a matter otherwise ready for review without meeting together, through telephone or written communication.

**(h) Clerk.** The Executive Director of the Association, under the direction of the Board of Governors, may appoint a suitable person or persons to act as clerk to the Board, to assist the Board and the review committees in carrying out their functions under these rules.

RLD 2.4
REVIEW COMMITTEES

**(a) Membership.** The chairperson of the Board shall appoint three or more review committees of three members each from among the members of the Board. Each review committee shall consist of two lawyers and one nonlawyer. The chairperson of the Board may reassign members among the several committees on an interim or permanent basis. The chairperson of the Board shall not serve on a review committee.

**(b) Chairperson.** The chairperson of the Board shall designate one member of each review committee to act as its chairperson.

**(c) Terms of Office.** A member of a review committee shall serve until his or her term of office on the Board expires.

**(d) Authority of Review Committees.** Each review committee shall have the power and authority to:

(1) Review reports on investigations of alleged acts of misconduct by a lawyer, and upon such review order a hearing on the alleged misconduct, issue an admonition, dismiss the matter, issue an advisory letter, or direct such further investigation as may appear appropriate;

(2) Order that an investigation into an alleged act of misconduct by a lawyer be deferred when it appears that the allegations are substantially similar to those in pending civil or criminal litigation, or when the lawyer against whom a grievance is filed is physically or mentally unable to respond to the investigation, or for other good cause, where it appears that such deferral will not endanger the public;

(3) Review reports on investigations into allegations that a lawyer is mentally or physically unable to conduct the practice of law, and upon such review order a hearing into the capacity of the lawyer to conduct the practice of law, dismiss the matter, or direct such further investigation as may appear appropriate;

(4) Reconsider grievances ~~conditionally~~ dismissed by disciplinary counsel, when the grievant has ~~disputed~~ served upon the Association a request for review of the dismissal within 45 days of mailing of the notice of dismissal and the grievance has not been reopened, and upon such reconsideration affirm the dismissal, order a hearing on the alleged misconduct, issue an admonition, issue an advisory letter, or direct such further investigation as may appear appropriate;

(5) Make determinations of whether a crime is a "serious crime" under rule 3.1 and authorize proceedings for suspension of a lawyer upon finding of risk to the public pursuant to rule 3.2(a);

(6) Perform such other functions and take such other actions as provided in these rules or as may be delegated to it by the Disciplinary Board or the Board of Governors, or as may be necessary and proper to carry out its duties.

**(e) Distribution of Cases.** The clerk of the Board if one has been appointed, or disciplinary counsel, shall have the responsibility of transmitting matters to the several review committees under direction of the chairperson of the Board so as to equalize the case load of the committees to the extent possible.

**(f) Meetings.** Each review committee shall meet at such times and places as determined by the committee chairperson, under the general direction of the chairperson of the Board. A review committee may also conduct business and take action by conference call or through written communication without meeting together where the chairperson of the committee determines that prompt action is necessary.

RLD 2.5
HEARING OFFICER OR PANEL

**(a) Eligibility.** Hearing officers shall be assigned to cases from a list of lawyers maintained by the Board of Governors. The list shall include ~~all lawyer members of the Disciplinary Board, and shall also include~~ as many ~~additional~~ lawyers as the Board of Governors considers necessary to carry out the provisions of these rules effectively and efficiently. In making appointments, the Board of Governors should consider diversity in gender, ethnicity, geography and practice experience.

**(b) Qualifications.** Appointment by the Board of Governors to the hearing officer list shall be made from among active lawyers who have been active lawyer or judicial members of the Association for at least 7 years and have experience as an adjudicator or as an advocate in contested adjudicative hearings.

**(c) Hearing Panel.** When a hearing panel is assigned to hear a matter, the panel shall consist of three persons on the hearing officer list, or two such persons plus a nonlawyer. If the third member of a hearing panel is to be a nonlawyer, he or she shall be assigned from a list of suitable persons willing to serve in that capacity to be maintained by the Board of Governors. ~~Such list may include the nonlawyer members of the Disciplinary Board, at the option of those members.~~

**(d) Terms of Appointment.** Appointment by the Board of Governors to the hearing officer list, or to the list of nonlawyers maintained pursuant to section (c), shall be for a period of ~~3~~5 years, shall be made on a staggered and rotating basis, and shall be subject to reappointment at the discretion of the Board of Governors. ~~Eligibility of a member of the Disciplinary Board to serve as a hearing officer or panel member shall be concurrent with his or her term on the Board.~~ Notwithstanding the provisions of this rule, a hearing officer or panel member shall have authority to act in any matter assigned to him or her prior to the expiration of his or her appointment or term.

**(e) Duty.** It shall be the duty of the hearing officer or panel to whom a case has been assigned for hearing to conduct the hearing as hereinafter provided. The Disciplinary Board shall monitor the performance of hearing officers and hearing panels.

MISC.

RLD 2.6
DISCIPLINARY COUNSEL

**(a) Appointment.** The Executive Director of the Association, under the direction of the Board of Governors, shall employ a suitable person or persons from among the members of the Association to act as counsel for the Association with respect to matters under these rules. Special disciplinary counsel may be appointed whenever necessary to conduct an individual investigation or proceeding.

**(b) Duties.** It shall be the duty of disciplinary counsel to:

(1) Take cognizance of any alleged or apparent act of misconduct by a lawyer, whether by grievance or otherwise, and investigate the same or assign the same for investigation to special district counsel;

(2) Assist in investigations conducted by special district counsel and monitor the performance of special district counsel;

(3) Report results of investigations, except those conditionally dismissed, to a review committee;

(4) Conduct such additional investigation as a review committee may request;

(5) Act as counsel on behalf of the Association on all matters coming within these rules;

(6) Perform such other duties as shall be required by the Executive Director or the Board of Governors.

**(c) ~~Conditional~~ Dismissals By Disciplinary Counsel.** Disciplinary counsel shall have power ~~conditionally~~ to dismiss allegations of misconduct. A grievant may dispute such a ~~conditional~~ dismissal, in which case disciplinary counsel may either reopen the matter for investigation, or may refer the case to a review committee for reconsideration of the ~~conditional~~ dismissal. A grievant whose grievance is dismissed shall be notified that any request for review must be served upon the Association within 45 days of mailing of the notice of dismissal.

**(d) Discovery Prior to Formal Complaint.** Where disciplinary counsel deems it advisable prior to the filing of a formal complaint to conduct the deposition of a lawyer being investigated or of a witness, or to issue requests for admission to a lawyer being investigated, he or she may do so.

(1) *Procedure.* Depositions pursuant to this rule shall be conducted in conformity with CR 30 or 31 to the extent possible. Requests for admission shall be governed by CR 36.

(2) *Subpoenas for Depositions.* A lawyer member of the Board or disciplinary counsel shall have the power to issue subpoenas to compel the attendance of the lawyer being investigated or of a witness, or the production of books, or documents, or other evidence, at the taking of a deposition. Subpoenas shall be served in the same manner as in civil cases in the superior court.

RLD 2.7
SPECIAL DISTRICT COUNSEL

**(a) Appointment and Term of Office.** The Board of Governors shall, in consultation with the Chief Disciplinary Counsel appoint ~~one or more~~ special district counsels ~~in each congressional district of the state,~~ from among the active members of the Association, who have been active or judicial members of the Association for at least 7 years, and have no record of disciplinary misconduct and who is in good standing practicing in the district. In appointing special district counsel, diversity in gender, ethnicity, geography and practice experience should be considered. The term of office for each special district counsel shall be ~~3~~5 years, appointed on a staggered basis. Special district counsel shall be trained in the investigation of discipline cases and may be reappointed for consecutive terms.

**(b) Duties.** It shall be the duty of special district counsel to:

(1) Assist ~~disciplinary counsel when requested~~ in investigating allegations of misconduct by a lawyer as assigned and supervised by disciplinary counsel~~, whether or not the lawyer resides or practices in the same congressional district~~;

~~(2) Forward to disciplinary counsel grievances alleging misconduct by a lawyer;~~

(2) Meet case schedules and deadlines as required by disciplinary counsel;

(3) Investigate at the request of a review committee any grievance of misconduct brought against disciplinary counsel and report the same directly to the review committee.

**(c) Review by Disciplinary Counsel.** The performance of special district counsel will be monitored by disciplinary counsel. Upon receiving a report of an investigation conducted by a special district counsel, disciplinary counsel may request additional investigation, may conduct any additional investigation as may appear necessary, and may take any action under rule 2.6 as appears appropriate.

RLD 2.9
GRIEVANT

**(a) Rights.** Any person filing a grievance with the Association alleging an act of misconduct by a lawyer shall have the right to:

(1) Be advised promptly of the receipt of the grievance, and of the name, address and office phone number of the person assigned to its investigation if such an assignment is made;

(2) Request reconsideration by a review committee of a ~~conditional~~ dismissal of the grievance by disciplinary counsel by serving upon the Association a request for review within 45 days of mailing of the notice of dismissal, or reconsideration, when the chairperson of the Board so directs, by the Board of a dismissal of the grievance by a review committee ~~when~~ by serving upon the Association a request for review within 45 days of mailing of the notice of dismissal by a review committee ~~the chairperson of the Board so directs~~;

(3) Have a reasonable opportunity to speak with the investigator assigned to the grievance, by telephone or in person, concerning the substance of the grievance or its status;

(4) Receive a copy of any response submitted by the lawyer against whom a grievance is filed, except when that response makes reference to confidences or secrets of a client of the lawyer to which the grievant is not privy, or contains information of a personal and private nature regarding the lawyer, or when a review committee determines that the interests of justice would better be served if the response is not released;

MISC.

(5) Submit additional supplemental written information or documentation at any time;

(6) Attend any hearing conducted into the grievance, subject to the applicable rules of evidence and any protective order issued pursuant to rule 11.1(fg);

(7) Testify as a witness at any hearing conducted into the grievance, subject to the applicable rules of evidence and any protective order issued pursuant to rule 11.1(fg);

(8) Be advised of the disposition of the grievance.

**(b) Duties.** A person filing a grievance shall have the duty to furnish the person assigned to its investigation with documentary evidence in his or her possession, and the names and addresses of witnesses; to assist in securing evidence in relation to the facts charged; and to appear and testify at any hearing resulting from the grievance. Failure to fulfill these duties may be grounds for dismissal of a grievance.

**(c) Consent to Disclosure.** The filing of a grievance shall constitute consent to disclose the content of the grievance to the lawyer, or to any other person contacted during the investigation of the grievance, or to any person pursuant to rule 11.1, absent a protective order issued pursuant to rule 11.1(g) or a grievance filed pursuant to rule 12.9 ~~unless the grievant specifically withholds such consent~~. The filing of a grievance shall also constitute consent to disclosure by the lawyer complained against, or by any other lawyer contacted by the grievant, of any information relevant to the investigation of the grievance, absent a protective order issued pursuant to rule 11.1(g) ~~unless the grievant specifically withholds such consent~~.

**(d) Continuation of Grievance.** Neither the unwillingness of a grievant to continue his or her grievance, nor withdrawal of the grievance, nor compromise between the grievant and the lawyer, nor restitution by the lawyer, shall in itself require dismissal of a grievance.

RLD 3.2

SUSPENSION IN OTHER CIRCUMSTANCES

**(a) Upon Finding of Risk to Public or Claim of Inability to Conduct a Proper Defense.** At any time when it appears that a continuation of the practice of law by a respondent lawyer during the pendency of any proceeding under these rules, including proceedings under Title 10, will result in substantial harm, loss or damage to the public, and at any time a respondent lawyer alleges in the course of a disciplinary proceeding or proceeding under rule 10.2 that he or she is unable to conduct a proper defense because of mental or physical incapacity, the Association, on unanimous recommendation of a review committee, or upon order of a hearing officer or panel pursuant to rule 10.2(b), may petition the Supreme Court for an order suspending the respondent lawyer during the pendency of the proceedings.

**(b) Upon Board Recommendation for Disbarment.** When the Board enters a decision providing for disbarment of a lawyer, disciplinary counsel shall file a petition under this rule for suspension of the lawyer during the remainder of the proceedings. Suspension under this section shall occur unless a lawyer makes an affirmative showing that his or her continuation of the practice of law will not be detrimental to the integrity and standing of the Bar and the administration of justice, or be contrary to the public interest. If the decision of the Board is not appealed and becomes final, such petition need not be filed, or if filed may be withdrawn.

**(c) Petition.** A petition to the Supreme Court under this rule shall set forth the acts of the respondent lawyer believed to constitute grounds for such suspension, and if filed pursuant to section (b) shall include a copy of the decision of the Board. The petition may be supported by documents or affidavits. A copy of the petition shall be personally served upon the respondent lawyer.

**(d) Show Cause Order.** Upon filing of the petition an order to show cause, signed by the Chief Justice of the Supreme Court, shall be issued requiring the respondent lawyer to appear before the court on such date as the Chief Justice may set, and then and there show cause why the petition for suspension should not be granted. A copy of the order to show cause shall be personally served upon the respondent lawyer by the Association at least 5 days before the scheduled show cause hearing.

**(e) Answer to Petition.** The respondent lawyer may answer the petition. Any such answer may be supported by documents or affidavits. Failure to answer shall not result in default or waive the right to appear at the show cause hearing.

**(f) Filing of Answer.** A copy of any answer shall be filed with both the Supreme Court and the Association at least 3 days before the scheduled show cause hearing.

**(g) Application of Other Rules.** If the Supreme Court enters an order suspending the lawyer, the provisions of these rules relating to suspended attorneys, including Title 8, shall apply.

RLD 3.3

[NEW RULE]

INTERIM SUSPENSIONS EXPEDITED

**(a) Expedited Review.** Petitions seeking interim suspension under this title shall receive an expedited hearing, ordinarily no later than 14 days from issuance of an order to show cause.

**(b) Procedure During Court Recess.** When a petition seeking interim suspension under this title is filed during a recess of the Supreme Court, the Chief Justice, the Acting Chief Justice or the senior Justice under SAR 10, subject to review by the full Court on motion for reconsideration, may rule on the motion for interim suspension.

RLD 4.2

APPOINTMENT OF HEARING OFFICER OR PANEL

**(a) Appointment.** The chairperson of the Board shall appoint a hearing officer or panel to hear a matter ordered to hearing from among the persons eligible under rule 2.5, on a rotating basis, taking into account geographical and expertise considerations, except that a member of the review committee which ordered the matter to hearing shall not be appointed on the case. When a panel is appointed the committee shall designate one lawyer member as chairperson. Any vacancy in the position of hearing officer or hearing panel member or chairperson may be filled by the chairperson of the Board.

**(b) Disqualification.** Either ~~T~~the respondent ~~attorney~~ lawyer or disciplinary counsel may seek the disqualification of the hearing officer or any hearing panel member for cause.

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(1) A request for disqualification of a hearing officer or panel member shall be filed in writing within 20 days of service upon the respondent lawyer of the name of the officer or panel member challenged. The request shall set forth in detail the reason for the request.

(2) The unchallenged member or members of the hearing panel, if any, shall rule on the request. In the event the challenge is against a hearing officer or against all members of the panel, or if the remaining members of the panel cannot agree, the chairperson of the Board shall rule on the requested disqualification.

(3) If a request for disqualification is granted, the chairperson of the Board shall fill the vacancy created. Both ~~T~~the respondent lawyer and disciplinary counsel shall have the right to request the disqualification of any such appointee in the same manner as the original appointee.

**(c) Authority.** In addition to the powers specifically provided herein, the hearing officer or panel chairperson appointed to hear a matter may make any ruling which appears necessary and appropriate to insure a fair and orderly proceeding.

RLD 4.13
DECISION OF HEARING OFFICER OR PANEL

**(a) Proposed Findings.** At the request of the hearing officer or panel chairperson, or without such request, either the respondent lawyer or disciplinary counsel may submit a proposed decision in the form of findings, conclusions, and recommendation to the hearing officer or to each member of the hearing panel.

~~**(b) Filing.**~~ **Decision.** Within 20 days after the proceedings are concluded, unless extended by agreement, the hearing officer or panel chairperson should file a decision in the form of findings of fact, conclusions of law, and recommendation in the office of the Association.

**(b) Preparation of Findings.** The hearing officer or hearing panel shall write their own findings of fact, conclusions of law and recommendations. At the request of the hearing officer or panel chairperson, or without such request, either the respondent lawyer or disciplinary counsel may submit a proposed decision in the form of findings, conclusions and recommendation to the hearing officer or to each member of the hearing panel.

**(c) Amendment.** Within 5 days of service of the decision of the hearing officer or panel on the respondent lawyer, either the respondent lawyer or disciplinary counsel may file a motion to modify, amend, or correct the decision. When a hearing panel member dissents from a decision of the majority, the 5-day period shall not begin until the written dissent is filed or the period to file such a dissent has expired, whichever is sooner. Consideration of such a motion shall be governed by the provisions of rule 4.8, except that all members of a hearing panel shall be served with the motion and any response thereto, and shall participate in a decision on the motion. Deliberation by a panel may be conducted through telephone conference call. The hearing officer or panel shall rule on such a motion within 15 days after the filing of a timely response or after the period to file such a response under rule 4.8(b) has expired. The ruling may deny the motion or may allow such amendment, modification, or correction of the decision as may appear appropriate. Failure to move for a modification, correction, or amendment shall not affect any appeal to the Board or review by the Supreme Court.

**(d) Dissent of Panel Member.** Any member of a hearing panel who dissents from the decision of the majority of the panel shall file a dissent, which may consist of alternative findings, conclusions, or recommendation. A dissent should be filed within 10 days of the filing of the decision of the majority of the panel and shall become part of the record of the proceedings.

**(e) Panel Members Unable To Agree.** Where no two panel members are able to agree on a decision, each panel member shall file his or her own findings, conclusions, and recommendation, and the Board shall review the matter whether or not an appeal is filed.

**(f) Decision Final.** When the decision of a hearing officer or panel recommends reprimand, ~~or~~ censure or an admonition upon a finding of misconduct, or recommends dismissal of the charges against the respondent lawyer, the recommendation shall become the final decision in the case if neither the respondent lawyer nor disciplinary counsel files an appeal within the time permitted by rule 6.1(b). In the event the Chairperson of the Disciplinary Board refers the matter to the Board for consideration of a *sua sponte* review, the decision will become final upon entry of an order dismissing *sua sponte* review under rule 6.1(c) or upon other Board decision as provided in rule 6.7(g).

RLD 4.14
STIPULATIONS

**(a) Requirements.** Any disciplinary matter or proceeding may be disposed of by a stipulation for discipline entered into at any time. The stipulation shall be signed by the respondent lawyer and approved by disciplinary counsel. The stipulation may contain the imposition of terms and conditions of probation and such other provisions as may appear appropriate.

**(b) Form.** A stipulation for discipline shall:

(1) Set forth the material facts relating to the particular acts or omissions of the respondent lawyer in such detail as to enable the Board to form an opinion as to the propriety of the discipline being agreed upon, and, if approved, to make the stipulation useful in any subsequent disciplinary proceeding against the respondent lawyer;

(2) Set forth the respondent lawyer's prior disciplinary record or the absence of such record;

(3) State that the stipulation is not binding on the Association as a statement of all existing facts relating to the professional conduct of the respondent lawyer, but that any additional existing facts may be proven in any subsequent disciplinary proceeding; and

(4) Fix the amount of the costs and expenses to be paid by the lawyer.

**(c) Approval.** All stipulations shall be filed with the Board. A stipulation may be presented to the Board without notice and shall be reviewed solely on the basis of the record as agreed upon by the respondent lawyer and disciplinary counsel. The Board may either approve a stipulation or reject it. Regardless of the provisions of rule 11.1(~~g~~h), the Board may direct that information or documents considered in reviewing a stipulation be kept confidential.

**(d) Stipulation Not Approved.** If a stipulation is not approved by the Board as herein provided, then the stipula-

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tion shall be of no force and effect and neither it nor the fact of its execution shall be admissible in evidence in the pending disciplinary proceeding, in any subsequent disciplinary proceeding, or in any civil or criminal action.

**(e) Failure To Comply.** Failure of a respondent lawyer to comply with the terms of a stipulation for discipline entered into and approved as provided in this rule may constitute grounds for discipline.

RULE 5.2
PROBATION

**(a) Conditions of Probation.** A lawyer who has been found to have committed an act of misconduct and who has been sanctioned pursuant to rule 5.1 or admonished after hearing pursuant to rule 5.5A(b) may in addition be placed on probation for a fixed period not in excess of 2 years, under such conditions as may appear appropriate. Such conditions may include but are not limited to requiring alcohol or drug treatment, requiring medical care, requiring psychological or psychiatric care, requiring professional office practice or management counseling, and requiring periodic audits or reports. In any case where a lawyer is placed on probation pursuant to this rule, the chairperson of the Board may upon the request of disciplinary counsel appoint a suitable person to supervise the probation. Cooperation with a person so appointed shall be a condition of the probation.

**(b) Failure To Comply.** Failure to comply with a condition of probation may result in a disciplinary proceeding pursuant to rule 1.1(m), and any sanction to be imposed for violation of that provision shall take into account the act or acts of misconduct leading to the probation.

RLD 5.3
RESTITUTION

**(a) Restitution May Be Required.** A lawyer who has been found to have committed an act of misconduct and who has been sanctioned pursuant to rule 5.1 or admonished after hearing pursuant to rule 5.5A(b) may in addition be ordered to make restitution to persons financially injured by the lawyer's conduct.

**(b) Payment of Restitution.** A lawyer ordered to make restitution shall do so within 30 days of the date upon which the decision requiring restitution becomes final, unless otherwise provided in that decision, or unless a periodic payment plan has been entered into with the approval of disciplinary counsel. Disciplinary counsel shall have authority to enter into an agreement with a lawyer for a reasonable periodic payment plan upon the lawyer's affirmative written demonstration of present inability to meet the terms of a decision requiring restitution, and after consultation with the persons to whom restitution is to be made.

**(c) Failure To Comply.** Failure of a lawyer to make restitution when ordered to do so, or failure of a lawyer to comply with the terms of a periodic payment plan entered into by agreement between the lawyer and disciplinary counsel, may constitute grounds for discipline.

RLD 5.5A
ADMONITION

**(a) Grounds.** An admonition may be issued by a review committee, or as permitted by rule 2.3(f)(~~5~~6), by the Disciplinary Board, when investigation of a grievance shows misconduct involving inattention, neglect or lack of competence in handling a matter.

**(b) Following a Hearing.** A hearing officer may recommend that a lawyer receive an admonition if a hearing shows misconduct involving inattention, neglect or lack of competence in handling a matter, and the hearing officer concludes that a disciplinary sanction, as set out in rule 5.1 (a)-(e), is not warranted. When an admonition recommended by a hearing officer becomes final, the admonition shall be signed by the chairperson of the Board or the chairperson's designee.

**(~~b~~c) Effect.** An admonition shall be admissible in evidence in subsequent discipline or disability proceedings involving the lawyer. File materials relating to an investigation or hearing concluded with an admonition, including the admonition, shall be subject to destruction as provided in rule 12.8(b).

**(~~c~~d) Protest.** A respondent lawyer wishing to protest either the review committee's or the Board's prehearing issuance of an admonition must file a notice to that effect with the Association within 30 days of service of the admonition. Upon receipt of a timely protest, the admonition is rescinded, and the grievance shall be considered to have been ordered to hearing by the review committee issuing the admonition.

**(~~d~~e) Action on Board Review.** ~~After a hearing on the protest relating to the issuance of the admonition, and u~~Upon appeal pursuant to rule 6.1(b) or review pursuant to rule 6.1(c), the Board may dismiss, issue an admonition, or impose sanctions pursuant to rule 5.1. An admonition issued by the Board shall be signed by the chairperson or the chairperson's designee.

**(~~e~~f) Admonition ~~Not~~ Public.** ~~An admonition shall not be a public matter, unless a stipulation approved by the Disciplinary Board provides that the admonition shall be public, or the admonition is admitted into evidence in a public disciplinary proceeding, or issued by the Board after a hearing under section (d).~~ An admonition is disciplinary action for the purposes of rule 11.1 and rule 11.2 and is public information.

RLD 5.6
ADVISORY LETTER

An advisory letter may be issued when a hearing does not appear warranted but when it appears appropriate to caution a lawyer concerning his or her conduct. An advisory letter may be issued by a review committee, or by the Board when reviewing a matter under rule 2.3(f)(~~5~~6), but shall not be issued when a grievance is dismissed following a hearing. An advisory letter shall not constitute a finding of misconduct, ~~and~~ is not a disciplinary sanction, is not disciplinary action for the purposes of rule 11.1 and rule 11.2, and is not public information.

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RLD 5.7
COSTS AND EXPENSES

**(a) Assessment.** In all cases in which a sanction or admonition is imposed upon a lawyer following a hearing and a finding of misconduct, or a lawyer accepts an admonition pursuant to rule 5.5A(a), costs and expenses as herein defined may be assessed against the lawyer in favor of the Association.

**(b) Costs Defined.** The term "costs" for the purposes of this rule shall include all obligations in money reasonably and necessarily incurred by the Association in the complete performance of its duties under these rules, whether incurred before or after the filing of a formal complaint, except attorney fees. Costs shall include, by way of illustration and not of limitation:

(1) Charges of court reporters in attending and transcribing depositions or hearings;

(2) Charges of process servers;

(3) Necessary travel expenses of hearing officers or hearing panel members, or of disciplinary counsel, or of witnesses;

(4) Charges of expert witnesses;

(5) Costs in conducting an examination of books and records or an audit pursuant to Title 13;

(6) Costs incurred in supervising probation imposed pursuant to rule 5.2;

(7) Telephone toll charges;

(8) Charges of a lawyer appointed pursuant to rule 10.2(d);

(9) Costs of copying materials for submission to a review committee, a hearing officer or panel, or the Disciplinary Board~~, or the Board of Governors~~.

**(c) Expenses Defined.** "Expenses" for the purposes of this rule shall mean a reasonable charge for attorney fees and administrative costs. Expenses assessed pursuant to this rule may equal the actual expenses incurred by the Association, but in any case the following amounts shall conclusively be presumed reasonable:

(1) For an admonition that is accepted pursuant to rule 5.5A(a), $500.

(2) For a matter which becomes final without review by the Board, $1,000.

(3) For a matter which becomes final following Board review, without appeal to the Supreme Court, a total of $1,500.

(4) For a matter appealed to the Supreme Court, a total of $2,000.

**(d) Association To File Statement of Costs and Expenses.** When the decision of a hearing officer or panel imposing a sanction becomes final without Board review, or when a decision of the Board imposing a sanction or an admonition becomes final after being served on the respondent lawyer after Board review, or when a decision of the Board imposing discipline is appealed, the Association shall have 10 days in which to file a statement of costs and expenses in the office of the Association.

(1) *Content.* A statement of costs and expenses shall state with particularity the nature and amount of the costs claimed and shall state the expenses requested. The statement shall be signed by disciplinary counsel, which signature shall constitute a certification that all reasonable attempts have been made to insure the accuracy of the statement.

(2) *Exceptions.* The respondent lawyer shall have 10 days from service of the statement of costs and expenses on him or her to file exceptions in the office of the Association.

**(e) Assessment.** The chairperson of the Board shall review the statement of costs and expenses and any exceptions thereto after the period for filing such exceptions has passed and the decision of the hearing officer or panel or of the Board and shall enter and file with the Association an order assessing costs and expenses. The order shall be served on the respondent lawyer.

(1) *Request for Review by Board.* Within 10 days of service on the respondent lawyer of the order assessing costs and expenses, the lawyer may file with the Association a request for Board review of the order. Upon the timely filing of such a request, the Board shall review the order assessing costs and expenses, based upon the statement of costs and expenses of the Association and the exceptions thereto, the decision of the hearing officer or panel or of the Board, and any written statement submitted by either party within such time as the chairperson of the Board may direct.

(2) *Board Action.* The Board may approve or modify the order assessing costs and expenses by order filed with the Association and served upon the respondent lawyer. The decision of the Board shall be final when filed and not subject to further review, except in cases reviewed by the Supreme Court pursuant to Title 7.

**(f) Assessment in Matters Reviewed by the Supreme Court.** When a matter is reviewed by the Supreme Court as provided in Title 7, any order assessing costs and expenses entered pursuant to section (e) and any statement of costs and expenses and exceptions thereto filed in the proceeding shall be made a part of the record transmitted to the court. Upon filing of an opinion by the court imposing a sanction, costs and expenses may be assessed in favor of the Association pursuant to the procedures of RAP Title 14, except that "costs" as used in that rule shall mean any costs and expenses allowable under this rule.

**(g) Waiver.** In all cases where costs and expenses are sought pursuant to this rule, assessment of any or all such costs and expenses may be denied where it appears in the interests of justice to do so.

**(h) Payment of Costs and Expenses.** A lawyer ordered to pay costs and expenses shall do so within 30 days of the date upon which the assessment becomes final, unless otherwise ordered at the time costs and expenses are assessed, or unless a periodic payment plan has been entered into with the approval of disciplinary counsel. Disciplinary counsel shall have authority to enter into an agreement with a lawyer for a reasonable periodic payment plan upon the lawyer's affirmative written demonstration of present inability to meet the terms of an order or decision assessing costs and expenses.

**(i) Failure To Comply.** Failure of a lawyer to pay costs and expenses when ordered to do so or failure of a lawyer to comply with the terms of a periodic payment plan entered into by agreement between the lawyer and disciplinary counsel may constitute grounds for discipline.

**(j) Costs in Other Cases.** Costs in cases involving stipulations shall be governed by the provisions of rule 4.14. Assessment of costs in cases of transfer to disability inactive

status shall be governed by the provisions of this rule, but payment of such costs shall not become due until 90 days after the lawyer is reinstated to active status.

RLD 6.1
DECISIONS SUBJECT TO BOARD REVIEW

The decision of a hearing officer or panel shall be reviewed by the Board when:

(a) The recommendation is for the suspension or disbarment of the respondent lawyer; or

(b) The respondent lawyer or disciplinary counsel files a notice of appeal with the Association within 15 days of service of the decision on the respondent lawyer. When a motion to amend is filed as permitted by rule 4.13(c) the 15-day period shall not begin until the motion is decided. A notice of appeal shall specify the issues intended to be raised before the Board~~.~~; or

(c) The recommendation is for dismissal, admonition, censure or reprimand, and the chairperson of the Board files with the Association a notice of referral for *sua sponte* consideration of the decision within 15 days of service of the decision on the respondent lawyer. Upon filing such a notice of referral, the chairperson of the Board shall cause a copy of such notice to be forthwith served on the respondent lawyer and disciplinary counsel and shall schedule the matter for consideration by the Disciplinary Board. Upon consideration, the Board shall either issue an order for *sua sponte* review setting forth the issues to be reviewed or dismiss the *sua sponte* review.

RLD 6.3
APPEAL BY RESPONDENT
LAWYER OR DISCIPLINARY COUNSEL

**(a) Transcript To Be Ordered.** When Board review is being conducted pursuant to a notice of appeal filed under rule 6.1(b), disciplinary counsel shall cause a transcript of the hearing to be prepared and settled pursuant to rule 6.6, unless the respondent lawyer and disciplinary counsel agree that no transcript or only a partial transcript of the hearing is necessary for review. When Board review is being conducted pursuant to an order for *sua sponte* review filed under rule 6.1(c), a transcript of the hearing shall be prepared, served and settled as provided in rule 6.6 unless otherwise directed by the order for *sua sponte* review.

**(b) Statement in Opposition.** The appealing party shall file with the Association a statement in opposition to the decision of the hearing officer or panel (1) within 20 days of service on the respondent lawyer of a copy of the transcript, whether or not the transcript has been settled; or (2) within 20 days of filing of the notice of appeal when the transcript has previously been prepared and served on the respondent lawyer or when the parties have agreed that no transcript is necessary for review, whichever occurs later. Failure to file such a statement within the required period shall constitute an abandonment of the appeal.

**(c) Counterstatement.** The opposing party shall have 15 days from service on him or her of the statement of the appealing party to file a counterstatement, in response to the issues raised on appeal.

**(d) Response.** The appealing party may file a response to the counterstatement of the opposing party within 10 days of service of the counterstatement on him or her.

**(e) Procedure When Both Parties Appeal.** When the respondent lawyer and disciplinary counsel both file notices of appeal pursuant to rule 6.1(b), the respondent lawyer shall be considered the appealing party and disciplinary counsel shall be considered the opposing party for purposes of this rule. In such case the counterstatement of disciplinary counsel may raise any issue for Board review, and the respondent lawyer shall have an additional 5 days to file the response permitted by section (d).

**(f) Procedure On *Sua Sponte* Review.** When Board review is being conducted pursuant to an order of *sua sponte* review filed under rule 6.1(c), the procedures of rule 6.3(e) shall apply unless otherwise modified by the order for *sua sponte* review, except that both the respondent lawyer and disciplinary counsel may raise any issue for Board review.

RLD 6.5
REQUEST TO ~~REOPEN~~ FOR ADDITIONAL PROCEEDINGS

**(a) How Made.** In making any statement, counter statement or response as permitted in rules 6.2 and 6.3, the respondent lawyer or disciplinary counsel may request that ~~the record be reopened to allow the submission of additional evidence, or that~~ an additional hearing be held before the hearing officer or panel for the taking of additional evidence on the ground of newly discovered evidence. A request to ~~reopen the record or to~~ conduct an additional hearing shall be supported by affidavit describing in detail the additional evidence sought to be admitted, and the reason or reasons why the same was not presented at the previous hearing. Such request may be granted or denied in the discretion of the Board.

**(b) No Additional Evidence.** ~~Except as allowed under section (a), e~~ Evidence not presented to the hearing officer or panel shall not be presented to or considered by the Board ~~by any party without the consent of the opposing party~~.

RLD 6.7
DECISION OF BOARD

**(a) Basis for Review.** Review by the Board shall be based on the decision of the hearing officer or panel; any dissent of a hearing panel member; the statements and responses filed by the respondent lawyer and disciplinary counsel pursuant to rule 6.2 or 6.3; and the transcript or partial transcript of the hearing if one has been prepared. The Board may additionally review any other portion of the record of the matter including bar file documents and exhibits.

**(b) Standard of Review.** In reviewing the findings of fact of a hearing officer or hearing panel the Board shall apply a "substantial evidence" standard of review. In reviewing the conclusions of law and recommendation of a hearing officer or hearing panel, the Board will apply a "de novo" standard of review.

**(~~b~~c) Participation.** A member of the Board who sat as hearing officer or as a member of a hearing panel, or who sat as a member of a review committee which issued a lawyer an admonition on a matter, shall not be present during the review of that matter by the Board.

**(~~c~~d) Oral Argument.** Oral argument before the Board shall be permitted upon the request of either the respondent lawyer or disciplinary counsel, and may in addition be requested by the chairperson of the Board. Such request

shall be filed with the Association no later than the date on which the party requesting oral argument is permitted to file his or her final statement, counterstatement or response under rule 6.2 or rule 6.3, or in the case of a request by the chairperson of the Board, the chairperson's notice of oral argument shall be filed and served on the respondent lawyer and disciplinary counsel no later than 14 days prior to the date for oral argument. Oral argument shall be conducted at such time and place and under such terms as the chairperson of the Board shall direct.

(~~d~~e) **Action by Board.** Upon review the Board may adopt, modify or reverse the findings, conclusions or recommendation of the hearing officer or panel. The Board may also ~~reopen the record to allow the admission of additional evidence, or~~ direct that an additional hearing be held by the hearing officer with regard to any issue, on its own motion or upon request of either party.

(~~e~~f) **Decision.** The action of the Board shall be set forth in a written order filed with the Association, a copy of which shall be served upon the respondent lawyer. If the Board amends, modifies, or reverses any finding, conclusion or recommendation of the hearing officer or panel, the order of the Board shall set forth the reasons for its decision. A member of the Board agreeing with the decision of the majority may file separate concurring reasons.

(~~f~~g) **Dissent.** If any member of the Board dissents from the decision of a majority of the Board in a matter in which the majority of the Board recommends suspension or disbarment, he or she shall set forth in writing the reasons for that dissent. Written dissents may be filed in any other case. A copy of any dissent shall be served upon the respondent lawyer, and shall be part of the record.

(~~g~~h) **Decision Final Unless Appealed.** A decision of the Board shall become final if neither a notice of appeal nor a petition for review is filed by the respondent lawyer or disciplinary counsel within the time permitted by Title 7. A decision of the Board shall also become final upon denial by the Supreme Court of a petition for discretionary review.

RLD 7.1
METHODS OF SEEKING REVIEW

(a) **Two Methods for Seeking Review of Board Decisions.** There are two methods for seeking review by the Supreme Court of decisions of the Board entered pursuant to rule 6.7(~~e~~f): (1) Review as a matter of right, called "appeal"; and (2) review by permission of the Supreme Court, called "discretionary review". Both "appeal" and "discretionary review" are called "review".

(b) **Power of Court Not Affected.** This rule shall not affect the power of the Supreme Court to automatically review all decisions of the Board recommending suspension or disbarment and exercise its inherent and exclusive jurisdiction over the lawyer discipline and disability system. In the exercise of *sua sponte* review of any decision of the Disciplinary Board, the Supreme Court will give the respondent lawyer and disciplinary counsel notice of the Court's intent to consider such a review within 90 days of the Court being apprised of the decision by notice under rule 11.2(b), rule 3.1(h), or otherwise.

RLD 7.3
DISCRETIONARY REVIEW

(a) **Decisions Subject to Discretionary Review.** Decisions of the Board entered pursuant to rule 6.7(~~e~~f) which do not provide for suspension or disbarment are subject to review by the Supreme Court only through discretionary review. Discretionary review will be accepted only:

(1) If the decision of the Board is in conflict with a decision of the Supreme Court; or

(2) If a significant question of law is involved; or

(3) If there is no substantial evidence in the record to support a material finding of fact upon which the decision of the Board is based; or

(4) If the petition involves an issue of substantial public interest that should be determined by the Supreme Court.

(b) **Respondent Lawyer May Petition.** A respondent lawyer wishing to seek discretionary review by the Supreme Court of a decision of the Board must file a petition for review with the Supreme Court within 25 days of service of the decision of the Board upon the respondent lawyer.

(c) ~~**Board of Governors**~~ **Disciplinary Counsel May ~~Authorize~~ Petition ~~by Disciplinary Counsel.~~** The ~~Board of Governors~~ Chief Disciplinary Counsel may authorize disciplinary counsel to seek discretionary review by the Supreme Court of a decision of the Disciplinary Board by filing a petition for review with the Supreme Court within 25 days of service of the decision of the Board upon the respondent lawyer. ~~In order to seek such review, disciplinary counsel must file a notice of intention to seek discretionary review with the Association within 15 days of service of the decision of the Board upon the respondent lawyer. Within 45 days thereafter disciplinary counsel must file a petition for review with the Supreme Court, together with an order of the Board of Governors, signed by the president, authorizing such a petition. If the Board of Governors denies such authorization, the respondent lawyer shall be promptly notified.~~

(d) **Content of Petition; Answer; Service; Decision.** A petition for review should be substantially in the form prescribed by RAP 13.4(c) for petitions for review by the Supreme Court of decisions of the Court of Appeals, except that references in that rule to the Court of Appeals shall be considered references to the Board. The appendix to the petition or an appendix to an answer or reply may additionally contain any part of the record, including portions of the transcript or exhibits, to which the party refers in the petition, answer or reply. The provisions of RAP 13.4 (d), (e), (f), (g) and (h) shall govern answers and replies to petitions for review and related matters including service and decision by the court. Any party filing a petition for review with the court shall give notice of that fact to the other party.

(e) **Acceptance of Review.** The Supreme Court accepts discretionary review of a decision of the Board by granting a petition for review. Upon acceptance of review, procedures in the Supreme Court for matters subject to appeal and for matters subject to discretionary review are the same.

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RLD 7.5
RECORD TO SUPREME COURT

**(a) Transmittal.** Upon filing of a notice of appeal by the respondent attorney or upon acceptance of discretionary review by the Supreme Court, the record shall be transmitted to the Supreme Court by the clerk of the Board if one has been appointed, or by disciplinary counsel if no clerk has been appointed, within 10 days of the filing of the notice of appeal or service of the order accepting review, or in the event that oral argument was heard by the Board, within 10 days of the filing of the transcript with the Association. Each party shall be provided with a list of the portions of the record so transmitted.

**(b) Content.** The record transmitted to the court shall consist of:

(1) Any notice of appeal filed by the respondent attorney, and any notice of intention to seek discretionary review filed by disciplinary counsel;

(2) The decision of the Board, including any dissents or concurring statements;

(3) The decision of the hearing officer or panel, including any dissent;

(4) The transcript or partial transcript of the hearing if one has been prepared;

(5) Exhibits admitted in evidence;

~~(6) Any order assessing costs and expenses and any statements of costs and expenses and exceptions thereto;~~

(6) A transcript of any oral argument heard by the Board; and

(7) Any other portions of the record, including bar file documents, which appear necessary for full review.

**(c) Transmittal of Cost Orders.** Any order assessing costs and expenses entered under rule 5.7(e) and the supporting statements of costs and expenses and any exceptions filed under rule 5.7(d), shall be transmitted to the court as a separate part of the record within 10 days after the order assessing costs under rule 5.7(e) becomes final.

**(ed) Additions to Record.** The respondent lawyer and disciplinary counsel shall each have the right at any time to request the transmittal of additional portions of the record to the court.

RLD 7.6
BRIEFS

**(a) Brief Required.** The party seeking review shall file a brief setting forth his or her objections to the decision of the Board.

**(b) Time for Filing.** The brief of the party seeking review should be filed with the Supreme Court within ~~45~~ 30 days after he or she is notified of transmittal of the record to the Supreme Court.

**(c) Answering Brief.** The answering brief of the other party should be filed with the Supreme Court within 30 days after service of the brief of the party seeking review.

**(d) Reply Brief.** A reply brief of a party seeking review should be filed with the Supreme Court within the sooner of ~~30~~ 20 days after service of the answering brief or 14 days before oral argument. A reply brief should be limited to a response to the issues in the brief to which the reply brief is directed.

**(e) Briefs When Both Parties Seek Review.** When both the respondent lawyer and disciplinary counsel seek review of a decision of the Board, the respondent lawyer is deemed the party seeking review for the purposes of this rule. In such case disciplinary counsel may file a brief in reply to any response the respondent lawyer has made to the issues presented by disciplinary counsel, to be filed with the Supreme Court the sooner of ~~30~~ 20 days after service of the reply brief of the respondent lawyer or 14 days before oral argument.

**(f) Form of Briefs.** Briefs filed pursuant to this rule shall conform as nearly as possible to the requirements of RAP 10.3 and 10.4. Bar file documents should be abbreviated BF ~~and~~, the transcript or partial transcript of the hearing should be abbreviated TR and exhibits should be abbreviated EX.

**(g) Reproduction and Service of Briefs by Clerk.** Briefs filed pursuant to this rule shall be reproduced and served by the clerk as provided in RAP 10.5.

RLD 9.3
CHARACTER AND FITNESS COMMITTEE

**(a) Membership.**

(1) *Composition.* The Committee shall consist of not less than three nonlawyer members, appointed by the Supreme Court, and not less than one lawyer member from each congressional district, appointed by the Board of Governors.

(2) *Qualifications.* Lawyer members must have been active members of the Association for at least 7 years.

(3) *Quorum.* A majority of the Committee members shall constitute a quorum. Given a quorum, the concurrence of a majority of those present shall constitute action of the Committee.

(4) *Disqualification.* In the event a complaint is made to the Association alleging an act of misconduct by a lawyer member of the Committee, such member shall take a leave of absence from the Committee until the matter is resolved, unless otherwise directed by the Board of Governors.

(5) *Voting.* Each member, whether nonlawyer or lawyer, shall have one vote.

**(b) Terms of Office.** The term of office for a member of the Committee shall be 3 years. Newly created Committee positions may be filled by appointments of less than 3 years, as designated by the court or the Board of Governors, to permit as equal a number of positions as possible to be filled each year. All terms of office begin October 1 and end September 30 or when a successor has been appointed, whichever occurs later. Members may not serve more than one term except as otherwise provided in these rules. Members heretofore appointed shall continue to serve until replaced.

**(c) Chairperson.** The Board of Governors shall annually designate one lawyer member of the Committee to act as chairperson and another as vice-chairperson. The vice-chairperson shall serve in the absence of or at the request of the chairperson.

**(d) Vacancies.** Vacancies in lawyer membership on the Committee and in the office of the chairperson and the vice-chairperson shall be filled by the Board of Governors. Vacancies in nonlawyer membership shall be filled by the Supreme Court. A person appointed to fill a vacancy shall

complete the unexpired term of the person he or she replaces, and if that unexpired term is less than 18 months he or she may be reappointed to a consecutive term.

**(e) Pro Tempore Members.** When a member of the Committee is disqualified or unable to function on a case for good cause, the chairperson of the Committee may, by written order, designate a member pro tempore to sit with the Committee to hear and determine the cause. A member pro tempore may be appointed from among those persons who have previously served as members of the Character and Fitness Committee, or from among lawyers appointed as alternate Board members by the Board of Governors and nonlawyers appointed as alternate Committee members by the Supreme Court. A lawyer shall be appointed to substitute for a lawyer member of the Committee, and a nonlawyer to substitute for a nonlawyer member of the Board.

**(f) Authority of Committee.** The Committee shall have the power and authority to:

(1) Accept referrals from the Executive Director of the Association by concerning itself with matters of character and fitness bearing upon the qualification of applicants for reinstatement.

(2) Review each Petition for Reinstatement to practice law in the state of Washington.

(3) Investigate matters relevant to the reinstatement of any applicant and conduct hearings concerning such matters.

(4) The Committee's recommendation to grant the application shall be forwarded to the Supreme Court. The Committee's recommendation to deny the application may be forwarded to the Disciplinary Board ~~of Governors~~ for review upon request of the applicant. All recommendations shall contain findings of fact, conclusions of law, and rationale for the recommendation.

(5) Perform such other functions and take such other actions as provided in these rules or as may be delegated to it by the Board of Governors or Supreme Court, or as may be necessary and proper to carry out its duties.

**(g) Meetings.** The Committee shall hold meetings at such times and places as it may determine. Where the chairperson of the Committee determines that prompt action is necessary for protection of the public, and that circumstances do not permit a full meeting of the Committee, the Committee may vote on a matter otherwise ready for review without meeting together, through telephone or written communication.

**(h) Clerk.** The Executive Director of the Association, under the direction of the Board of Governors, may appoint a suitable person or persons to act as clerk to the Committee, and to assist the Committee in carrying out its functions under these rules.

RLD 9.6
ACTION BY CHARACTER AND FITNESS COMMITTEE

**(a) Requirements for Favorable Recommendation.** Reinstatement may be recommended by the Character and Fitness Committee only upon an affirmative showing that the petitioner possesses the qualifications and meets the requirements as set forth in the Admissions to Practice Rules for lawyer applicants, and that his or her reinstatement will not be detrimental to the integrity and standing of the judicial system or to the administration of justice, or be contrary to the public interest.

**(b) Action on Committee Recommendation.** The recommendation of the Character and Fitness Committee shall be served upon the petitioner. If the Committee recommends reinstatement, the record and recommendation shall be transmitted to the Supreme Court for disposition. If the Committee recommends against reinstatement, the record and recommendation shall be retained in the office of the Association unless the petitioner requests that it be submitted to the Disciplinary Board ~~of Governors~~. If the petitioner so requests, the record and recommendation shall be transmitted to the Disciplinary Board ~~of Governors~~ for disposition. If the petitioner does not so request, the bar examination fee shall be refunded to the petitioner, but the petitioner shall still be responsible for payment of the costs incidental to the reinstatement proceeding as directed by the Character and Fitness Committee.

**(c) Action on Disciplinary Board ~~of Governors~~ Recommendation.** The recommendation of the Disciplinary Board ~~of Governors~~ shall be served upon the petitioner. If the Disciplinary Board recommends reinstatement, the record and recommendation shall be transmitted to the Supreme Court for disposition. If the Disciplinary Board recommends against reinstatement, the record and recommendation shall be retained in the office of the Association unless the petitioner requests that it be submitted to the Supreme Court. If the petitioner so requests, the record and recommendation shall be transmitted to the Supreme Court for disposition. If the petitioner does not so request, the bar examination fee shall be refunded to the petitioner, but the petitioner shall still be responsible for payment of the costs incidental to the reinstatement proceeding as directed by the Disciplinary Board ~~of Governors~~.

RLD 10.2
DISCRETIONARY TRANSFER

**(a) Review Committee May Order Inquiry.** When it appears to a review committee that there is reasonable cause to believe that an active lawyer is unable adequately to practice law because of insanity, mental illness, senility, excessive use of alcohol or drugs, or other mental or physical incapacity, the committee shall order that a hearing be held to inquire into the capacity of the lawyer to practice law.

**(b) Inquiry During Course of Disciplinary Proceedings.** When it appears to the Board, a hearing officer or a hearing panel that there is reasonable cause to believe that a respondent lawyer is incapable of conducting a proper defense to a disciplinary proceeding against him or her because of insanity, mental illness, senility, excessive use of alcohol or drugs, or other mental or physical incapacity, the Board, officer or panel shall order that a supplemental hearing be held to inquire into the capacity of the lawyer to conduct a proper defense. Upon disciplinary counsel's receipt of such an order, disciplinary counsel shall petition the Supreme Court pursuant to rule 3.2(a) for interim suspension during the pendency of the inquiry. Such supplemental hearing and petition for interim suspension shall be automatic where the respondent lawyer alleges in the course of a disciplinary proceeding that he or she is unable to conduct a proper defense because of mental or physical incapacity.

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(c) **Procedure.** Proceedings conducted pursuant to this rule are not disciplinary proceedings, but shall be conducted under the same procedural rules as disciplinary proceedings. Any hearing held under section (b) above may be treated either as a new proceeding or as part of an existing proceeding, in the discretion of the Board, hearing officer or panel, and the disciplinary proceedings shall be held in abeyance pending the outcome of the supplemental proceeding. Upon a finding that (1) a lawyer does not have adequate mental or physical capacity to practice law, or (2) that a respondent lawyer is incapable of conducting a proper defense to a disciplinary proceeding against him or her because of insanity, mental illness, senility, excessive use of alcohol or drugs, or other mental or physical incapacity, the ~~A recommendation of a~~ hearing officer or panel shall recommend that ~~a~~ the lawyer be transferred to disability inactive status ~~under this rule~~, which recommendation shall be treated as a recommendation for suspension for the procedural purposes of these rules, including rule 6.1(a) and rule 7.2(a).

(d) **Appointment of Counsel.** In the event the respondent lawyer does not appear by counsel within the time required by these rules for the filing of an answer, or within 20 days of being notified of the issues to be considered in a supplemental proceeding under section (b), the chairperson of the Board shall appoint a member of the Association as counsel for such respondent lawyer.

(e) **Finding of Incapacity.** If after review of the decision of the hearing officer or panel, the Board (1) finds that a lawyer does not have adequate mental or physical capacity to practice law; or (2) finds that the respondent lawyer is incapable of ~~to~~ conducting a proper defense to a disciplinary ~~charges~~ proceeding against him or her because of insanity, mental illness, senility, excessive use of alcohol or drugs, or other mental or physical incapacity, it shall enter an order immediately transferring the lawyer to disability inactive status. Such transfer shall become effective upon service of such order upon the lawyer or his or her counsel.

(f) **Appeal to Supreme Court.** The lawyer may appeal an order of transfer to disability inactive status pursuant to the provisions of rule 7.2. The order of the Board shall remain in effect, regardless of the pendency of such appeal, unless and until reversed by the Supreme Court.

(g) **Proceedings Confidential.** All proceedings conducted pursuant to this rule shall be confidential.

RLD 12.1
SERVICE OF PAPERS

(a) **Service Required.** Every pleading, every paper relating to discovery, every written request or motion other than one which may be heard ex parte, and every similar paper or document issued by disciplinary counsel or the respondent lawyer under any provision of these rules shall be served on the opposing party (the respondent lawyer or disciplinary counsel as the case may be) as follows, unless personal service is required or unless these rules specifically provide otherwise:

(1) On the respondent lawyer, by mailing the same postage prepaid to the lawyer or his or her attorney of record, or leaving the same, at the address set forth in the answer or in a notice of appearance filed by an attorney on behalf of the lawyer or at the address set forth in any subsequent document filed by the lawyer or his or her attorney; or, in the absence of an answer, by mailing the same postage prepaid to the lawyer or leaving the same at his or her address on file with the Association;

(2) On disciplinary counsel, by mailing the same postage prepaid, or leaving the same, at the address of the Association or such other address as disciplinary counsel may request;

(3) Service of notice of dismissals by disciplinary counsel under rule 2.6(c) and notice of dismissals by review committees under rule 2.4 (d)(4) may be made by regular first class mail. In all other instances, service by mail under this section shall be by certified or registered mail, return receipt requested, unless the parties agree otherwise, except that when one or more certified mailings properly made pursuant to this rule is returned as unclaimed service may be made by regular first class mail. Service properly made as herein provided shall be effective regardless of whether the person to whom the mail is addressed actually receives it.

(b) **Personal Service.** When personal service upon a respondent lawyer is required by these rules, it shall be accomplished as follows:

(1) If the respondent lawyer is found in the state of Washington, by personal service upon him or her in the manner required for personal service of a summons in a civil action in the superior court.

(2) If the respondent lawyer cannot be found in the state of Washington, service can be made either by (i) leaving a copy at his or her place of usual abode in the state of Washington with some person of suitable age and discretion then resident therein; or (ii) mailing by registered or certified mail, postage prepaid, a copy addressed to him or her at his or her last known place of abode, or office address maintained by him or her for the practice of law, or post office address or address on file with the Association.

(3) If the respondent lawyer is found outside of the state of Washington, then by service as set forth in (1) or (2) above.

(c) **Service Where Question of Mental Competence.** If a guardian or guardian ad litem has been duly appointed for a respondent lawyer who has been judicially declared to be of unsound mind or incapable of conducting his or her own affairs, service under sections 12.1 (a) and (b) above shall also be made on the guardian or guardian ad litem.

**(d) Service of Request by Grievant for Review of Dismissal.** Service upon the Association of a request by a grievant for review of dismissal of a grievance shall be made by delivering or mailing by first class, registered or certified mail a written request for review to disciplinary counsel. Service shall be deemed accomplished on the date of mailing, or, if not mailed, on the date of receipt by the Association.

(~~d~~e) **Proof of Service.** Proof of service when personal service is required shall be made by affidavit of service, sheriff's return of service, or a signed acknowledgment of service. Proof of service in other cases may alternatively be made by certificate of an attorney similar to that allowed by CR 5 (b)(2)(B), which certificate shall state the form of mail used. Proof of service in all cases shall be filed in the office of the Association, or with the Supreme Court in matters before the court, but need not be served on the opposing party.

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RLD 12.8
MAINTENANCE OF RECORDS

**(a) Permanent Records.** In any matter in which a disciplinary sanction has been imposed on a lawyer, the bar file and transcripts in the proceeding shall be permanent records of the Association and/or of the Supreme Court. Related file materials, including investigatory files, may be maintained in the discretion of disciplinary counsel. Exhibits may be returned to the party supplying them, but copies shall be retained where possible.

**(b) Destruction of Files.** In any matter in which a grievance or investigation has been dismissed without the imposition of a disciplinary sanction, whether following a hearing or otherwise, file materials relating to the matter may be destroyed 3 years after the dismissal first occurred, and shall be destroyed at that time upon the request of the lawyer involved unless the files are being used in an ongoing investigation or unless other good cause exists for retention. The Disciplinary Board ~~of Governors~~ shall rule on a request by a lawyer for destruction of files pursuant to this rule when that request is opposed by disciplinary counsel.

**(c) Retention of Docket.** When a file on a matter has been destroyed pursuant to section (b), the Association may retain a docket record of the matter for statistical purposes only. That docket record shall not include the name or other identification of the lawyer complained against.

**(d) Deceased Lawyers.** Records and files relating to a lawyer who has died, including permanent records, may be destroyed at any time in the discretion of disciplinary counsel.

RLD 12.10
STATUTE OF LIMITATIONS

There is no statute of limitation or other time limitation restricting the filing of a grievance or bringing of a proceeding under these rules, but the passage of time since an act of misconduct occurred may be considered in determining what if any action or sanction is warranted.

**Reviser's note:** The brackets and enclosed material in the text above occurred in the copy filed by the Supreme Court and appear in the Register pursuant to the requirements of RCW 34.08.040.

**Reviser's note:** The typographical errors in the above material occurred in the copy filed by the Supreme Court and appear in the Register pursuant to the requirements of RCW 34.08.040.

MISC.

## WSR 97-16-004
## INTERPRETIVE OR POLICY STATEMENT
## DEPARTMENT OF SOCIAL AND HEALTH SERVICES
[Filed July 24, 1997, 10:40 a.m.]

DESCRIPTION OF INTERPRETIVE OR POLICY STATEMENT

Document Title: 8/97 #1 Medical News Bulletin.

Subject: Rate increase for hearing aid casing (replacement only).

Effective Date: August 1, 1997.

Document Description: Effective with date of service on or after August 1, 1997, the maximum allowable fee for procedure code 5002V - Hearing Aid Casing (Replacement Only) will be increased to $75.00. Attached is replacement page 21/22 for the November 1996, Hearing Aids and Services Billing Instruction [no information supplied by agency].

To receive a copy of the interpretive or policy statement, contact Anne DeJarnette, Administrative Regulations Analyst, Department of Social and Health Services, Medical Assistance Administration, Division of Provider Services, P.O. Box 45530, Olympia, WA 98504, phone (360) 664-2320, TDD 1-800-848-5429, FAX (360) 753-7315, e-mail dejarae@dshs.wa.gov.

Roxie Schalliol, Section Head
Program Assistance Services

## WSR 97-16-005
## INTERPRETIVE OR POLICY STATEMENT
## DEPARTMENT OF SOCIAL AND HEALTH SERVICES
[Filed July 24, 1997, 10:41 a.m.]

DESCRIPTION OF INTERPRETIVE OR POLICY STATEMENT

Document Title: Medical News Bulletin 8/97 #2.

Subject: Rate correction for nondurable medical equipment and supplies.

Effective Date: July 1, 1997.

Document Description: The one (1.0) percent vendor rate increase **effective July 1, 1997, dates of service** for procedure code 0181E (breast pump kit, electric) is corrected to **$25.07**. Attached are replacement pages 17/18, for the **Nondurable Medical Equipment and Medical Supplies Billing Instructions,** dated September 1995, and pages 93/94 for the **Wheelchairs, Durable Medical Equipment and Supplies Billing Instructions,** dated April 1997 [no information supplied by agency].

To receive a copy of the interpretive or policy statement, contact Anne DeJarnette, Administrative Regulations Analyst, Department of Social and Health Services, Medical Assistance Administration, Division of Provider Services, P.O. Box 45530, Olympia, WA 98504, phone (360) 664-2320, TDD 1-800-848-5429, FAX (360) 753-7315, e-mail dejarae@dshs.wa.gov.

Roxie Schalliol, Section Head
Program Assistance Services

## WSR 97-16-006
## INTERPRETIVE OR POLICY STATEMENT
## DEPARTMENT OF SOCIAL AND HEALTH SERVICES
[Filed July 24, 1997, 10:42 a.m.]

DESCRIPTION OF INTERPRETIVE OR POLICY STATEMENT

Document Title: Nursing Facility.

Subject: Policy and billing instructions.

Effective Date: August 1, 1997.

Document Description: This manual is for nursing facility providers. It describes the program and billing procedures including client eligibility, payment process, calculating the 90% payout, creating and correcting the turnaround documents.

To receive a copy of the interpretive or policy statement, contact Anne DeJarnette, Administrative Regulations Analyst, Department of Social and Health Services, Medical Assistance Administration, Division of Program Support, P.O. Box 45530, Olympia, WA 98513, phone (360) 664-2320, TDD 1-800-848-5429, FAX (360) 753-7315, e-mail dejarae@dshs.wa.gov.

Roxie Schalliol, Section Head
Program Assistance Services Section

## WSR 97-16-007
### INTERPRETIVE OR POLICY STATEMENT
### DEPARTMENT OF SOCIAL AND HEALTH SERVICES
[Filed July 24, 1997, 10:43 a.m.]

DESCRIPTION OF INTERPRETIVE OR POLICY STATEMENT

Document Title: Interpreter Services Billing Instructions.

Subject: Interpreter services billing guidelines.

Effective Date: July 1, 1997.

Document Description: As a result of the 1997-99 Biennium budget changes, the Medical Assistance Administration is issuing updated billing instructions for the interpreter services.

To receive a copy of the interpretive or policy statement, contact Anne DeJarnette, Administrative Regulations Analyst, Department of Social and Health Services, Medical Assistance Administration, Division of Program Support, P.O. Box 45530, Olympia, WA 98504, phone (360) 664-2320, TDD 1-800-848-5429, FAX (360) 753-7315, e-mail dejarae@dshs.wa.gov.

Roxie Schalliol, Section Head
Program Assistance Services

## WSR 97-16-017
### NOTICE OF PUBLIC MEETINGS
### COMMUNITY ECONOMIC REVITALIZATION BOARD
[Memorandum—July 24, 1997]

COMMUNITY ECONOMIC REVITALIZATION BOARD MEETING

CHANGE OF LOCATION AND TIME

Date Affected: September 18, 1997.

New Location: Conference Room B, John Cherberg Building, Olympia, Washington.

New Time: 1:00 p.m.

## WSR 97-16-018
### RULES COORDINATOR
### COMMUNITY ECONOMIC REVITALIZATION BOARD
[Filed July 25, 1997, 4:35 p.m.]

I am designating Kate Engle, Manager of the Community Economic Revitalization Board (CERB), phone (360) 586-0657, FAX (360) 586-0873, e-mail KateE@cted.wa.gov, as the designated rules coordinator and regulatory review contact for CERB, Title 133 WAC (chapter 43.160 RCW).

James L. McIntire
Chair

## WSR 97-16-022
### NOTICE OF PUBLIC MEETINGS
### DEPARTMENT OF LICENSING
[Memorandum—July 28, 1997]

Following is a public meeting notice for the Title and Registration Advisory Committee (TRAC):

| | |
|---|---|
| Date: | September 17, 1997 |
| Time: | 10:00 a.m. to 12:00 noon |
| Place: | Department of Licensing<br>Highways-Licenses Building<br>Room 413 (Fourth Floor)<br>Olympia, Washington |

## WSR 97-16-028
### NOTICE OF PUBLIC MEETINGS
### UNIVERSITY OF WASHINGTON
[Memorandum—July 22, 1997]

At the direction of Daniel J. Evans, president of the board of regents, at the meeting of the board on July 18, 1997, and with the concurrence of the members of the board and of Dr. Richard L. McCormick, president of the university, the meeting of the board of regents scheduled for August 15, 1997, is canceled.

## WSR 97-16-029
### NOTICE OF PUBLIC MEETINGS
### UNIVERSITY OF WASHINGTON
[Memorandum—July 22, 1997]

The August 15, 1997, meeting of the University of Washington board of regents has been canceled.

The next regular meeting of the board will be held as scheduled on September 19, 1997.

MISC.

WSR 97-16-033
AGENDA
DEPARTMENT OF AGRICULTURE
[Filed July 29, 1997, 4:56 p.m.]

## Washington State Department of Agriculture - Semi-Annual Rules Agenda

| Chapter | Subject/Contact Person | Approximate CR-101 Filing Date | Approximate Adoption Date | Other Agencies That May be Affected |
|---|---|---|---|---|
| 16-20, 16-21, 16-22, and 16-23 | Custom slaughter plants, slaughterers, handling of carcasses, custom meat handling establishments and custom meat facilities. Contact Verne Hedlund, Program Manager, phone (360) 902-1860. | October 1997 | March 1998 | United States Department of Agriculture |
| 16-96 | Production record brands on cattle. Contact Julie Sandberg, Assistant Director, phone (360) 902-1851. | January 1998 | July 1998 | None |
| 16-101 | Warning labels on raw milk for human consumption. Contact Verne Hedlund, Program Manager, phone (360) 902-1860. | March 1997 | September 1997 | Department of Health<br>Local health departments |
| 16-101X | Penalties—Degrades for dairy producers and processors. Contact Mike Donovan, Program Manager, phone (360) 902-1883. | November 1997 | May 1998 | None |
| 16-102 | Butterfat testing of milk. Contact Verne Hedlund, Program Manager, phone (360) 902-1860. | December 1997 | June 1998 | None |
| 16-129 | Labeling and advertising of products resembling genuine dairy products. Contact Verne Hedlund, Program Manager, phone (360) 902-1860 | December 1997 | June 1998 | None |
| 16-154 | Organic crop production standards—Fees. Contact Miles McEvoy, Program Manager, phone (360) 902-1924. | January 1998 | May 1998 | None |
| 16-156 | Organic producer and transition to organic producer certification—Fees. Contact Miles McEvoy, Program Manager, phone (360) 902-1924. | July 1997 | December 1997 | None |
| 16-158 | Standards for the certification of processor of organic food—Fees and standards. Contact Miles McEvoy, Program Manager, phone (360) 902-1924. | July 1997 | October 1997 | None |
| 16-162 | Animal production standards for organic meat and dairy products—Standards. Contact Miles McEvoy, Program Manager, phone (360) 902-1924. | April 1997 | December 1997 | None |
| 16-164 | Standards for the certification of handlers of organic food—Fees and standards. Contact Miles McEvoy, Program Manager, phone (360) 902-1924. | July 1997 | December 1997 | None |
| 16-167 | Intrastate commerce in foods - adoption of latest federal regulations under Title 21 CFR. Contact Verne Hedlund, Program Manager, phone (360) 902-1860. | August 1997 | January 1998 | None |
| 16-168 | Qualifications for approved sanitation consultants for food storage warehouses. Contact Verne Hedlund, Program Manager, phone (360) 902-1860. | July 1997 | December 1997 | None |
| 16-201 | Secondary containment of bulk storage fertilizers. Contact Cliff Weed, Program Manager, phone (360) 902-2036. | November 1997 | May 1998 | Department of Ecology |
| 16-223 | Incorporate federal changes worker protection standards. Contact Ann Wick, Program Manager, (360) 902-2051. | Dependent on EPA action | Dependent on EPA action | Labor and Industries<br>United States Environmental Protection Agency |
| 16-228 | General rules relating to pesticide use. Contact Cliff Weed, Program Manager, phone (360) 902-2036 | December 1997 | May 1998 | None |

| | | | | |
|---|---|---|---|---|
| 16-228 | Pesticide penalty matrix.<br>Contact Cliff Weed, Program Manager, phone (360) 902-2036. | November 1997 | November 1998 | None |
| 16-229 | Secondary and operational areas containment of bulk pesticides.<br>Contact Cliff Weed, Program Manager, phone (360) 902-2036. | November 1997 | May 1998 | Department of Ecology |
| 16-230 | Restricted use herbicides in Benton, Franklin and Walla Walla counties.<br>Contact Cliff Weed, Program Manager, phone (360) 902-2036. | September 1997 | April 1998 | None |
| 16-354 | Hop rootstock certification standards.<br>Contact Mary M. Toohey, Assistant Director, (360) 902-1907. | November 1997 | April 1998 | None |
| 16-470 | Japanese beetle quarantine.<br>Contact Diane Dolstad, Program Manager, (360) 902-2071. | November 1997 | April 1998 | None |
| 16-488 | Blueberry quarantine.<br>Contact Mary M. Toohey, Assistant Director, (360) 902-1907. | August 1997 | January 1998 | None |
| 16-497 | Hop disease quarantine.<br>Contact Mary M. Toohey, Assistant Director, (360) 902-1907. | November 1997 | April 1998 | None |
| 16-532 | Hop Commission assessment and collection procedures.<br>Contact Walter Swenson, Programs Administrator, phone (360) 902-1928. | February 1997 | August 1997 | None |
| 16-532 | Hop Commission credit for promotion program.<br>Contact Walter Swenson, Programs Administrator, phone (360) 902-1928. | August 1997 | January 1998 | None |
| 16-536 | Dry pea and lentil assessment and collection procedures.<br>Contact Walter Swenson, Programs Administrator, phone (360) 902-1928. | April 1997 | August 1997 | None |
| 16-573 | Proposed Canola Commission.<br>Contact Walter Swenson, Programs Administrator, phone (360) 902-1928. | July 1996 | August 1997 | None |
| 16-580 | Farmed salmon assessment and board membership.<br>Contact Walter Swenson, Programs Administrator, phone (360) 902-1928. | May 1997 | August 1997 | None |
| 16-602 | Apiary penalty matrix, apiary identification, recordkeeping and bee broker registration fee.<br>Contact Jim Bach, Program Manager, (509) 576-3041. | July 1997 | December 1997 | None |
| 16-604 | Public livestock markets.<br>Contact Julie Sandberg, Assistant Director, (360) 902-1851. | January 1998 | May 1998 | None |
| 16-605A | Certified feed lots—Audit fees.<br>Contact Julie Sandberg, Assistant Director, (360) 902-1851. | January 1998 | May 1998 | None |
| 16-608 | Special livestock sales.<br>Contact Julie Sandberg, Assistant Director, (360) 902-1851. | January 1998 | May 1998 | None |
| 16-620 | Brand inspection program.<br>Contact Julie Sandberg, Assistant Director, (360) 902-1851. | February 1997 | June 1998 | None |
| 16-657 | Weights/measures—Motor fuel sign requirements.<br>Contact Julie Sandberg, Assistant Director, (360) 902-1851. | January 1998 | July 1998 | None |
| 16-675 | Metrology lab fees.<br>Contact Julie Sandberg, Assistant Director, (360) 902-1851. | January 1998 | July 1998 | None |
| 16-694 | Commission merchants—License fees.<br>Contact Julie Sandberg, Assistant Director, (360) 902-1851. | January 1998 | July 1998 | None |
| 16-695 | Ginseng management program operations and fees.<br>Contact Diane Dolstad, Program Manager, (360) 902-2071. | December 1995 | December 1997 | None |
| 16-750 | State noxious weed list and schedule of monetary penalties.<br>Contact Lisa Lantz, Executive Secretary, State Weed Board, (206) 872-2972. | May 28, 1997 | January 1, 1998 | Department of Natural Resources<br>Department of Transportation<br>Washington State Parks<br>Department of Fish and Wildlife |

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|---|---|---|---|---|
| 16-752 | Yellow nutsedge quarantine. Contact Diane Dolstad, Program Manager, (360) 902-2071, | September 1997 | February 1998 | State Noxious Weed Control Board |
| 16-752 | Wetland and aquatic weed quarantine. Contact Diane Dolstad, Program Manager, (360) 902-2071. | December 1997 | May 1998 | State Noxious Weed Control Board |
| 16-752, 16-300 | Noxious weed seed and plant quarantine. Contact Diane Dolstad, Program Manager, (360) 902-2071. | December 1997 | May 1998 | State Noxious Weed Control Board |
| 16-752 | State noxious weed list and schedule of monetary penalties. Contact Diane Dolstad, Program Manager, (360) 902-2071. | October 1997 | March 1998 | State Noxious Weed Control Board |
| 16-752 | Purple loosestrife quarantine. Contact Diane Dolstad, Program Manager, (360) 902-2071 | November 1997 | April 1998 | State Noxious Weed Control Board |
| New rules | Seed potato exclusion districts. Contact Mary M. Toohey, Assistant Director, (360) 902-1907. | October 1997 | May 1998 | None |
| New rules | Nursery plant stock labeling. Contact Mary M. Toohey, Assistant Director, (360) 902-1907. | December 1997 | May 1998 | None |
| New rules | Define "freedom from infestation" and relevant nursery program operations. Contact Mary M. Toohey, Assistant Director, (360) 902-1907. | December 1997 | May 1998 | None |
| New rules | AFDO model food salvage. Contact Verne Hedlund, Program Manager, phone (360) 902-1860. | December 1997 | June 1998 | United States Food and Drug Administration Department of Health |
| New rules (16-139) | Penalties—Food safety program. Contact Mike Donovan, Program Manager, phone (360) 902-1883. | June 1997 | December 1997 | None |
| New rules | Requirements for water used in food processing. Contact Mike Donovan, Program Manager, phone (360) 902-1883. | October 1997 | March 1998 | Department of Health |

For more information contact Dannie McQueen, Rules Coordinator, Washington State Department of Agriculture, P.O. Box 42560, Olympia, WA 98504-2560, phone (360) 902-1809.

James M. Jesernig
Director

## WSR 97-16-040
### AGENDA
## DEPARTMENT OF LICENSING
[Filed July 31, 1997, 8:22 a.m.]

### DEPARTMENT OF LICENSING
### RULE-MAKING AGENDA FOR RULES UNDER DEVELOPMENT

| CR-101 | CR-102 | PROGRAM | SUBJECT |
|---|---|---|---|
| 96-12-078 | | Engineers | Implementation of chapter 293, Laws of 1996 requiring the suspension of professional license/ certification for default on federal/state guaranteed student loans. |
| 95-17-080 | | Title and Registration | Procedure for titling vehicles in the name of a guardian. |
| 95-17-081 | | Title and Registration | Procedure for titling vehicles pursuant to chapter 11.114 RCW, Uniform Transfer to Minors Act. |
| 95-22-005 | | Funeral Directors and Embalmers | Standards for the handling and care of human remains. |
| 95-22-002 | | Funeral Directors and Embalmers | Funeral directors and embalmer apprentice training requirements. |
| 95-22-003 | | Funeral Directors and Embalmers | Funeral establishment facility standards and equipment standards. |
| 95-22-004 | | Funeral Directors and Embalmers | Prearrangement funeral service trust agreement requirements. |

| | | | |
|---|---|---|---|
| 96-13-015 | | Business and Professions Division | Implementation of chapter 293, Laws of 1996 requiring the suspension of professional license/ certification for default on federal/state guaranteed student loans. |
| 96-12-090 | 97-13-080 | Private Investigators | Establish rules to implement the changes made to chapter 18.165 RCW. |
| 96-12-091 | 97-13-081 | Security Guards | Establish rules to implement the changes to chapter 18.170 RCW. |
| 96-20-005 | | Engineers | Expanding the board's use of brief adjudicative proceedings as provided for in RCW 34.05.482 - [34.05.]494. |
| 96-20-006 | | Business and Professions Division | Brief adjudication proceedings. |
| 96-19-036 | | Fuel Tax | Provide for administrative procedures for trust fund accountability assessment for motor fuel, special fuel and aircraft fuel taxes and clarifies assessment appeal process for additional taxes, delinquent taxes and penalty and interest assessments for motor fuel. |
| 97-03-029 | | Engineers | Requirements relating to application, qualification and examinations for licensure as a professional engineer. |
| 97-06-082 | | Title and Registration | Confidential vehicle license plate applications and procedures. |
| 97-06-081 | | Title and Registration | Confidential vessel registration applications and procedures. |
| 97-08-069 | 97-10-080 | Architects | Architect fees. |
| 97-09-083 | | Real Estate Appraiser | Increase real estate appraiser application certification, and renewal fees to defray costs of administering the real estate appraiser program. |
| 97-11-002 | | Driver Responsibility | Procedural rules regarding the revocation and restoration of driving privileges of those forced to be an habitual traffic offender under chapter 46.65 RCW, including rules regarding the right to a hearing. |
| 97-11-059 | 97-15-101 | Real Estate Appraiser | Increase real estate appraiser application, certification, and renewal fees to defray costs of administering the real estate appraiser program. |
| | 97-12-044 | Title and Registration | Implementation of EHB 1940, chapter 229, Laws of 1997 and SSB 5060, chapter 66, Laws of 1997. |
| 97-11-066 | 97-15-091 | Title and Registration | Commercial parking companies. |
| 97-12-067 | | Title and Registration | Chapter 308-96A WAC, Vehicle licenses. |
| 97-12-026 | | Title and Registration | Chapter 308-93 WAC, Vessel registration and certificate of title. |
| | 97-14-103 | Drivers Administration | Incorporate provisions of the federal Driver's Privacy Protection Act of 1994 in the agency's rule regarding exemptions to the public disclosure provisions of chapter 42.17 RCW and clarifies language. |
| 97-15-037 | | Vehicle Dealers | Change in vehicle dealer temporary permit requirements. |
| 97-13-079 | | Professional Athletics | Establish new rules for the regulation of professional boxing, wrestling, kickboxing and martial arts. |

MISC.

## WSR 97-16-047
AGENDA
## EMPLOYMENT SECURITY DEPARTMENT
[Filed July 31, 1997, 2:15 p.m.]

**Employment Security Department**
**Rule-Making Agenda**
**July 31, 1997**

Subject: In-person filing requirements for UI benefits.

Division or Office Initiating Rule-Making Activity: Unemployment Insurance Division.

WAC Sections Affected: WAC 192-12-141 (2), (4)(a), (5)(b), (11), and 192-23-018.

Description of Intended Rule-Making Activity: Remove the requirement that initial claims, claims for waiting period credit, continued claims, and additional or reopened claims be filed in-person. Authorize the use of the mail to file claims when the department deems appropriate.

Expected Public Participation: These amendments were tested as a pilot rule in Pierce County, and selected sites in King County. The report from the Pilot Study Group indicates the pilot was a success and recommends the permanent rules be amended to allow initial and reopened claims to be filed by mail.

Tentative Schedule of Rule-Making Activity:

| | |
|---|---|
| Preproposal Notice of Intent (CR-101) - | November 1994; modified March 1995. |
| Proposed Rule Making (CR-102) - | August 1997. |
| Public Hearings - | September 1997. |
| Order Rule Adoption (CR-103) - | October 1997. |
| Effective Date - | November 1997. |

Subject: Filing continued claims by telephone.

Division or Office Initiating Rule-Making Activity: Unemployment Insurance Division.

WAC Sections Affected: WAC 192-12-005, 192-12-012, 192-12-141, 192-18-012, 192-23-800, 192-23-810, and 192-23-900. New sections in chapters 192-12 and 192-16 WAC.

Description of Intended Rule-Making Activity: The department has been piloting an interactive voice response system to allow unemployment insurance claimants to file weekly benefit claims by telephone. The amendments clarify agency procedures relative to claims that are filed by telephone. They also clarify how vacation pay will be treated, and the methods for notifying claimants of reductions for unavailability.

Expected Public Participation: Initially proposed as a pilot study, the department eventually used the agency study process. The findings of the study will be shared with interested parties prior to the permanent amendment of the rules.

Tentative Schedule of Rule-Making Activity:

| | |
|---|---|
| Preproposal Notice of Intent (CR-101) - | October 1995. |
| Proposed Rule Making (CR-102) - | September 1997. |
| Public Hearings - | October 1997. |
| Order Rule Adoption (CR-103) - | November 1997. |
| Effective Date - | December 1997. |

Subject: Timber retraining benefits.

Division or Office Initiating Rule-Making Activity: Unemployment Insurance Division.

WAC Sections Affected: Amendments to chapter 192-32 WAC, Timber retraining benefits, including repeal of four rules. New sections in chapter 192-33 WAC, Workforce training.

Description of Intended Rule-Making Activity: Amend rules in chapter consistent with provisions of 2SHB 1201, passed by the 1997 legislature. Adopt rule defining salmon fishing workers eligible for services under chapter 50.70 RCW. Adopt rule clarifying persons eligible for services under RCW 50.12.270.

Expected Public Participation: Input from interested parties will be solicited during the preproposal comment period.

Tentative Schedule of Rule-Making Activity:

| | |
|---|---|
| Preproposal Notice of Intent (CR-101) - | July 1997. |
| Proposed Rule Making (CR-102) - | October 1997. |
| Public Hearings - | November 1997. |
| Order Rule Adoption (CR-103) - | December 1997. |
| Effective Date - | January 1998. |

Subject: Unemployment benefits for pregnant claimants.

Division or Office Initiating Rule-Making Activity: Unemployment Insurance Division.

WAC Sections Affected: New sections in chapter 192-16 WAC.

Description of Intended Rule-Making Activity: Adopt rules requiring the department to provide a directive to claimants who leave work due to pregnancy; treat disability resulting from pregnancy the same as other medical disabilities when determining eligibility for unemployment benefits; consider whether an employer offered reasonable accommodation before deeming a claimant unavailable for work; and not deem a pregnant claimant unavailable for work solely because of a voluntary leave of absence.

Expected Public Participation: Input from interested parties will be solicited during the preproposal comment period.

Tentative Schedule of Rule-Making Activity:

| | |
|---|---|
| Preproposal Notice of Intent (CR-101) - | May 1997. |
| Proposed Rule Making (CR-102) - | September 1997. |
| Public Hearings - | October 1997. |
| Order Rule Adoption (CR-103) - | November 1997. |
| Effective Date - | December 1997. |

Subject: Predecessor/successor relationships and reporting requirements.

Division or Office Initiating Rule-Making Activity: Unemployment Insurance Division.

WAC Sections Affected: WAC 192-12-072, and a new section in chapter 192-12 WAC.

Description of Intended Rule-Making Activity: Amend WAC 192-12-072 to state that the transfer of employees to an employee leasing company is not a predecessor/successor relationship for UI contribution purposes. Add a section specifying the number of days a partial successor has in which to notify the department of the percentage transferred, and the consequences to the employer for failure to do so.

Expected Public Participation: Input will be solicited from interested parties during the preproposal comment period.

Tentative Schedule of Rule-Making Activity:

| | |
|---|---|
| Preproposal Notice of Intent (CR-101) - | July 1997. |
| Proposed Rule Making (CR-102) - | September 1997. |
| Public Hearings - | October 1997. |
| Order Rule Adoption (CR-103) - | November 1996 [1997]. |
| Effective Date - | December 1997. |

Subject: Waiver of penalties for delinquent contributions.

Division or Office Initiating Rule-Making Activity: Unemployment Insurance Division.

WAC Sections Affected: WAC 192-12-042.

Description of Intended Rule-Making Activity: Add a provision allowing waiver of penalties for delinquent contributions for employers who are subject to a voluntary audit as provided in RCW 43.05.140.

Expected Public Participation: Input from interested parties will be solicited during the preproposal comment period.

Tentative Schedule of Rule-Making Activity:

| | |
|---|---|
| Preproposal Notice of Intent (CR-101) - | July 1997. |
| Proposed Rule Making (CR-102) - | September 1997. |
| Public Hearing - | October 1997. |
| Order Rule Adoption (CR-103) - | November 1997. |
| Effective Date - | December 1997. |

## WSR 97-16-049
AGENDA
## DEPARTMENT OF ECOLOGY
[Filed July 31, 1997, 3:47 p.m.]

**Department of Ecology**
**Semi-Annual Rule Agenda**
**July 31, 1997 - January 31, 1998**

| WAC NUMBER | WAC TITLE | AGENCY CONTACT |
|---|---|---|
| 173-204 | Sediment Management Standards (Human Health Sediment Criteria) | Laura Weiss 407-7446 |
| 173-806 | Model Ordinance | Neil Aaland 407-7045 |
| 173-802 | SEPA Procedures | Neil Aaland 407-7046 |
| 197-11 | SEPA Rules | Neil Aaland 407-7046 |
| 173-400-110 | General Regulation for Air Pollution | Tony Warfield 407-6892 |
| 173-400-120<br>173-400-130<br>173-400-136<br>173-400-141 | General Regulation for Air Pollution (Maximum Achievable Control Technology and Other Federal Standards Incorporated) | Dan Clarkson 407-6892 |
| 173-400 | General Regulation for Air Pollution | Tony Warfield 407-6892 |
| 173-400 | General Regulation for Air Pollution | Peter Lyon 407-7530 |
| 173-401 | Operating Permit Regulation | Tom Todd 407-7528 |
| 173-415 | Primary Aluminum Plants | Carol Piening 407-6858 |
| 173-485 | Aluminum Maximum Achievable Control Technology/Reasonable Available Control Technology | Eric Oie 407-6915 |
| 173-434 | Emissions Standards for Solid Waste Incineration. General Regulation for Air Pollution Sources, Kraft Pulping Mills, Sulfite Pulping Mills, Solid Fuel Burning Device Standards (Hog Fuel Boilers RACT (Reasonable Available Control Technology)) | Peter Lyon 407-7530 |
| 173-434 | Emission Standards for Solid Waste Incineration (Municipal Waste Combustors) | Judy Geier 407-6850 |
| 173-460 | Controls for New Sources of Toxic Air Pollution (New Source Review for Toxics) | Tony Warfield 407-6892 |
| 173-420 | Conformity of Transportation Activities to Air Quality Implementation Plan | Paul Carr 407-6863 |
| 173-491 | Emission Standards and Controls for Sources Emitting Gas Vapors | Kitty Gillespie 407-6862 |
| 173-490 | Emission Standards and Controls for Sources Emitting VOCs | Kitty Gillespie 407-6862 |
| 173-425 | Open Burning | Bruce Smith |

| | | |
|---|---|---|
| 173-475<br>173-470 | Ambient Air Quality Standards for Carbon Monoxide, Ozone and Nitrogen Dioxide<br>Ambient Air Quality Standards for Particulate Matter | Melissa McEachron<br>(509) 456-5010 |
| 173-433 | Solid Fuel Burning Devices | Melissa McEachron<br>(509) 456-5010 |
| 173-435 | Emergency Episode Plans | Melissa McEachron<br>(509) 456-5010 |
| 173-303 | Dangerous Waste Regulations | Chipper Hervieux<br>407-6756 |
| 173-340 | Model Toxic Control Act Cleanup Regulation (MTCA) | Trish Akana<br>407-7230 |
| 173-308 | Biosolids Management | Kyle Dorsey<br>07-6107 |
| 173-304 | Minimum Functional Standards for Solid Waste Handling | Mike Hibbler<br>(509) 456-3270 |
| 173-321 | Public Participation Grants | Kathy Seel<br>407-6061 |
| 173-322 | Remedial Action Grants | Steve Loftness<br>407-6060 |
| 173-NEW | Litter Grants | Pat Dice<br>407-6053 |
| 173-25 NEW | Shoreline Management Act - Streams and Rivers, Lakes, Wetlands Constituting Shorelines of the State (SMA) | Doug Canning<br>407-6781 |
| 173-20 | Shoreline Management Act - Lakes Constituting Shorelines of the State (SMA) | Don Bales<br>407-6528 |
| 173-152 | Prioritizing Certain Water Rights Applications | Steve Hirschey<br>407-6450 |
| 173-548 | Water Resource Program for Methow Basin - WRIA 48 | Thom Lufkin<br>407-6631 |
| 173-518 | Dungeness Water Resource Program | Cynthia Nelson<br>407-0276 |
| 173-517 | Quilcene Water Resource Program | Cynthia Nelson<br>407-0276 |
| 173-160 | Minimum Standards for Construction and Maintenance of Wells | Dick Szymarek<br>407-6648 |
| 173-162 | Regulation and Licensing of Well Contractors and Drillers | Dick Szymarek<br>407-6648 |
| 173-563 | Instream Resource Protection Program for the Main Stem of the Columbia River in Washington State | Ken Slattery<br>407-6603 |
| 173-500 | Water Resources Management Program Established Pursuant to the Water Resources Act of 1971 | Peggy Clifford<br>407-7262 |
| 173-xxx | Water Right Transfers by Conservancy Districts | Ken Slattery<br>407-6603 |
| 173-224 | Waste Water Discharge Permit Fees | Bev Poston<br>407-6425 |
| 173-202 | Washington/Forest Practice Rules and Regulations to Protect Water Quality | Doug Rushton<br>407-6180 |
| 173-95A | Uses and Limitations of Centennial Clean Water Fund | Tim Hilliard<br>407-6429 |
| 173-03 | Public Records | Diane Pratt<br>407-6046 |

## WSR 97-16-059
AGENDA
## DEPARTMENT OF HEALTH
[Filed July 31, 1997, 5:00 p.m.]

**Reviser's note:** The material contained in this filing exceeded the page-count limitations of WAC 1-21-040 for appearance in this issue of the Register. It will appear in the 97-17 issue of the Register.

## WSR 97-16-065
AGENDA
## FOREST PRACTICES BOARD
[Filed August 1, 1997, 1:03 p.m.]

### Forest Practices Board
### Rule Development Agenda
### July - December 1997

The following sections of Title 222 WAC, Forest Practices Board, are in the rule-making process or being developed. The board's mandate is to adopt rules to protect the state's natural resources while maintaining a viable forest products industry.

**1. Stream typing rules** - CR-102 filed with the code reviser July 11, 1997.

- WAC 222-16-030 Water typing systems. The proposed rule modifies the definitions of Type 2 and 3 Waters so that appropriate riparian protection is provided along fish-bearing streams.
- WAC 222-12-090(13) implementation guidelines in the Forest Practices Board manual.

Timber, Fish and Wildlife participants are presently developing a more comprehensive revision of the stream typing rules, called the "Forestry Module." They anticipate making a proposed rule recommendation to the Forest Practices Board in early 1998, after which the board may consider initiating the rule adoption process. In the interim, the board has adopted an emergency stream typing rule.

**2. Columbia River Gorge national scenic area—Negotiated rules.**

Forest practices within this national scenic area would meet requirements of the National Scenic Act and the guidelines of the management plan. An MOU is being developed between the Forest Practices Board, Department of Natural Resources, the United States Forest Service and the Gorge Commission. This negotiated rule making was begun in August 1996 and the Preproposal Statement of Inquiry was filed in November 1996. The draft proposal includes changes to two existing chapters and two new sections:

- WAC 222-16-010 General definitions.
- WAC 222-16-050 Classes of forest practices.
- WAC 222-20-010 Applications and notifications—Policy.
- WAC 222-20-040 Approval conditions.

New Sections:

- WAC 222-20-130 Notice in CRGNSA special management area.
- WAC 222-46-015 Enforcement within the CRGNSA special management area.

If agreement among the negotiating parties is reached, the board could begin the permanent rule making before the end of 1997. (Per RCW 76.09.040, they must conduct the thirty-day agency review first).

**3. Small Landowner Pilot Rule Making.**

The Forest Practices Board's Small Landowner Committee has been meeting with interested stakeholders to develop a process for developing a pilot rule-making proposal. These meetings will continue between now and the end of the year. The committee anticipates presenting a proposal for landscape pilots to the board at its November meeting. Rule language will be drafted after information from the pilot tests is gathered. No code reviser filings are anticipated in 1997.

**4. Editorial Corrections.**

The board may consider making editorial corrections to Title 222 WAC using the expedited rule-making process.

Contact person: Judith Holter, Forest Practices Board, Rules Coordinator, Department of Natural Resources, Forest Practices Division, P.O. Box 47012, Olympia, WA 98504-7012, phone (360) 902-1412, FAX (360) 902-1784, e-mail Judith.Holter@WADNR.GOV.

## WSR 97-16-076
INTERPRETIVE STATEMENT
## DEPARTMENT OF HEALTH
[Filed August 5, 1997, 8:03 a.m.]

NOTICE OF ADOPTION OF INTERPRETIVE STATEMENT

Title: Does rule allow dental assistants to take alginate impressions for study models to be used for fabrication of plastic nightguards, athletic mouthguards and bleaching trays?

Issuing Entity: Washington State Dental Quality Assurance Commission.

Subject: The commission issued an advisory opinion in response to the letter from Ginny Bone, Dental Training Specialist, Kaiser Permanente as to whether dental assistants are allowed to take alginate impressions for more than just study models.

Effective Date: May 16, 1996.

Contact Person: Lisa Anderson, Program Manager, Department of Health, Dental Quality Assurance Commission, P.O. Box 47867, Olympia, WA 98504-7867, (360) 664-8090.

## WSR 97-16-077
INTERPRETIVE STATEMENT
## DEPARTMENT OF HEALTH
[Filed August 5, 1997, 8:04 a.m.]

NOTICE OF ADOPTION OF INTERPRETIVE STATEMENT

Title: Can orthodontic assistants use slow speed handpieces for removal of composite resin in orthodontic debanding procedures?

Issuing Entity: Washington State Dental Quality Assurance Commission.

Subject: The commission issued an advisory opinion in response to the letter from Constance M. Brown, DDS as to whether orthodontic assistants can use slow speed handpieces to remove composite resin in orthodontic debanding procedures.

Effective Date: August 8, 1996.

Contact Person: Lisa Anderson, Program Manager, Department of Health, Dental Quality Assurance Commission, P.O. Box 47867, Olympia, WA 98504-7867, (360) 664-8090.

## WSR 97-16-078
### INTERPRETIVE STATEMENT
### DEPARTMENT OF HEALTH
[Filed August 5, 1997, 8:05 a.m.]

NOTICE OF ADOPTION OF INTERPRETIVE STATEMENT

Title: Who can apply fluoride varnish?

Issuing Entity: Washington State Dental Quality Assurance Commission.

Subject: The commission issued an advisory opinion in response to the letter from Carree Moore, Dental Program Manager, Department of Social and Health Services, Division of Client Services, as to who may apply fluoride varnish.

Effective Date: August 9, 1996.

Contact Person: Lisa Anderson, Program Manager, Department of Health, Dental Quality Assurance Commission, P.O. Box 47867, Olympia, WA 98504-7867, (360) 664-8090.

## WSR 97-16-079
### INTERPRETIVE STATEMENT
### DEPARTMENT OF HEALTH
[Filed August 5, 1997, 8:06 a.m.]

NOTICE OF ADOPTION OF INTERPRETIVE STATEMENT

Title: Can dentists order lab tests directly from the lab vs referring to a physician?

Issuing Entity: Washington State Dental Quality Assurance Commission.

Subject: The commission issued an advisory opinion in response to the letter from Rachel Usary, Implant Dentistry of Washington, as to whether or not dentists can order lab tests directly from the lab vs. referring to a physician.

Effective Date: July 5, 1996.

Contact Person: Lisa Anderson, Program Manager, Department of Health, Dental Quality Assurance Commission, P.O. Box 47867, Olympia, WA 98504-7867, (360) 664-8090.

## WSR 97-16-080
### INTERPRETIVE STATEMENT
### DEPARTMENT OF HEALTH
[Filed August 5, 1997, 8:07 a.m.]

NOTICE OF ADOPTION OF INTERPRETIVE STATEMENT

Title: Are sealants considered "topical preventive agents"?

Issuing Entity: Washington State Dental Quality Assurance Commission.

Subject: The commission issued an advisory opinion in response to the letter from Anita R. Munson, RDH, Chair Regulation and Practice Committee, Washington State Dental Hygienists Associations, as to whether sealants are considered "topical preventive agents."

Effective Date: November 4, 1996.

Contact Person: Lisa Anderson, Program Manager, Department of Health, Dental Quality Assurance Commission, P.O. Box 47867, Olympia, WA 98504-7867, (360) 664-8090.

## WSR 97-16-081
### INTERPRETIVE STATEMENT
### DEPARTMENT OF HEALTH
[Filed August 5, 1997, 8:08 a.m.]

NOTICE OF ADOPTION OF INTERPRETIVE STATEMENT

Title: The University of Washington School of Dentistry has requested that the definition of "facility" include teaching facilities at the Yakima Valley Community Public Health Clinics, Foss Nursing Home, Fred Hutchinson Cancer Research Center, and the Veteran's Administration Hospitals in Seattle and Tacoma.

Issuing Entity: Washington State Dental Quality Assurance Commission.

Subject: The commission issued a letter approving the request from Paul B. Robertson, Dean of the University of Washington School of Dentistry, Seattle, Washington, requesting the addition of specific facilities to the definition of "facility."

Effective Date: January 13, 1997.

Contact Person: Lisa Anderson, Program Manager, Department of Health, Dental Quality Assurance Commission, P.O. Box 47867, Olympia, WA 98504-7867, (360) 664-8090.

## WSR 97-16-082
### INTERPRETIVE STATEMENT
### DEPARTMENT OF HEALTH
[Filed August 5, 1997, 8:09 a.m.]

NOTICE OF ADOPTION OF INTERPRETIVE STATEMENT

Title: Can Washington Dental Services (WDS) establish treatment guidelines and protocols for dentists licensed to practice in Washington state?

Issuing Entity: Washington State Dental Quality Assurance Commission.

Subject: The commission issued an advisory opinion in response to the letter from Harold E. Donnell, Jr., the executive director of the Academy of General Dentistry, Chicago, Illinois, as to whether WDS can establish treatment guidelines and protocols for dental patients periodontal, oral surgery, and restorative needs.

Effective Date: November 4, 1996.

Contact Person: Lisa Anderson, Program Manager, Department of Health, Dental Quality Assurance Commission, P.O. Box 47867, Olympia, WA 98504-7867, (360) 664-8090.

## WSR 97-16-083
POLICY STATEMENT
## DEPARTMENT OF HEALTH
[Filed August 5, 1997, 8:10 a.m.]

NOTICE OF ADOPTION OF POLICY STATEMENT

Title of Policy: Confidentiality of whistleblower complainants, and waiver when necessary for investigation, D20.02.

Issuing Entity: Health Professions Quality Assurance Division, Department of Health.

Subject Matter: This policy revises the current division policy. It provides procedures to implement RCW 43.70.075 which requires that the identity of a whistleblower who complains in good faith to the Department of Health about improper quality of care by a health care provider or in a health care facility shall be kept confidential.

Effective Date: July 18, 1997.

Contact Person: Diana Ehri, Department of Health, Health Policy and Constituent Relations, P.O. Box 47860, 1300 S.E. Quince Street, Olympia, WA 98504-7860, (360) 753-9177.

## WSR 97-16-084
POLICY STATEMENT
## DEPARTMENT OF HEALTH
[Filed August 5, 1997, 8:11 a.m.]

NOTICE OF ADOPTION OF POLICY STATEMENT

Title of Policy: Notification to practitioner and complainant of the receipt of a complaint and case disposition, D23.01.

Issuing Entity: Health Professions Quality Assurance Division, Department of Health.

Subject Matter: This policy is intended to create a uniform policy and procedure for notifying practitioners, complainant, and the public of the existence and disposition of a complaint.

Effective Date: July 27, 1997.

Contact Person: Diana Ehri, Administrator, Department of Health, Health Policy and Constituent Relations, P.O. Box 47860, 1300 S.E. Quince Street, Olympia, WA 98504-7860, (360) 753-9177.

## WSR 97-16-085
POLICY STATEMENT
## DEPARTMENT OF HEALTH
[Filed August 5, 1997, 8:12 a.m.]

NOTICE OF ADOPTION OF POLICY STATEMENT

Title of Policy: Department Tracking of Complaints, and Disciplinary Cases Closed No Jurisdiction, Not a Violation or Below Threshold, D24.01.

Issuing Entity: Health Professions Quality Assurance Division, Department of Health.

Subject Matter: This policy is intended to create a uniform policy and procedure for coding, tracking and disclosing "complaints" and cases closed no jurisdiction, not a violation or below threshold.

Effective Date: July 27, 1997.

Contact Person: Diana Ehri, Administrator, Department of Health, Health Policy and Constituent Relations, P.O. Box 47860, 1300 S.E. Quince Street, Olympia, WA 98504-7860, (360) 753-9177.

## WSR 97-16-086
POLICY STATEMENT
## DEPARTMENT OF HEALTH
[Filed August 5, 1997, 8:13 a.m.]

NOTICE OF ADOPTION OF POLICY STATEMENT

Title of Policy: Public Disclosure (Excluding Lists and Labels) L01.05.

Issuing Entity: Health Professions Quality Assurance Division, Department of Health.

Subject Matter: This policy revises the current division public disclosure policy. It addresses requests to inspect and/or copy public records and establishes a uniform approach for compliance by employees of Health Professions Quality Assurance Division.

Effective Date: June 1, 1997.

Contact Person: Diana Ehri, Department of Health, Health Policy and Constituent Relations, P.O. Box 47860, 1300 S.E. Quince Street, Olympia, WA 98504-7860, (360) 753-9177.

## WSR 97-16-100
## ATTORNEY GENERAL'S OFFICE
[Filed August 5, 1997, 4:35 p.m.]

NOTICE OF REQUEST
FOR ATTORNEY GENERAL'S OPINION

WASHINGTON ATTORNEY GENERAL

The Washington Attorney General issues formal published opinions in response to requests by the heads of state agencies, state legislators, and county prosecuting attorneys. When it appears that individuals outside the Attorney General's Office have information or expertise that will assist in the preparation of a particular opinion, a summary of that opinion request will be published in the state register. If you are interested in commenting on a request listed in this volume of the register, you should notify the Attorney General's Office of your interest by August 27, 1997. This is not the due date by which comments must be received. However, if you do not notify the Attorney General's Office of your interest in commenting on an opinion request by August 27, 1997, the opinion may be issued before your comments have been received. You may notify the Attorney General's Office of your intention to comment by calling (360) 753-2678, or by writing to the Solicitor General, Office of the Attorney General, P.O. Box

40100, Olympia, WA 98504-0100. When you notify the office of your intention to comment, you will be provided with a copy of the opinion request in which you are interested; information about the Attorney General's Opinion process; information on how to submit your comments; and a due date by which your comments must be received to ensure that they are fully considered.

The Attorney General's Office seeks public input on the following opinion request(s).

**97-07-09 Request by Robert Bavasi, Chair, Board of Trustees, Everett Community College**

1. When a president's term expires, may the board reestablish a new term and new compensation regardless of who fills the position?
2. Does the limitation on "compensation and salary increases" found in subsection (3) of RCW 28B.50.140 only apply during the term of an appointment?
3. May a board expand the range of duties of a president and then establish a new basis of compensation, or may a board only change such duties at the end of the contract term?
4. May a board by mutual agreement with the president, cancel an existing contract and establish a new contract with different duties, length of term, and amount of compensation?
5. What forms of deferred compensation for presidents are allowable?

## WSR 97-16-102
### NOTICE OF PUBLIC MEETINGS
### MARINE EMPLOYEES' COMMISSION
[Memorandum—August 4, 1997]

The August 22, 1997, Marine Employees' Commission meeting has been canceled to accommodate an adjudicative hearing to which the Washington state ferries and all ferry employee collective bargaining units are parties.

The Marine Employees' Commission will hold its next regularly scheduled public meeting on Friday, September 26, 1997, at Colman Dock, Pier 52, Seattle.

## WSR 97-16-105
### INTERPRETIVE OR POLICY STATEMENT
### DEPARTMENT OF SOCIAL AND HEALTH SERVICES
[Filed August 6, 1997, 9:25 a.m.]

DESCRIPTION OF INTERPRETIVE OR POLICY STATEMENT

Document Title: Numbered Memorandum #97-55 (MAA).

Subject: Replacement of GAU/W specific procedure codes with American Dental Association (ADA) procedure codes.

Effective Date: September 1, 1997.

Document Description: *Effective for claims with dates of service on or after September 1, 1997,* the selected dental procedures covered by MAA for GAU and W program clients are to be billed using the comparable ADA procedure codes. Refer to the complete procedure code description in the Dental Program Billing Instructions, dated August 1995. This memorandum lists these specific codes.

To receive a copy of the interpretive or policy statement, contact Anne DeJarnette, Administrative Regulations Analyst, Department of Social and Health Services, Medical Assistance Administration, Division of Program Support, P.O. Box 45530, Olympia, WA 98504, phone (360) 664-2320, TDD 1-800-848-5429, FAX (360) 753-7315, e-mail dejarae@dshs.wa.gov.

Roxie Schalliol, PASS
Division of Program Support

## WSR 97-16-107
### AGENDA
### DEPARTMENT OF NATURAL RESOURCES
[Filed August 6, 1997, 10:02 a.m.]

In accordance with section 206, chapter 409, Laws of 1997, E2SHB 1032, the Department of Natural Resources is filing the following agenda for rules under development. The agenda distinguishes between new rules and amended rules.

Subject Area of New Rule: Aquatic land exchanges.
Contact Person: Ron Teissere.
Phone: (360) 902-1091.
Approximate Time of Filing: Rule development will not begin prior to fall of 1997. No notices will be filed prior to fall of 1997.
Scope of Rule: The rule will set out criteria for determining when a proposed aquatic land exchange is in the public interest according to RCW 79.90.455.
Purpose/Mandate for the Rule: Rule making is required by RCW 79.90.457, enacted in 1995.

Title of Amended Rule: Rights to re-lease denied. WAC 332-22-080.
Contact Person: Sue Wise.
Phone: (360) 902-1626.
Approximate Time of Filing: December 1997 or January 1998.
Scope of Rule Amendment: Allow re-lease of commercial leases.
Purpose/Mandate for the Rule: Provide Board of Natural Resources rules as referenced in RCW 79.01.242(3).

Title of Amended Rule: Existing lease negotiation. WAC 332-22-100.
Contact Person: Sue Wise.
Phone: (360) 902-1626.
Approximate Time of Filing: December 1997 or January 1998.
Scope of Rule Amendment: Eliminate the requirement to publish a notice of intent to lease when negotiating with an existing lessee on a commercial, industrial, residential, or communication site lease.

Purpose/Mandate for the Rule: Provide Board of Natural Resources rules as referenced in RCW 79.01.242(3).

Title of Amended Rule: Initial lease for commercial, industrial, or residential uses by negotiation.

WAC 332-22-105.

Contact Person: Sue Wise.

Phone: (360) 902-1626.

Approximate Time of Filing: December 1997 or January 1998.

Scope of Rule Amendment: Eliminate the requirement to hold a public auction when there is more than one applicant for an initial or existing commercial, industrial, or residential lease.

Purpose/Mandate for the Rule: Provide Board of Natural Resources rules as referenced in RCW 79.01.242(3).

Title of Amended Rule: Forest Protection Zone—Kitsap County.

WAC 332-24-710.

Contact Person: Mark Gray.

Phone: (360) 902-1754.

Approximate Time of Filing: September 1997.

Scope of Rule Amendment: Correct typographical errors in rule.

Purpose/Mandate for the Rule: WAC was mandated by RCW 76.04.165(2).

Title of Amended Rule: Forest Protection Zone—Pierce County.

WAC 332-24-720.

Contact Person: Mark Gray.

Phone: (360) 902-1754.

Approximate Time of Filing: September 1997.

Scope of Rule Amendment: Correct typographical errors in rule.

Purpose/Mandate for the Rule: WAC was mandated by RCW 76.04.165(2).

Title of Amended Rule: General rules minimum requirements for all burning.

WAC 332-24-205 (2) and (3).

Contact Person: Mark Gray.

Phone: (360) 902-1754.

Approximate Time of Filing: September 1997.

Scope of Rule Amendment: Implement HB 1726 Burning of storm or flood-related debris.

Purpose/Mandate for the Rule: WAC was mandated by RCW 70.94.743 (1)(c).

## WSR 97-16-108
### AGENDA
## HEALTH CARE AUTHORITY
[Filed August 6, 1997, 10:11 a.m.]

### Regulatory Improvement Initiative

In support of Governor Locke's initiative to improve the effectiveness and fairness of the administrative rules of the state of Washington, the Washington State Health Care Authority (HCA) will be implementing a regulatory improvement initiative over the next year. A key component of this initiative is to elicit input from the major stakeholder groups for the HCA programs: The Washington Basic Health Plan, Public Employees Benefits Board programs, and Primary Health Care Services.

As a first step, we are requesting your input into the following draft regulatory improvement plan and draft WAC review schedule. Please note that this is a general overview and unique steps will be taken for each HCA program to ensure appropriate opportunities for stakeholder input. The intent of this initiative is to solicit input for improving the effectiveness and fairness of the administrative rules and informal policies of the HCA and its programs, not to propose major, fundamental policy changes. The HCA will continue to use the state-approved formal rule-making process to evaluate and implement changes to administrative rules.

### Draft Regulatory Improvement Plan

1. **Initiate internal planning** for a regulatory improvement process for the Health Care Authority and its programs. **Begin Date: April 21, 1997.**

2. **Notify stakeholder groups** of all Health Care Authority programs (see enclosed list) of the regulatory improvement initiative being undertaken in response to Executive Order 97-02. The notification will include a copy of this draft regulatory improvement plan and draft WAC review schedule for review, with comments requested back to the Health Care Authority by August 11, 1997. **Due Date: July 24, 1997.**

3. **Incorporate stakeholder comments** into a final regulatory improvement plan and review schedule, which will be submitted to Governor Locke. **Due Date: August 29, 1997.**

4. **Complete an internal Health Care Authority assessment** of potential areas needing rule revision, giving consideration to stakeholder input and listing revisions in order of priority. **Due Date: September 10, 1997.**

5. **Distribute a final schedule for public review and feedback** for the rules or policies that have been the subject of concern; request questions and comments regarding the review process, schedule, and identified priority areas. **Due Date: September 15, 1997.**

6. **Complete a process for stakeholder review and comment** on rules and informal policies that have been identified as areas of concern relating to the regulatory improvement initiative. Document the results of the stakeholder review and provide this information for Health Care Authority consideration in the formal rule-making process, which includes public hearings for all changes to the administrative rules. **Due Date: April 1, 1998.**

7. **Continue regulatory improvement process**, with annual progress reports to the governor on completing regulatory review and any improvement measures taken. **Due Date: October 15 Annual.**

### List of Major Stakeholder and Constituent Groups

- All benefit plans
- PHCS contractors (Community Clinics)
- Washington Association of Community and Migrant Health Centers
- Department of Health
- Office of the Insurance Commissioner

- Department of Social and Health Services/Medical Assistance Administration
- Columbia Legal Services
- PEBB board members and participating agencies
- Basic Health Advisory Council
- PEBB mailing list (including advocacy groups)
- Basic Health mailing list (including advocacy groups)
- Higher education benefit managers
- Others as requested

**Draft WAC Review Schedule**
**Health Care Authority Programs**

| CHAPTER | TITLE | RCW/AUTHORITY | ANTICIPATED REVIEW |
|---|---|---|---|
| 182-04 | Public Records | 42.17 | 10/97 |
| 182-08 | Procedures (Duties/Responsibilities Of HCA And PEBB) | 41.05 | 11/97 |
| 182-12 | Eligible And Noneligible Employees | 41.05 | 3/98 |
| 182-16 | Practice And Procedure (Appeals) | 34.05 | 1/98 |
| 182-18 | General Requirements For All Organ Transplants | 41.05 | 9/97 |
| 182-20 | Standards For Community Health Clinics | 41.05 | 11/97 |
| 182-25 | Washington Basic Health Plan | 41.05 and 70.47 | 8/97 |

*NOTE: The Health Care Authority has recently completed a review of all rules, sought stakeholder input, and scheduled a public hearing to update chapters 182-04, 182-08, 182-12, 182-16, 182-18 WAC in September 1997. Chapter 182-25 WAC was reviewed internally and externally for the July 1997 permanent rule filing, but immediate stakeholder work will begin to update the basic health rules based on 1997 legislation. Chapter 182-20 WAC for primary health care clinics was reviewed internally and externally from August 1994 through April 1995. The anticipated review dates above reflect the beginning of the internal and external stakeholder input in accordance with the Governor's Executive Order and the Health Care Authority's adopted rules review/adoption procedures.

**WSR 97-16-109**
**RULES COORDINATOR**
**BUILDING CODE COUNCIL**
[Filed August 6, 1997, 10:25 a.m.]

Please change your records to show that the State Building Code Council's rules coordinator is Tim Nogler, (360) 753-5927. Tim Nogler was appointed as the council's managing director in June of 1996 and should replace Willy O'Neil as the designated rules coordinator for the State Building Code Council.

Mike McEnaney
Chair

MISC.

## KEY TO TABLE

This table covers the current calendar year through this issue of the Register and should be used to locate rules amended, adopted, or repealed subsequent to the publication date of the latest WAC or Supplement.

**Symbols:**

AMD = Amendment of existing section
A/R = Amending and recodifying a section
DECOD = Decodification of an existing section
NEW = New section not previously codified
OBJEC = Notice of objection by Joint Administrative Rules Review Committee
PREP = Preproposal comments
RE-AD = Readoption of existing section
RECOD = Recodification of previously codified section
REP = Repeal of existing section
RESCIND = Rescind previous emergency rule
REVIEW = Review of previously adopted rule

**Suffixes:**

-C = Continuance of previous proposal
-E = Emergency action
-P = Proposed action
-S = Supplemental notice
-W = Withdrawal of proposed action
-X = Expedited repeal
Note: These filings will appear in a special section of Issue 97-14
No suffix means permanent action

**WAC #** shows the section number under which an agency rule is or will be codified in the Washington Administrative Code.

**WSR #** shows the issue of the Washington State Register where the document may be found; the last three digits identify the document within the issue.

| WAC # | ACTION | WSR # |
|---|---|---|
| 1-21-010 | AMD-P | 97-12-068 |
| 1-21-010 | AMD | 97-15-035 |
| 1-21-020 | AMD-P | 97-12-068 |
| 1-21-020 | AMD | 97-15-035 |
| 1-21-070 | AMD-P | 97-12-068 |
| 1-21-070 | AMD | 97-15-035 |
| 1-21-170 | AMD-P | 97-12-068 |
| 1-21-170 | AMD | 97-15-035 |
| 1-21-180 | AMD-P | 97-12-068 |
| 1-21-180 | AMD | 97-15-035 |
| 16-08-031 | AMD-P | 97-08-086 |
| 16-08-031 | AMD | 97-14-050 |
| 16-08-141 | AMD-P | 97-08-086 |
| 16-08-141 | AMD | 97-14-050 |
| 16-08-171 | AMD-P | 97-08-086 |
| 16-08-171 | AMD | 97-14-050 |
| 16-34-001 | PREP-X | 97-14-048 |
| 16-34-010 | PREP-X | 97-14-048 |
| 16-34-020 | PREP-X | 97-14-048 |
| 16-34-030 | PREP-X | 97-14-048 |
| 16-34-040 | PREP-X | 97-14-048 |
| 16-46-001 | PREP-X | 97-14-048 |
| 16-46-005 | PREP-X | 97-14-048 |
| 16-46-020 | PREP-X | 97-14-048 |
| 16-46-030 | PREP-X | 97-14-048 |
| 16-46-035 | PREP-X | 97-14-048 |
| 16-46-040 | PREP-X | 97-14-048 |
| 16-46-045 | PREP-X | 97-14-048 |
| 16-46-070 | PREP-X | 97-14-048 |
| 16-50-001 | PREP-X | 97-14-048 |
| 16-50-010 | PREP-X | 97-14-048 |
| 16-50-020 | PREP-X | 97-14-048 |
| 16-101-800 | NEW-P | 97-15-115 |
| 16-105-001 | PREP-X | 97-14-074 |
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| 16-156 | PREP | 97-16-066 |
| 16-158 | PREP | 97-15-028 |
| 16-162 | PREP | 97-04-065 |
| 16-164 | PREP | 97-15-029 |
| 16-168 | PREP | 97-16-009 |
| 16-218-02001 | AMD | 97-05-003 |
| 16-230-835 | AMD-P | 97-02-094 |
| 16-230-835 | AMD-W | 97-06-003 |
| 16-230-862 | AMD-P | 97-02-094 |
| 16-230-862 | AMD-W | 97-06-003 |
| 16-316-474 | AMD-P | 97-11-050 |
| 16-316-474 | AMD | 97-16-026 |
| 16-316-715 | AMD-P | 97-11-050 |
| 16-316-715 | AMD | 97-16-026 |
| 16-316-724 | AMD-P | 97-11-050 |
| 16-316-724 | AMD | 97-16-026 |
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| 16-324-360 | REP | 97-11-028 |
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| 16-324-370 | AMD | 97-11-028 |
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| 16-324-375 | AMD | 97-11-028 |
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| 16-324-402 | NEW-P | 97-07-075 |
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| 16-324-410 | REP | 97-11-028 |
| 16-324-420 | AMD-P | 97-07-075 |
| 16-324-420 | AMD | 97-11-028 |
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| 16-409-020 | AMD | 97-05-054 |

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|---|---|---|
| 16-459-010 | AMD-E | 97-03-063 |
| 16-470-100 | AMD-P | 97-04-089 |
| 16-470-100 | AMD | 97-09-098 |
| 16-473-001 | NEW-P | 97-04-090 |
| 16-473-001 | NEW-W | 97-05-058 |
| 16-473-001 | NEW-P | 97-05-059 |
| 16-473-001 | NEW | 97-11-015 |
| 16-473-010 | NEW-P | 97-04-090 |
| 16-473-010 | NEW-W | 97-05-058 |
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| 16-473-010 | NEW | 97-11-015 |
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| 16-532-120 | AMD-P | 97-09-095 |
| 16-536-040 | PREP | 97-08-083 |
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| 16-536-040 | AMD-C | 97-15-151 |
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| 16-664-060 | NEW-P | 97-09-102 |
| 16-664-060 | NEW | 97-12-076 |
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| 16-666-003 | PREP-X | 97-14-049 |
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| 16-666-120 | PREP-X | 97-14-049 |
| 16-666-130 | PREP-X | 97-14-049 |
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| 16-675-040 | AMD | 97-12-024 |
| 16-695-005 | NEW-E | 97-04-020 |
| 16-695-010 | NEW-E | 97-04-020 |
| 16-695-015 | NEW-E | 97-04-020 |
| 16-695-020 | NEW-E | 97-04-020 |
| 16-695-025 | NEW-E | 97-04-020 |
| 16-695-030 | NEW-E | 97-04-020 |
| 16-695-035 | NEW-E | 97-04-020 |
| 16-695-040 | NEW-E | 97-04-020 |
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| 16-700-050 | AMD | 97-04-078 |
| 16-700-060 | AMD | 97-04-078 |
| 16-700-080 | AMD | 97-04-078 |
| 16-750 | PREP | 97-12-019 |
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| 16-750-011 | AMD | 97-06-108 |
| 16-750-015 | AMD | 97-06-108 |
| 16-750-020 | AMD | 97-06-108 |
| 16-750-130 | AMD | 97-06-108 |
| 25-30-010 | PREP-X | 97-14-010 |
| 25-30-020 | PREP-X | 97-14-010 |
| 25-30-030 | PREP-X | 97-14-010 |
| 25-30-040 | PREP-X | 97-14-010 |
| 25-30-050 | PREP-X | 97-14-010 |
| 51-04 | PREP | 97-14-112 |
| 51-04-015 | AMD-P | 97-16-093 |
| 51-04-070 | AMD-P | 97-16-093 |
| 51-06 | PREP | 97-14-112 |
| 51-06-020 | AMD-P | 97-16-094 |
| 51-06-120 | AMD-P | 97-16-094 |
| 51-11-0101 | AMD-P | 97-16-110 |
| 51-11-0104 | AMD-P | 97-16-110 |
| 51-11-0201 | AMD-P | 97-16-110 |
| 51-11-0402 | AMD-P | 97-16-110 |
| 51-11-0502 | AMD-P | 97-16-110 |
| 51-11-0503 | AMD-P | 97-16-110 |
| 51-11-0504 | AMD-P | 97-16-110 |
| 51-11-0505 | AMD-P | 97-16-110 |
| 51-11-0525 | AMD-P | 97-16-110 |
| 51-11-0527 | AMD-P | 97-16-110 |
| 51-11-0530 | AMD-P | 97-16-110 |
| 51-11-0541 | AMD-P | 97-16-110 |
| 51-11-0602 | AMD-P | 97-16-110 |
| 51-11-0605 | AMD-P | 97-16-110 |
| 51-11-0606 | REP-P | 97-16-110 |
| 51-11-0607 | REP-P | 97-16-110 |
| 51-11-0608 | REP-P | 97-16-110 |
| 51-11-0625 | AMD-P | 97-16-110 |
| 51-11-0626 | AMD-P | 97-16-110 |
| 51-11-0627 | AMD-P | 97-16-110 |
| 51-11-0628 | AMD-P | 97-16-110 |
| 51-11-0629 | AMD-P | 97-16-110 |
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| 51-11-0701 | AMD-P | 97-16-110 |
| 51-11-0800 | AMD-P | 97-16-110 |
| 51-11-1002 | AMD-P | 97-16-110 |
| 51-11-1003 | AMD-P | 97-16-110 |
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| 51-11-1005 | AMD-P | 97-16-110 |
| 51-11-1006 | AMD-P | 97-16-110 |
| 51-11-1007 | AMD-P | 97-16-110 |
| 51-11-1008 | AMD-P | 97-16-110 |
| 51-11-1009 | AMD-P | 97-16-110 |
| 51-11-1010 | REP-P | 97-16-110 |
| 51-11-1120 | AMD-P | 97-16-110 |
| 51-11-1130 | AMD-P | 97-16-110 |
| 51-11-1132 | AMD-P | 97-16-110 |
| 51-11-1133 | AMD-P | 97-16-110 |
| 51-11-1210 | AMD | 97-03-017 |
| 51-11-1210 | AMD-P | 97-16-110 |
| 51-11-1301 | AMD | 97-03-017 |
| 51-11-1310 | AMD-P | 97-16-110 |
| 51-11-1312 | AMD-P | 97-16-110 |
| 51-11-1322 | AMD-P | 97-16-110 |
| 51-11-1323 | AMD-P | 97-16-110 |
| 51-11-1331 | AMD-P | 97-16-110 |
| 51-11-1334 | AMD-P | 97-16-110 |
| 51-11-1411 | AMD-P | 97-16-110 |
| 51-11-1412 | AMD-P | 97-16-110 |
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| 51-11-1422 | AMD-P | 97-16-110 |
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| 51-11-1452 | AMD-P | 97-16-110 |
| 51-11-1454 | AMD-P | 97-16-110 |
| 51-11-1512 | AMD-P | 97-16-110 |
| 51-11-1530 | AMD-P | 97-16-110 |
| 51-11-1701 | AMD-P | 97-16-110 |
| 51-11-2005 | AMD-P | 97-16-110 |
| 51-11-2006 | AMD-P | 97-16-110 |
| 51-11-2007 | AMD-P | 97-16-110 |
| 51-11-99903 | AMD-P | 97-16-110 |
| 51-11-99904 | AMD-P | 97-16-110 |
| 51-13-106 | AMD-P | 97-16-112 |
| 51-13-402 | AMD-P | 97-16-112 |
| 51-13-502 | AMD-P | 97-16-112 |
| 51-26 | PREP | 97-06-107 |
| 51-26-001 | REP-P | 97-16-114 |
| 51-26-002 | REP-P | 97-16-114 |
| 51-26-003 | REP-P | 97-16-114 |
| 51-26-004 | REP-P | 97-16-114 |
| 51-26-008 | REP-P | 97-16-114 |
| 51-26-0300 | REP-P | 97-16-114 |
| 51-26-0310 | REP-P | 97-16-114 |
| 51-26-0315 | REP-P | 97-16-114 |
| 51-26-0400 | REP-P | 97-16-114 |
| 51-26-0401 | REP-P | 97-16-114 |

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| 51-26-0909 | REP-P | 97-16-114 |
| 51-26-1000 | REP-P | 97-16-114 |
| 51-26-1004 | REP-P | 97-16-114 |
| 51-26-1007 | REP-P | 97-16-114 |
| 51-26-1009 | REP-P | 97-16-114 |
| 51-26-1020 | REP-P | 97-16-114 |
| 51-26-1301 | REP-P | 97-16-114 |
| 51-26-1800 | REP-P | 97-16-114 |
| 51-26-1801 | REP-P | 97-16-114 |
| 51-26-1802 | REP-P | 97-16-114 |
| 51-26-1803 | REP-P | 97-16-114 |
| 51-26-1804 | REP-P | 97-16-114 |
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| 51-26-1820 | REP-P | 97-16-114 |
| 51-26-1830 | REP-P | 97-16-114 |
| 51-26-1840 | REP-P | 97-16-114 |
| 51-26-1845 | REP-P | 97-16-114 |
| 51-26-2200 | REP-P | 97-16-114 |
| 51-26-2300 | REP-P | 97-16-114 |
| 51-26-2301 | REP-P | 97-16-114 |
| 51-27 | PREP | 97-06-107 |
| 51-27-001 | NEW-P | 97-16-114 |
| 51-27-002 | NEW-P | 97-16-114 |
| 51-27-003 | NEW-P | 97-16-114 |
| 51-27-004 | NEW-P | 97-16-114 |
| 51-27-008 | NEW-P | 97-16-114 |
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| 51-30-002 | REP-P | 97-16-111 |
| 51-30-003 | REP-P | 97-16-111 |
| 51-30-004 | REP-P | 97-16-111 |
| 51-30-005 | REP-P | 97-16-111 |
| 51-30-007 | REP-P | 97-16-111 |
| 51-30-008 | REP-P | 97-16-111 |
| 51-30-009 | REP-P | 97-16-111 |
| 51-30-0100 | REP-P | 97-16-111 |
| 51-30-0104 | REP-P | 97-16-111 |
| 51-30-0200 | REP-P | 97-16-111 |
| 51-30-0204 | REP-P | 97-16-111 |
| 51-30-0207 | REP-P | 97-16-111 |
| 51-30-0217 | REP-P | 97-16-111 |
| 51-30-0220 | REP-P | 97-16-111 |
| 51-30-0300 | REP-P | 97-16-111 |
| 51-30-0302 | REP-P | 97-16-111 |
| 51-30-0304 | REP-P | 97-16-111 |
| 51-30-0305 | REP-P | 97-16-111 |
| 51-30-0307 | REP-P | 97-16-111 |
| 51-30-0310 | REP-P | 97-16-111 |
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| 51-30-0800 | REP-P | 97-16-111 |
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| 51-30-0904 | REP-P | 97-16-111 |
| 51-30-1000 | REP-P | 97-16-111 |
| 51-30-1001 | REP-P | 97-16-111 |
| 51-30-1004 | REP-P | 97-16-111 |
| 51-30-1005 | REP-P | 97-16-111 |
| 51-30-1006 | REP-P | 97-16-111 |
| 51-30-1007 | REP-P | 97-16-111 |
| 51-30-1009 | REP-P | 97-16-111 |
| 51-30-1014 | REP-P | 97-16-111 |
| 51-30-1019 | REP-P | 97-16-111 |
| 51-30-1030 | REP-P | 97-16-111 |
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| 51-30-1101 | REP-P | 97-16-111 |
| 51-30-1102 | REP-P | 97-16-111 |
| 51-30-1103 | REP-P | 97-16-111 |
| 51-30-1104 | REP-P | 97-16-111 |
| 51-30-1105 | REP-P | 97-16-111 |
| 51-30-1106 | REP-P | 97-16-111 |
| 51-30-1107 | REP-P | 97-16-111 |
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| 51-30-1109 | REP-P | 97-16-111 |
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| 51-30-1112 | REP-P | 97-16-111 |
| 51-30-1113 | REP-P | 97-16-111 |
| 51-30-1114 | REP-P | 97-16-111 |
| 51-30-1120 | REP-P | 97-16-111 |
| 51-30-1121 | REP-P | 97-16-111 |
| 51-30-1122 | REP-P | 97-16-111 |
| 51-30-1123 | REP-P | 97-16-111 |
| 51-30-1124 | REP-P | 97-16-111 |
| 51-30-1125 | REP-P | 97-16-111 |
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| 51-30-1203 | REP-P | 97-16-111 |
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| 51-30-1614 | REP-P | 97-16-111 |
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| 51-30-1909 | REP-P | 97-16-111 |
| 51-30-2200 | REP-P | 97-16-111 |
| 51-30-2211 | REP-P | 97-16-111 |
| 51-30-2400 | REP-P | 97-16-111 |
| 51-30-2406 | REP-P | 97-16-111 |
| 51-30-2900 | REP-P | 97-16-111 |
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| 51-30-2903 | REP-P | 97-16-111 |
| 51-30-2904 | REP-P | 97-16-111 |
| 51-30-2910 | REP-P | 97-16-111 |
| 51-30-3102 | REP-P | 97-16-111 |
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| 51-30-31201 | REP-P | 97-16-111 |
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| 51-30-31205 | REP-P | 97-16-111 |
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| 51-30-31207 | REP-P | 97-16-111 |
| 51-30-31208 | REP-P | 97-16-111 |
| 51-30-31209 | REP-P | 97-16-111 |
| 51-30-31210 | REP-P | 97-16-111 |
| 51-30-3400 | REP-P | 97-16-111 |
| 51-30-3404 | REP-P | 97-16-111 |
| 51-30-93115 | REP-P | 97-16-111 |
| 51-30-93116 | REP-P | 97-16-111 |
| 51-30-93117 | REP-P | 97-16-111 |
| 51-30-93118 | REP-P | 97-16-111 |
| 51-30-93119 | REP-P | 97-16-111 |
| 51-30-93120 | REP-P | 97-16-111 |
| 51-32 | PREP | 97-03-086 |
| 51-32-1119 | NEW-W | 97-09-042 |
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| 51-32-002 | REP-P | 97-16-115 |
| 51-32-003 | REP-P | 97-16-115 |
| 51-32-004 | REP-P | 97-16-115 |
| 51-32-005 | REP-P | 97-16-115 |
| 51-32-007 | REP-P | 97-16-115 |
| 51-32-008 | REP-P | 97-16-115 |
| 51-32-0200 | REP-P | 97-16-115 |
| 51-32-0223 | REP-P | 97-16-115 |
| 51-32-0300 | REP-P | 97-16-115 |
| 51-32-0327 | REP-P | 97-16-115 |
| 51-32-0500 | REP-P | 97-16-115 |
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| 51-32-0600 | REP-P | 97-16-115 |
| 51-32-0601 | REP-P | 97-16-115 |
| 51-32-0605 | REP-P | 97-16-115 |
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| 51-32-1102 | REP-P | 97-16-115 |
| 51-32-1103 | REP-P | 97-16-115 |
| 51-32-1104 | REP-P | 97-16-115 |
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| 51-32-1106 | REP-P | 97-16-115 |
| 51-32-1107 | REP-P | 97-16-115 |
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| 51-32-1312 | REP-P | 97-16-115 |
| 51-32-1313 | REP-P | 97-16-115 |
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| 51-34-007 | REP-P | 97-16-113 |
| 51-34-008 | REP-P | 97-16-113 |
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| 51-34-0219 | REP-P | 97-16-113 |
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| 51-34-1007 | REP-P | 97-16-113 |
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| 51-34-5200 | REP-P | 97-16-113 |
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| 51-34-9106 | REP-P | 97-16-113 |
| 51-34-9107 | REP-P | 97-16-113 |
| 51-34-9108 | REP-P | 97-16-113 |
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| 51-35-003 | REP-P | 97-16-113 |
| 51-35-007 | REP-P | 97-16-113 |
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| 51-35-52442 | REP-P | 97-16-113 |
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| 51-40-23110 | NEW-P | 97-16-111 |
| 51-40-2406 | NEW-P | 97-16-111 |
| 51-40-2900 | NEW-P | 97-16-111 |
| 51-40-2929 | NEW-P | 97-16-111 |
| 51-40-3102 | NEW-P | 97-16-111 |
| 51-40-31200 | NEW-P | 97-16-111 |
| 51-40-3404 | NEW-P | 97-16-111 |
| 51-40-93115 | NEW-P | 97-16-111 |
| 51-40-93116 | NEW-P | 97-16-111 |
| 51-40-93117 | NEW-P | 97-16-111 |
| 51-40-93118 | NEW-P | 97-16-111 |
| 51-40-93119 | NEW-P | 97-16-111 |
| 51-40-93120 | NEW-P | 97-16-111 |
| 51-42-001 | NEW-P | 97-16-115 |
| 51-42-002 | NEW-P | 97-16-115 |
| 51-42-003 | NEW-P | 97-16-115 |
| 51-42-004 | NEW-P | 97-16-115 |
| 51-42-005 | NEW-P | 97-16-115 |
| 51-42-007 | NEW-P | 97-16-115 |
| 51-42-008 | NEW-P | 97-16-115 |
| 51-42-0200 | NEW-P | 97-16-115 |
| 51-42-0223 | NEW-P | 97-16-115 |
| 51-42-0303 | NEW-P | 97-16-115 |
| 51-42-0504 | NEW-P | 97-16-115 |
| 51-42-0600 | NEW-P | 97-16-115 |
| 51-42-0601 | NEW-P | 97-16-115 |
| 51-42-0605 | NEW-P | 97-16-115 |
| 51-42-0901 | NEW-P | 97-16-115 |
| 51-42-1000 | NEW-P | 97-16-115 |
| 51-42-1002 | NEW-P | 97-16-115 |
| 51-42-1004 | NEW-P | 97-16-115 |
| 51-42-1005 | NEW-P | 97-16-115 |
| 51-42-1100 | NEW-P | 97-16-115 |
| 51-42-1101 | NEW-P | 97-16-115 |
| 51-42-1102 | NEW-P | 97-16-115 |
| 51-42-1103 | NEW-P | 97-16-115 |
| 51-42-1104 | NEW-P | 97-16-115 |
| 51-42-1105 | NEW-P | 97-16-115 |
| 51-42-1106 | NEW-P | 97-16-115 |
| 51-42-1107 | NEW-P | 97-16-115 |
| 51-42-1108 | NEW-P | 97-16-115 |
| 51-42-1311 | NEW-P | 97-16-115 |
| 51-42-1312 | NEW-P | 97-16-115 |
| 51-44-001 | NEW-P | 97-16-113 |
| 51-44-002 | NEW-P | 97-16-113 |
| 51-44-003 | NEW-P | 97-16-113 |
| 51-44-007 | NEW-P | 97-16-113 |
| 51-44-008 | NEW-P | 97-16-113 |
| 51-44-0103 | NEW-P | 97-16-113 |
| 51-44-0200 | NEW-P | 97-16-113 |
| 51-44-0900 | NEW-P | 97-16-113 |
| 51-44-1003 | NEW-P | 97-16-113 |
| 51-44-1007 | NEW-P | 97-16-113 |
| 51-44-10210 | NEW-P | 97-16-113 |
| 51-44-1109 | NEW-P | 97-16-113 |
| 51-44-2500 | NEW-P | 97-16-113 |
| 51-44-5200 | NEW-P | 97-16-113 |
| 51-44-6100 | NEW-P | 97-16-113 |
| 51-44-6300 | NEW-P | 97-16-113 |
| 51-44-7404 | NEW-P | 97-16-113 |
| 51-44-7802 | NEW-P | 97-16-113 |
| 51-44-7900 | NEW-P | 97-16-113 |
| 51-44-8000 | NEW-P | 97-16-113 |
| 51-45-001 | NEW-P | 97-16-113 |
| 51-45-002 | NEW-P | 97-16-113 |
| 51-45-003 | NEW-P | 97-16-113 |
| 51-45-007 | NEW-P | 97-16-113 |
| 51-45-008 | NEW-P | 97-16-113 |
| 51-45-80400 | NEW-P | 97-16-113 |
| 51-46-001 | NEW-P | 97-16-114 |
| 51-46-002 | NEW-P | 97-16-114 |
| 51-46-003 | NEW-P | 97-16-114 |
| 51-46-007 | NEW-P | 97-16-114 |
| 51-46-008 | NEW-P | 97-16-114 |
| 51-46-0100 | NEW-P | 97-16-114 |
| 51-46-0101 | NEW-P | 97-16-114 |
| 51-46-0102 | NEW-P | 97-16-114 |
| 51-46-0103 | NEW-P | 97-16-114 |
| 51-46-0200 | NEW-P | 97-16-114 |
| 51-46-0205 | NEW-P | 97-16-114 |
| 51-46-0215 | NEW-P | 97-16-114 |
| 51-46-0218 | NEW-P | 97-16-114 |
| 51-46-0300 | NEW-P | 97-16-114 |
| 51-46-0301 | NEW-P | 97-16-114 |
| 51-46-0310 | NEW-P | 97-16-114 |
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| 51-46-0313 | NEW-P | 97-16-114 |
| 51-46-0314 | NEW-P | 97-16-114 |
| 51-46-0392 | NEW-P | 97-16-114 |
| 51-46-0316 | NEW-P | 97-16-114 |
| 51-46-0400 | NEW-P | 97-16-114 |
| 51-46-0402 | NEW-P | 97-16-114 |
| 51-46-0412 | NEW-P | 97-16-114 |
| 51-46-0413 | NEW-P | 97-16-114 |
| 51-46-0500 | NEW-P | 97-16-114 |
| 51-46-0501 | NEW-P | 97-16-114 |
| 51-46-0502 | NEW-P | 97-16-114 |
| 51-46-0505 | NEW-P | 97-16-114 |
| 51-46-0507 | NEW-P | 97-16-114 |
| 51-46-0509 | NEW-P | 97-16-114 |
| 51-46-0512 | NEW-P | 97-16-114 |
| 51-46-0513 | NEW-P | 97-16-114 |
| 51-46-0514 | NEW-P | 97-16-114 |
| 51-46-0515 | NEW-P | 97-16-114 |
| 51-46-0516 | NEW-P | 97-16-114 |
| 51-46-0517 | NEW-P | 97-16-114 |
| 51-46-0518 | NEW-P | 97-16-114 |
| 51-46-0519 | NEW-P | 97-16-114 |
| 51-46-0520 | NEW-P | 97-16-114 |
| 51-46-0521 | NEW-P | 97-16-114 |
| 51-46-0522 | NEW-P | 97-16-114 |
| 51-46-0523 | NEW-P | 97-16-114 |
| 51-46-0524 | NEW-P | 97-16-114 |
| 51-46-0525 | NEW-P | 97-16-114 |
| 51-46-0600 | NEW-P | 97-16-114 |
| 51-46-0603 | NEW-P | 97-16-114 |
| 51-46-0604 | NEW-P | 97-16-114 |
| 51-46-0608 | NEW-P | 97-16-114 |
| 51-46-0609 | NEW-P | 97-16-114 |
| 51-46-0610 | NEW-P | 97-16-114 |
| 51-46-0700 | NEW-P | 97-16-114 |
| 51-46-0701 | NEW-P | 97-16-114 |
| 51-46-0704 | NEW-P | 97-16-114 |
| 51-46-0710 | NEW-P | 97-16-114 |
| 51-46-0713 | NEW-P | 97-16-114 |
| 51-46-0793 | NEW-P | 97-16-114 |
| 51-46-0800 | NEW-P | 97-16-114 |
| 51-46-0810 | NEW-P | 97-16-114 |
| 51-46-0814 | NEW-P | 97-16-114 |
| 51-46-0815 | NEW-P | 97-16-114 |
| 51-46-0900 | NEW-P | 97-16-114 |
| 51-46-0903 | NEW-P | 97-16-114 |

| WAC # | ACTION | WSR # |
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| 51-46-1003 | NEW-P | 97-16-114 |
| 51-46-1012 | NEW-P | 97-16-114 |
| 51-46-1300 | NEW-P | 97-16-114 |
| 51-46-1301 | NEW-P | 97-16-114 |
| 51-46-1302 | NEW-P | 97-16-114 |
| 51-46-1303 | NEW-P | 97-16-114 |
| 51-46-1304 | NEW-P | 97-16-114 |
| 51-46-1301 | NEW-P | 97-16-114 |
| 51-46-1302 | NEW-P | 97-16-114 |
| 51-46-1303 | NEW-P | 97-16-114 |
| 51-46-1304 | NEW-P | 97-16-114 |
| 51-46-1305 | NEW-P | 97-16-114 |
| 51-46-1400 | NEW-P | 97-16-114 |
| 51-46-1401 | NEW-P | 97-16-114 |
| 51-46-1491 | NEW-P | 97-16-114 |
| 51-46-97120 | NEW-P | 97-16-114 |
| 51-46-97121 | NEW-P | 97-16-114 |
| 51-46-97122 | NEW-P | 97-16-114 |
| 51-46-97123 | NEW-P | 97-16-114 |
| 51-46-97124 | NEW-P | 97-16-114 |
| 51-46-97125 | NEW-P | 97-16-114 |
| 51-46-97126 | NEW-P | 97-16-114 |
| 51-46-97127 | NEW-P | 97-16-114 |
| 51-46-97128 | NEW-P | 97-16-114 |
| 51-46-97129 | NEW-P | 97-16-114 |
| 51-47-001 | NEW-P | 97-16-114 |
| 51-47-002 | NEW-P | 97-16-114 |
| 51-47-003 | NEW-P | 97-16-114 |
| 51-47-007 | NEW-P | 97-16-114 |
| 51-47-008 | NEW-P | 97-16-114 |
| 82-50-021 | AMD-P | 97-10-079 |
| 82-50-021 | AMD | 97-13-064 |
| 112-10-010 | NEW-E | 97-13-061 |
| 112-10-010 | NEW-P | 97-15-145 |
| 112-10-020 | NEW-E | 97-13-061 |
| 112-10-020 | NEW-P | 97-15-145 |
| 112-10-030 | NEW-E | 97-13-061 |
| 112-10-030 | NEW-P | 97-15-145 |
| 112-10-040 | NEW-E | 97-13-061 |
| 112-10-040 | NEW-P | 97-15-145 |
| 112-10-050 | NEW-E | 97-13-061 |
| 112-10-050 | NEW-P | 97-15-145 |
| 112-10-060 | NEW-E | 97-13-061 |
| 112-10-060 | NEW-P | 97-15-145 |
| 131-16 | AMD-C | 97-07-007 |
| 131-16-010 | AMD-E | 97-07-006 |
| 131-16-010 | AMD | 97-10-069 |
| 131-16-011 | AMD-E | 97-07-006 |
| 131-16-011 | AMD | 97-10-069 |
| 131-16-021 | AMD-E | 97-07-006 |
| 131-16-021 | AMD | 97-10-069 |
| 131-16-050 | AMD-E | 97-07-006 |
| 131-16-050 | AMD | 97-10-069 |
| 131-16-060 | AMD-E | 97-07-006 |
| 131-16-060 | AMD | 97-10-069 |
| 131-16-067 | NEW-E | 97-14-070 |
| 131-16-067 | NEW-P | 97-16-089 |
| 131-16-068 | NEW-E | 97-14-070 |
| 131-16-068 | NEW-P | 97-16-089 |
| 132E-111-010 | PREP | 97-08-080 |
| 132E-121-010 | PREP | 97-08-080 |
| 132E-121-010 | AMD-P | 97-11-068 |
| 132E-133-020 | PREP | 97-08-081 |
| 132E-133-020 | AMD-P | 97-11-069 |
| 132K-04 | AMD-P | 97-07-018 |
| 132K-04 | AMD | 97-12-071 |
| 132K-04-001 | AMD-P | 97-07-018 |
| 132K-04-001 | AMD | 97-12-071 |
| 132K-04-010 | AMD-P | 97-07-018 |
| 132K-04-010 | AMD | 97-12-071 |
| 132K-04-020 | AMD-P | 97-07-018 |
| 132K-04-020 | AMD | 97-12-071 |
| 132K-04-030 | AMD-P | 97-07-018 |
| 132K-04-030 | AMD | 97-12-071 |
| 132K-04-050 | AMD-P | 97-07-018 |
| 132K-04-050 | AMD | 97-12-071 |
| 132K-04-070 | REP-P | 97-07-018 |
| 132K-04-070 | REP | 97-12-071 |
| 132K-04-080 | AMD-P | 97-07-018 |
| 132K-04-080 | AMD | 97-12-071 |
| 132K-04-110 | AMD-P | 97-07-018 |
| 132K-04-110 | AMD | 97-12-071 |
| 132K-04-130 | AMD-P | 97-07-018 |
| 132K-04-130 | AMD | 97-12-071 |
| 132K-08-010 | REP-P | 97-07-017 |
| 132K-08-010 | REP | 97-12-070 |
| 132N-20 | PREP | 97-06-008 |
| 132N-20-010 | REP-P | 97-10-018 |
| 132N-20-020 | REP-P | 97-10-018 |
| 132N-20-030 | REP-P | 97-10-018 |
| 132N-20-040 | REP-P | 97-10-018 |
| 132N-20-050 | REP-P | 97-10-018 |
| 132N-20-060 | REP-P | 97-10-018 |
| 132N-20-070 | REP-P | 97-10-018 |
| 132N-20-080 | REP-P | 97-10-018 |
| 132N-20-090 | REP-P | 97-10-018 |
| 132N-108-010 | NEW-P | 97-15-078 |
| 132N-108-020 | NEW-P | 97-15-078 |
| 132N-108-030 | NEW-P | 97-15-078 |
| 132N-108-040 | NEW-P | 97-15-078 |
| 132N-108-050 | NEW-P | 97-15-078 |
| 132N-108-060 | NEW-P | 97-15-078 |
| 132N-108-070 | NEW-P | 97-15-078 |
| 132N-108-080 | NEW-P | 97-15-078 |
| 132N-108-090 | NEW-P | 97-15-078 |
| 132N-120-010 | NEW-P | 97-10-018 |
| 132N-120-020 | NEW-P | 97-10-018 |
| 132N-120-030 | NEW-P | 97-10-018 |
| 132N-120-040 | NEW-P | 97-10-018 |
| 132N-120-050 | NEW-P | 97-10-018 |
| 132N-120-060 | NEW-P | 97-10-018 |
| 132N-120-065 | NEW-P | 97-10-018 |
| 132N-120-070 | NEW-P | 97-10-018 |
| 132N-120-080 | NEW-P | 97-10-018 |
| 132N-120-090 | NEW-P | 97-10-018 |
| 132N-120-100 | NEW-P | 97-10-018 |
| 132N-120-110 | NEW-P | 97-10-018 |
| 132N-120-120 | NEW-P | 97-10-018 |
| 132N-120-130 | NEW-P | 97-10-018 |
| 132N-120-140 | NEW-P | 97-10-018 |
| 132N-120-150 | NEW-P | 97-10-018 |
| 132N-120-160 | NEW-P | 97-10-018 |
| 132N-120-170 | NEW-P | 97-10-018 |
| 132N-120-180 | NEW-P | 97-10-018 |
| 132N-122 | PREP | 97-15-076 |
| 132N-156 | PREP | 97-15-077 |
| 132P-116 | PREP | 97-10-076 |
| 132P-116-010 | AMD-P | 97-14-101 |
| 132P-116-020 | AMD-P | 97-14-101 |
| 132P-116-040 | AMD-P | 97-14-101 |
| 132P-116-050 | AMD-P | 97-14-101 |
| 132P-116-060 | AMD-P | 97-14-101 |
| 132P-116-070 | AMD-P | 97-14-101 |
| 132P-116-080 | AMD-P | 97-14-101 |
| 132P-116-090 | REP-P | 97-14-101 |
| 132P-116-100 | AMD-P | 97-14-101 |
| 132P-116-110 | AMD-P | 97-14-101 |
| 132P-116-120 | AMD-P | 97-14-101 |
| 132P-116-130 | AMD-P | 97-14-101 |
| 132P-116-140 | AMD-P | 97-14-101 |
| 132P-116-150 | AMD-P | 97-14-101 |
| 132P-116-160 | REP-P | 97-14-101 |
| 132P-116-170 | AMD-P | 97-14-101 |
| 132P-116-200 | AMD-P | 97-14-101 |
| 132P-116-210 | AMD-P | 97-14-101 |
| 132P-116-220 | AMD-P | 97-14-101 |
| 132P-116-230 | AMD-P | 97-14-101 |
| 132P-116-240 | AMD-P | 97-14-101 |
| 132P-116-250 | AMD-P | 97-14-101 |
| 132P-116-260 | AMD-P | 97-14-101 |
| 132P-116-270 | AMD-P | 97-14-101 |
| 132P-116-280 | AMD-P | 97-14-101 |
| 132P-116-290 | AMD-P | 97-14-101 |
| 132P-116-300 | NEW-P | 97-14-101 |
| 132V-12-003 | REP-P | 97-03-128 |
| 132V-12-003 | REP | 97-07-048 |
| 132V-12-006 | REP-P | 97-03-128 |
| 132V-12-006 | REP | 97-07-048 |
| 132V-12-009 | REP-P | 97-03-128 |
| 132V-12-009 | REP | 97-07-048 |
| 132V-12-012 | REP-P | 97-03-128 |
| 132V-12-012 | REP | 97-07-048 |
| 132V-12-015 | REP-P | 97-03-128 |
| 132V-12-015 | REP | 97-07-048 |
| 132V-12-018 | REP-P | 97-03-128 |
| 132V-12-018 | REP | 97-07-048 |
| 132V-12-021 | REP-P | 97-03-128 |
| 132V-12-021 | REP | 97-07-048 |
| 132V-12-024 | REP-P | 97-03-128 |
| 132V-12-024 | REP | 97-07-048 |
| 132V-12-027 | REP-P | 97-03-128 |
| 132V-12-027 | REP | 97-07-048 |
| 132V-12-030 | REP-P | 97-03-128 |
| 132V-12-030 | REP | 97-07-048 |
| 132V-12-033 | REP-P | 97-03-128 |
| 132V-12-033 | REP | 97-07-048 |
| 132V-12-036 | REP-P | 97-03-128 |
| 132V-12-036 | REP | 97-07-048 |
| 132V-12-039 | REP-P | 97-03-128 |
| 132V-12-039 | REP | 97-07-048 |
| 132V-12-042 | REP-P | 97-03-128 |
| 132V-12-042 | REP | 97-07-048 |
| 132V-12-045 | REP-P | 97-03-128 |
| 132V-12-045 | REP | 97-07-048 |
| 132V-12-048 | REP-P | 97-03-128 |
| 132V-12-048 | REP | 97-07-048 |
| 132V-12-051 | REP-P | 97-03-128 |
| 132V-12-051 | REP | 97-07-048 |
| 132V-12-054 | REP-P | 97-03-128 |
| 132V-12-054 | REP | 97-07-048 |
| 132V-12-057 | REP-P | 97-03-128 |
| 132V-12-057 | REP | 97-07-048 |
| 132V-12-060 | REP-P | 97-03-128 |
| 132V-12-060 | REP | 97-07-048 |
| 132V-12-063 | REP-P | 97-03-128 |
| 132V-12-063 | REP | 97-07-048 |
| 132V-12-066 | REP-P | 97-03-128 |
| 132V-12-066 | REP | 97-07-048 |
| 132V-12-069 | REP-P | 97-03-128 |
| 132V-12-069 | REP | 97-07-048 |
| 132V-12-072 | REP-P | 97-03-128 |
| 132V-12-072 | REP | 97-07-048 |
| 132V-12-075 | REP-P | 97-03-128 |
| 132V-12-075 | REP | 97-07-048 |
| 132V-12-078 | REP-P | 97-03-128 |
| 132V-12-078 | REP | 97-07-048 |
| 132V-12-084 | REP-P | 97-03-128 |
| 132V-12-084 | REP | 97-07-048 |
| 132V-12-087 | REP-P | 97-03-128 |
| 132V-12-087 | REP | 97-07-048 |
| 132V-12-096 | REP-P | 97-03-128 |
| 132V-12-096 | REP | 97-07-048 |
| 132V-12-120 | REP-P | 97-03-128 |
| 132V-12-120 | REP | 97-07-048 |
| 132V-12-144 | REP-P | 97-03-128 |
| 132V-12-144 | REP | 97-07-048 |
| 132V-12-147 | REP-P | 97-03-128 |
| 132V-12-147 | REP | 97-07-048 |

| WAC # | ACTION | WSR # |
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| 132V-12-150 | REP-P | 97-03-128 |
| 132V-12-150 | REP | 97-07-048 |
| 132V-12-153 | REP-P | 97-03-128 |
| 132V-12-153 | REP | 97-07-048 |
| 132V-12-165 | REP-P | 97-03-128 |
| 132V-12-165 | REP | 97-07-048 |
| 132V-12-168 | REP-P | 97-03-128 |
| 132V-12-168 | REP | 97-07-048 |
| 132V-12-171 | REP-P | 97-03-128 |
| 132V-12-171 | REP | 97-07-048 |
| 132V-12-174 | REP-P | 97-03-128 |
| 132V-12-174 | REP | 97-07-048 |
| 132V-12-177 | REP-P | 97-03-128 |
| 132V-12-177 | REP | 97-07-048 |
| 132V-12-180 | REP-P | 97-03-128 |
| 132V-12-180 | REP | 97-07-048 |
| 132V-12-183 | REP-P | 97-03-128 |
| 132V-12-183 | REP | 97-07-048 |
| 132V-12-186 | REP-P | 97-03-128 |
| 132V-12-186 | REP | 97-07-048 |
| 132V-12-189 | REP-P | 97-03-128 |
| 132V-12-189 | REP | 97-07-048 |
| 132V-12-192 | REP-P | 97-03-128 |
| 132V-12-192 | REP | 97-07-048 |
| 132V-12-195 | REP-P | 97-03-128 |
| 132V-12-195 | REP | 97-07-048 |
| 132V-12-198 | REP-P | 97-03-128 |
| 132V-12-198 | REP | 97-07-048 |
| 132V-12-201 | REP-P | 97-03-128 |
| 132V-12-201 | REP | 97-07-048 |
| 132V-12-204 | REP-P | 97-03-128 |
| 132V-12-204 | REP | 97-07-048 |
| 132V-12-207 | REP-P | 97-03-128 |
| 132V-12-207 | REP | 97-07-048 |
| 132V-12-210 | REP-P | 97-03-128 |
| 132V-12-210 | REP | 97-07-048 |
| 132V-12-213 | REP-P | 97-03-128 |
| 132V-12-213 | REP | 97-07-048 |
| 132V-12-216 | REP-P | 97-03-128 |
| 132V-12-216 | REP | 97-07-048 |
| 132V-12-219 | REP-P | 97-03-128 |
| 132V-12-219 | REP | 97-07-048 |
| 132V-12-222 | REP-P | 97-03-128 |
| 132V-12-222 | REP | 97-07-048 |
| 132V-12-225 | REP-P | 97-03-128 |
| 132V-12-225 | REP | 97-07-048 |
| 132V-12-228 | REP-P | 97-03-128 |
| 132V-12-228 | REP | 97-07-048 |
| 132V-12-231 | REP-P | 97-03-128 |
| 132V-12-231 | REP | 97-07-048 |
| 132V-12-234 | REP-P | 97-03-128 |
| 132V-12-234 | REP | 97-07-048 |
| 132V-12-237 | REP-P | 97-03-128 |
| 132V-12-237 | REP | 97-07-048 |
| 132V-12-240 | REP-P | 97-03-128 |
| 132V-12-240 | REP | 97-07-048 |
| 132V-12-243 | REP-P | 97-03-128 |
| 132V-12-243 | REP | 97-07-048 |
| 132V-12-246 | REP-P | 97-03-128 |
| 132V-12-246 | REP | 97-07-048 |
| 132V-12-249 | REP-P | 97-03-128 |
| 132V-12-249 | REP | 97-07-048 |
| 132V-12-252 | REP-P | 97-03-128 |
| 132V-12-252 | REP | 97-07-048 |
| 132V-12-255 | REP-P | 97-03-128 |
| 132V-12-255 | REP | 97-07-048 |
| 132V-12-258 | REP-P | 97-03-128 |
| 132V-12-258 | REP | 97-07-048 |
| 132V-12-261 | REP-P | 97-03-128 |
| 132V-12-261 | REP | 97-07-048 |
| 132V-12-264 | REP-P | 97-03-128 |
| 132V-12-264 | REP | 97-07-048 |
| 132V-12-267 | REP-P | 97-03-128 |
| 132V-12-267 | REP | 97-07-048 |
| 132V-12-270 | REP-P | 97-03-128 |
| 132V-12-270 | REP | 97-07-048 |
| 132V-12-273 | REP-P | 97-03-128 |
| 132V-12-273 | REP | 97-07-048 |
| 132V-12-276 | REP-P | 97-03-128 |
| 132V-12-276 | REP | 97-07-048 |
| 132V-12-279 | REP-P | 97-03-128 |
| 132V-12-279 | REP | 97-07-048 |
| 132V-12-281 | REP-P | 97-03-128 |
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| 132V-12-287 | REP | 97-07-048 |
| 132V-12-290 | REP-P | 97-03-128 |
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| 132V-12-293 | REP-P | 97-03-128 |
| 132V-12-293 | REP | 97-07-048 |
| 132V-12-296 | REP-P | 97-03-128 |
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| 132V-12-299 | REP-P | 97-03-128 |
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| 132V-12-302 | REP-P | 97-03-128 |
| 132V-12-302 | REP | 97-07-048 |
| 132V-12-305 | REP-P | 97-03-128 |
| 132V-12-305 | REP | 97-07-048 |
| 132V-12-308 | REP-P | 97-03-128 |
| 132V-12-308 | REP | 97-07-048 |
| 132V-12-311 | REP-P | 97-03-128 |
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| 132V-12-314 | REP-P | 97-03-128 |
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| 132V-12-317 | REP-P | 97-03-128 |
| 132V-12-317 | REP | 97-07-048 |
| 132V-12-320 | REP-P | 97-03-128 |
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| 132V-12-323 | REP-P | 97-03-128 |
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| 132V-12-329 | REP-P | 97-03-128 |
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| 132V-12-332 | REP-P | 97-03-128 |
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| 132V-12-335 | REP-P | 97-03-128 |
| 132V-12-335 | REP | 97-07-048 |
| 132V-12-338 | REP-P | 97-03-128 |
| 132V-12-338 | REP | 97-07-048 |
| 132V-12-341 | REP-P | 97-03-128 |
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| 132V-12-344 | REP-P | 97-03-128 |
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| 132V-12-347 | REP-P | 97-03-128 |
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| 132V-12-362 | REP-P | 97-03-128 |
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| 132V-12-365 | REP-P | 97-03-128 |
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| 132V-12-368 | REP-P | 97-03-128 |
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| 132V-12-371 | REP-P | 97-03-128 |
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| 132V-12-377 | REP-P | 97-03-128 |
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| 132V-12-386 | REP-P | 97-03-128 |
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| 132V-12-392 | REP-P | 97-03-128 |
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| 132V-12-401 | REP-P | 97-03-128 |
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| 132V-12-404 | REP-P | 97-03-128 |
| 132V-12-404 | REP | 97-07-048 |
| 132V-12-407 | REP-P | 97-03-128 |
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| 132V-12-413 | REP | 97-07-048 |
| 132V-12-416 | REP-P | 97-03-128 |
| 132V-12-416 | REP | 97-07-048 |
| 132V-12-419 | REP-P | 97-03-128 |
| 132V-12-419 | REP | 97-07-048 |
| 132V-12-422 | REP-P | 97-03-128 |
| 132V-12-422 | REP | 97-07-048 |
| 132V-12-425 | REP-P | 97-03-128 |
| 132V-12-425 | REP | 97-07-048 |
| 132V-12-428 | REP-P | 97-03-128 |
| 132V-12-428 | REP | 97-07-048 |
| 132V-12-431 | REP-P | 97-03-128 |
| 132V-12-431 | REP | 97-07-048 |
| 132V-12-434 | REP-P | 97-03-128 |
| 132V-12-434 | REP | 97-07-048 |
| 136-130-060 | AMD | 97-06-006 |
| 137-28-140 | AMD | 97-03-041 |
| 137-28-160 | AMD | 97-03-041 |
| 137-28-220 | AMD | 97-03-041 |
| 137-28-260 | AMD | 97-03-041 |
| 137-28-350 | AMD | 97-03-041 |
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| 137-55-020 | NEW | 97-03-041 |
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| 137-55-060 | NEW | 97-03-041 |
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| 172-120-070 | AMD | 97-06-095 |
| 172-120-080 | AMD | 97-06-095 |
| 172-120-090 | AMD | 97-06-095 |
| 172-120-100 | AMD | 97-06-095 |
| 172-120-110 | AMD | 97-06-095 |
| 172-120-120 | AMD | 97-06-095 |
| 172-120-130 | AMD | 97-06-095 |
| 172-120-140 | AMD | 97-06-095 |
| 172-120-150 | REP | 97-06-095 |
| 173-22 | AMD-C | 97-03-129 |
| 173-22 | AMD | 97-04-076 |
| 173-22-015 | REP | 97-04-076 |
| 173-22-030 | AMD | 97-04-076 |
| 173-22-035 | NEW | 97-04-076 |
| 173-22-040 | AMD | 97-04-076 |
| 173-22-070 | AMD | 97-04-076 |
| 173-22-080 | NEW | 97-04-076 |

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| 173-32-020 | PREP-X | 97-13-042 |
| 173-32-030 | PREP-X | 97-13-042 |
| 173-32-040 | PREP-X | 97-13-042 |
| 173-90-010 | PREP-X | 97-13-043 |
| 173-90-015 | PREP-X | 97-13-043 |
| 173-90-020 | PREP-X | 97-13-043 |
| 173-90-040 | PREP-X | 97-13-043 |
| 173-90-050 | PREP-X | 97-13-043 |
| 173-90-060 | PREP-X | 97-13-043 |
| 173-90-070 | PREP-X | 97-13-043 |
| 173-95A-010 | NEW-E | 97-12-022 |
| 173-95A-020 | NEW-E | 97-12-022 |
| 173-95A-030 | NEW-E | 97-12-022 |
| 173-95A-040 | NEW-E | 97-12-022 |
| 173-95A-050 | NEW-E | 97-12-022 |
| 173-152-010 | NEW-E | 97-10-091 |
| 173-152-010 | RESCIND | 97-14-017 |
| 173-152-010 | NEW-E | 97-14-017 |
| 173-152-020 | NEW-E | 97-10-091 |
| 173-152-020 | RESCIND | 97-14-017 |
| 173-152-020 | NEW-E | 97-14-017 |
| 173-152-025 | NEW-E | 97-14-017 |
| 173-152-030 | NEW-E | 97-10-091 |
| 173-152-030 | RESCIND | 97-14-017 |
| 173-152-040 | NEW-E | 97-10-091 |
| 173-152-040 | RESCIND | 97-14-017 |
| 173-152-040 | NEW-E | 97-14-017 |
| 173-152-050 | NEW-E | 97-10-091 |
| 173-152-050 | RESCIND | 97-14-017 |
| 173-152-050 | NEW-E | 97-14-017 |
| 173-160 | PREP | 97-10-093 |
| 173-162 | PREP | 97-10-093 |
| 173-201A-020 | AMD-P | 97-12-034 |
| 173-201A-030 | AMD-P | 97-12-034 |
| 173-201A-040 | AMD-P | 97-12-034 |
| 173-201A-050 | AMD-P | 97-12-034 |
| 173-201A-060 | AMD-P | 97-12-034 |
| 173-201A-110 | AMD-P | 97-12-034 |
| 173-201A-130 | AMD-P | 97-12-034 |
| 173-201A-140 | AMD-P | 97-12-034 |
| 173-201A-160 | AMD-P | 97-12-034 |
| 173-202-020 | AMD-E | 97-05-039 |
| 173-202-020 | PREP | 97-08-038 |
| 173-202-020 | AMD-E | 97-13-036 |
| 173-202-020 | AMD-P | 97-15-130 |
| 173-202-020 | AMD-E | 97-16-038 |
| 173-223 | PREP-X | 97-14-076 |
| 173-224 | PREP | 97-14-084 |
| 173-303 | PREP | 97-04-062 |
| 173-303-017 | AMD-P | 97-16-074 |
| 173-303-040 | AMD-P | 97-16-074 |
| 173-303-045 | AMD-P | 97-16-074 |
| 173-303-070 | AMD-P | 97-16-074 |
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| 173-303-077 | NEW-P | 97-16-074 |
| 173-303-081 | AMD-P | 97-16-074 |
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| 173-303-090 | AMD-P | 97-16-074 |
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| 173-303-140 | AMD-P | 97-16-074 |
| 173-303-145 | AMD-P | 97-16-074 |
| 173-303-160 | AMD-P | 97-16-074 |
| 173-303-180 | AMD-P | 97-16-074 |
| 173-303-201 | AMD-P | 97-16-074 |
| 173-303-210 | AMD-P | 97-16-074 |
| 173-303-230 | AMD-P | 97-16-074 |
| 173-303-280 | AMD-P | 97-16-074 |
| 173-303-282 | AMD-P | 97-16-074 |
| 173-303-300 | AMD-P | 97-16-074 |
| 173-303-335 | AMD-P | 97-16-074 |
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| 173-303-395 | AMD-P | 97-16-074 |
| 173-303-400 | AMD-P | 97-16-074 |
| 173-303-505 | AMD-P | 97-16-074 |
| 173-303-520 | AMD-P | 97-16-074 |
| 173-303-522 | NEW-P | 97-16-074 |
| 173-303-573 | NEW-P | 97-16-074 |
| 173-303-600 | AMD-P | 97-16-074 |
| 173-303-610 | AMD-P | 97-16-074 |
| 173-303-620 | AMD-P | 97-16-074 |
| 173-303-655 | AMD-P | 97-16-074 |
| 173-303-665 | AMD-P | 97-16-074 |
| 173-303-675 | AMD-P | 97-16-074 |
| 173-303-800 | AMD-P | 97-16-074 |
| 173-303-802 | AMD-P | 97-16-074 |
| 173-303-804 | AMD-P | 97-16-074 |
| 173-303-805 | AMD-P | 97-16-074 |
| 173-303-806 | AMD-P | 97-16-074 |
| 173-303-807 | AMD-P | 97-16-074 |
| 173-303-810 | AMD-P | 97-16-074 |
| 173-303-815 | AMD-P | 97-16-074 |
| 173-303-830 | AMD-P | 97-16-074 |
| 173-303-840 | AMD-P | 97-16-074 |
| 173-303-900 | AMD-P | 97-16-074 |
| 173-303-910 | AMD-P | 97-16-074 |
| 173-303-9903 | AMD-P | 97-16-074 |
| 173-303-9904 | AMD-P | 97-16-074 |
| 173-303-9905 | AMD-P | 97-16-074 |
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| 173-309-020 | PREP-X | 97-13-041 |
| 173-309-030 | PREP-X | 97-13-041 |
| 173-309-040 | PREP-X | 97-13-041 |
| 173-309-050 | PREP-X | 97-13-041 |
| 173-309-060 | PREP-X | 97-13-041 |
| 173-309-070 | PREP-X | 97-13-041 |
| 173-309-080 | PREP-X | 97-13-041 |
| 173-309-090 | PREP-X | 97-13-041 |
| 173-311-010 | PREP-X | 97-13-040 |
| 173-311-020 | PREP-X | 97-13-040 |
| 173-311-030 | PREP-X | 97-13-040 |
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| 173-315-020 | PREP-X | 97-13-039 |
| 173-315-030 | PREP-X | 97-13-039 |
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| 173-315-060 | PREP-X | 97-13-039 |
| 173-315-070 | PREP-X | 97-13-039 |
| 173-318-010 | PREP-X | 97-13-038 |
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| 173-318-070 | PREP-X | 97-13-038 |
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| 173-319-020 | PREP-X | 97-13-037 |
| 173-319-030 | PREP-X | 97-13-037 |
| 173-319-040 | PREP-X | 97-13-037 |
| 173-319-050 | PREP-X | 97-13-037 |
| 173-319-060 | PREP-X | 97-13-037 |
| 173-400-030 | AMD-P | 97-15-071 |
| 173-400-110 | AMD-P | 97-15-071 |
| 173-401-735 | AMD-P | 97-04-061 |
| 173-401-735 | AMD | 97-08-084 |
| 173-401-830 | PREP-X | 97-14-075 |
| 173-430-040 | AMD | 97-03-021 |
| 173-490 | PREP | 97-09-018 |
| 173-491 | PREP | 97-09-018 |
| 173-491-020 | AMD | 97-04-012 |
| 173-491-040 | AMD | 97-04-012 |
| 173-491-050 | AMD | 97-04-012 |
| 173-500 | PREP | 97-13-074 |
| 173-531A | PREP | 97-12-092 |
| 173-563-090 | PREP | 97-12-092 |
| 174-116 | PREP | 97-05-044 |
| 174-122 | PREP | 97-05-044 |
| 174-122-010 | REP-P | 97-09-084 |
| 174-122-010 | REP | 97-13-047 |
| 174-122-020 | REP-P | 97-09-084 |
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| 174-130 | PREP | 97-05-044 |
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| 174-130-020 | REP-P | 97-09-084 |
| 174-130-020 | REP | 97-13-047 |
| 174-133 | PREP | 97-05-044 |
| 174-133-020 | AMD-P | 97-09-084 |
| 174-133-020 | AMD | 97-13-047 |
| 174-140 | PREP | 97-05-044 |
| 174-140-010 | NEW-P | 97-09-084 |
| 174-140-010 | NEW | 97-13-047 |
| 174-140-180 | REP-P | 97-09-084 |
| 174-140-180 | REP | 97-13-047 |
| 174-140-190 | REP-P | 97-09-084 |
| 174-140-190 | REP | 97-13-047 |
| 174-140-200 | REP-P | 97-09-084 |
| 174-140-200 | REP | 97-13-047 |
| 174-140-210 | REP-P | 97-09-084 |
| 174-140-210 | REP | 97-13-047 |
| 174-140-220 | REP-P | 97-09-084 |
| 174-140-220 | REP | 97-13-047 |
| 174-140-230 | REP-P | 97-09-084 |
| 174-140-230 | REP | 97-13-047 |
| 174-140-240 | REP-P | 97-09-084 |
| 174-140-240 | REP | 97-13-047 |
| 174-276 | PREP | 97-05-044 |
| 174-276 | AMD-P | 97-09-084 |
| 174-276 | AMD | 97-13-047 |
| 174-276-005 | NEW-P | 97-09-084 |
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| 174-276-010 | AMD-P | 97-09-084 |
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| 180-16-222 | AMD | 97-04-083 |
| 180-16-223 | REP | 97-04-083 |
| 180-16-224 | REP | 97-04-083 |
| 180-16-236 | PREP | 97-10-008 |
| 180-24 | PREP | 97-09-032 |
| 180-24-410 | AMD-P | 97-13-096 |
| 180-24-410 | AMD-W | 97-14-023 |
| 180-24-410 | AMD-P | 97-16-071 |
| 180-24-415 | AMD-P | 97-13-096 |
| 180-24-415 | AMD-W | 97-14-023 |

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| 180-27-056 | PREP | 97-09-115 |
| 180-33-025 | PREP | 97-09-116 |
| 180-40-260 | AMD-P | 97-04-067 |
| 180-40-260 | AMD | 97-08-019 |
| 180-40-310 | AMD-P | 97-04-067 |
| 180-40-310 | AMD | 97-08-019 |
| 180-51-050 | AMD-P | 97-04-066 |
| 180-51-050 | AMD | 97-08-020 |
| 180-75-003 | REP | 97-04-088 |
| 180-75-005 | REP | 97-04-088 |
| 180-75-016 | REP | 97-04-088 |
| 180-75-017 | REP | 97-04-088 |
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| 180-75-100 | REP | 97-04-088 |
| 180-75-110 | REP | 97-04-088 |
| 180-77 | PREP | 97-10-016 |
| 180-77-003 | AMD | 97-04-085 |
| 180-77-031 | AMD | 97-04-085 |
| 180-77-041 | AMD | 97-04-085 |
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| 180-77A-004 | NEW | 97-04-087 |
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| 180-77A-014 | NEW | 97-04-087 |
| 180-77A-016 | NEW | 97-04-087 |
| 180-77A-018 | NEW | 97-04-087 |
| 180-77A-020 | NEW | 97-04-087 |
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| 180-77A-026 | NEW | 97-04-087 |
| 180-77A-028 | NEW | 97-04-087 |
| 180-77A-029 | NEW | 97-04-087 |
| 180-77A-030 | NEW | 97-04-087 |
| 180-77A-033 | NEW | 97-04-087 |
| 180-77A-037 | NEW | 97-04-087 |
| 180-77A-040 | NEW | 97-04-087 |
| 180-77A-057 | NEW | 97-04-087 |
| 180-77A-165 | NEW | 97-04-087 |
| 180-77A-170 | NEW | 97-04-087 |
| 180-77A-175 | NEW | 97-04-087 |
| 180-77A-180 | NEW | 97-04-087 |
| 180-77A-195 | NEW | 97-04-087 |
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| 180-78-207 | RECOD | 97-04-081 |
| 180-78-215 | AMD | 97-04-081 |
| 180-78-217 | RECOD | 97-04-081 |
| 180-78-235 | AMD | 97-04-081 |
| 180-78-237 | RECOD | 97-04-081 |
| 180-78-285 | AMD | 97-04-081 |
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| 180-78A | PREP | 97-10-013 |
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| 180-78A-005 | NEW | 97-04-084 |
| 180-78A-006 | NEW | 97-04-084 |
| 180-78A-007 | NEW | 97-04-084 |
| 180-78A-010 | NEW | 97-04-084 |
| 180-78A-010 | PREP | 97-10-006 |
| 180-78A-012 | NEW | 97-04-084 |
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| 180-78A-260 | NEW | 97-04-084 |
| 180-78A-265 | NEW | 97-04-084 |
| 180-78A-265 | PREP | 97-14-104 |
| 180-78A-266 | NEW | 97-04-084 |
| 180-78A-300 | NEW | 97-04-084 |
| 180-78A-301 | NEW | 97-04-084 |
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| 180-78A-365 | NEW | 97-04-084 |
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| 180-79-005 | REP | 97-04-088 |
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| 180-79-032 | REP | 97-04-088 |
| 180-79-035 | REP | 97-04-088 |
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| 180-79-045 | REP | 97-04-088 |
| 180-79-047 | REP | 97-04-088 |
| 180-79-049 | REP | 97-04-088 |
| 180-79-060 | REP | 97-04-088 |
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| 180-79-063 | REP | 97-04-088 |
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| 180-79-075 | REP | 97-04-088 |
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| 180-79-117 | REP | 97-04-088 |
| 180-79-120 | REP | 97-04-088 |
| 180-79-121 | REP | 97-04-088 |
| 180-79-122 | REP | 97-04-088 |
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| 180-79-124 | REP | 97-04-088 |
| 180-79-125 | REP | 97-04-088 |
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| 180-79-128 | REP | 97-04-088 |
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| 180-79-136 | DECOD | 97-04-081 |
| 180-79-140 | DECOD | 97-04-081 |
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| 180-79-236 | REP | 97-04-088 |
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| 180-79-245 | REP | 97-04-088 |
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| 180-79-305 | REP | 97-04-088 |
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| 180-79-315 | REP | 97-04-088 |
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| 180-79-392 | REP | 97-04-088 |
| 180-79-394 | REP | 97-04-088 |
| 180-79-396 | REP | 97-04-088 |
| 180-79-398 | REP | 97-04-088 |
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| 180-79A-003 | NEW | 97-04-088 |
| 180-79A-005 | NEW | 97-04-088 |
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| 180-79A-012 | NEW | 97-04-088 |
| 180-79A-013 | NEW | 97-04-088 |
| 180-79A-015 | NEW | 97-04-088 |
| 180-79A-020 | NEW | 97-04-088 |
| 180-79A-022 | NEW | 97-04-088 |
| 180-79A-025 | NEW | 97-04-088 |

| WAC # | ACTION | WSR # |
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| 180-79A-120 | NEW | 97-04-088 |
| 180-79A-122 | NEW | 97-04-088 |
| 180-79A-125 | NEW | 97-04-088 |
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| 180-79A-130 | NEW | 97-04-088 |
| 180-79A-131 | NEW | 97-04-088 |
| 180-79A-140 | NEW | 97-04-088 |
| 180-79A-150 | NEW | 97-04-088 |
| 180-79A-150 | PREP | 97-14-105 |
| 180-79A-160 | NEW | 97-04-088 |
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| 180-79A-165 | NEW | 97-04-088 |
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| 180-79A-210 | NEW | 97-04-088 |
| 180-79A-215 | NEW | 97-04-088 |
| 180-79A-220 | NEW | 97-04-088 |
| 180-79A-225 | NEW | 97-04-088 |
| 180-79A-230 | NEW | 97-04-088 |
| 180-79A-230 | PREP | 97-10-009 |
| 180-79A-236 | NEW | 97-04-088 |
| 180-79A-241 | NEW | 97-04-088 |
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| 180-79A-302 | NEW | 97-04-088 |
| 180-79A-304 | NEW | 97-04-088 |
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| 180-79A-308 | NEW | 97-04-088 |
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| 180-79A-417 | NEW | 97-04-088 |
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| 180-79A-435 | NEW | 97-04-088 |
| 180-79A-440 | NEW | 97-04-088 |
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| 180-79A-517 | NEW | 97-04-088 |
| 180-79A-520 | NEW | 97-04-088 |
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| 180-85-025 | AMD | 97-04-086 |
| 180-85-030 | AMD | 97-04-086 |
| 180-85-110 | REP | 97-04-086 |
| 180-85-115 | REP | 97-04-086 |
| 180-85-120 | REP | 97-04-086 |
| 180-85-135 | REP | 97-04-086 |
| 180-85-200 | AMD | 97-04-086 |
| 180-85-210 | AMD | 97-04-086 |
| 180-85-211 | NEW | 97-04-086 |
| 180-85-215 | AMD | 97-04-086 |
| 180-86-011 | NEW | 97-04-082 |
| 180-86-013 | RECOD | 97-04-082 |
| 180-86-014 | RECOD | 97-04-082 |
| 180-86-080 | NEW | 97-05-008 |
| 180-86-080 | NEW-W | 97-05-043 |
| 180-86-086 | NEW-W | 97-05-043 |
| 180-86-116 | NEW | 97-05-008 |
| 180-86-116 | NEW-W | 97-05-043 |
| 180-87-070 | PREP | 97-10-025 |
| 180-87-070 | AMD-P | 97-16-092 |
| 180-97 | PREP | 97-10-010 |
| 180-110 | PREP | 97-05-027 |
| 180-110-010 | REP-P | 97-13-017 |
| 180-110-010 | REP | 97-16-023 |
| 180-110-015 | REP-P | 97-13-017 |
| 180-110-015 | REP | 97-16-023 |
| 180-110-017 | REP-P | 97-13-017 |
| 180-110-017 | REP | 97-16-023 |
| 180-110-020 | REP-P | 97-13-017 |
| 180-110-020 | REP | 97-16-023 |
| 180-110-030 | REP-P | 97-13-017 |
| 180-110-030 | REP | 97-16-023 |
| 180-110-035 | REP-P | 97-13-017 |
| 180-110-035 | REP | 97-16-023 |
| 180-110-040 | REP-P | 97-13-017 |
| 180-110-040 | REP | 97-16-023 |
| 180-110-045 | REP-P | 97-13-017 |
| 180-110-045 | REP | 97-16-023 |
| 180-110-050 | REP-P | 97-13-017 |
| 180-110-050 | REP | 97-16-023 |
| 180-110-052 | REP-P | 97-13-017 |
| 180-110-052 | REP | 97-16-023 |
| 180-110-053 | REP-P | 97-13-017 |
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| 180-110-055 | REP-P | 97-13-017 |
| 180-110-055 | REP | 97-16-023 |
| 180-110-060 | REP-P | 97-13-017 |
| 180-110-060 | REP | 97-16-023 |
| 180-110-065 | REP-P | 97-13-017 |
| 180-110-065 | REP | 97-16-023 |
| 180-115 | PREP | 97-05-026 |
| 180-115-005 | REP-P | 97-13-016 |
| 180-115-005 | REP | 97-16-024 |
| 180-115-010 | REP-P | 97-13-016 |
| 180-115-010 | REP | 97-16-024 |
| 180-115-015 | REP-P | 97-13-016 |
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| 180-115-020 | REP-P | 97-13-016 |
| 180-115-020 | REP | 97-16-024 |
| 180-115-025 | REP-P | 97-13-016 |
| 180-115-025 | REP | 97-16-024 |
| 180-115-030 | REP-P | 97-13-016 |
| 180-115-030 | REP | 97-16-024 |
| 180-115-035 | REP-P | 97-13-016 |
| 180-115-035 | REP | 97-16-024 |
| 180-115-040 | REP-P | 97-13-016 |
| 180-115-040 | REP | 97-16-024 |
| 180-115-045 | REP-P | 97-13-016 |
| 180-115-045 | REP | 97-16-024 |
| 180-115-050 | REP-P | 97-13-016 |
| 180-115-050 | REP | 97-16-024 |
| 180-115-055 | REP-P | 97-13-016 |
| 180-115-055 | REP | 97-16-024 |
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| 180-115-060 | REP | 97-16-024 |
| 180-115-065 | REP-P | 97-13-016 |
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| 180-115-075 | REP-P | 97-13-016 |
| 180-115-075 | REP | 97-16-024 |
| 180-115-080 | REP-P | 97-13-016 |
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| 180-115-090 | REP | 97-16-024 |
| 180-115-095 | REP-P | 97-13-016 |
| 180-115-095 | REP | 97-16-024 |
| 180-115-100 | REP-P | 97-13-016 |
| 180-115-100 | REP | 97-16-024 |
| 180-115-105 | REP-P | 97-13-016 |
| 180-115-105 | REP | 97-16-024 |
| 182-08-160 | AMD-E | 97-06-071 |
| 182-08-160 | AMD-E | 97-14-031 |
| 182-08-175 | AMD-E | 97-06-071 |
| 182-08-175 | AMD-E | 97-14-031 |
| 182-12-117 | AMD-E | 97-06-070 |
| 182-12-117 | AMD-E | 97-14-030 |
| 182-25-010 | AMD-P | 97-08-067 |
| 182-25-010 | AMD | 97-15-003 |
| 182-25-020 | AMD-P | 97-08-067 |
| 182-25-020 | AMD | 97-15-003 |
| 182-25-030 | AMD-E | 97-06-069 |
| 182-25-030 | AMD-P | 97-08-067 |
| 182-25-030 | AMD-E | 97-14-029 |
| 182-25-030 | AMD | 97-15-003 |
| 182-25-040 | AMD-E | 97-06-069 |
| 182-25-040 | AMD-P | 97-08-067 |
| 182-25-040 | AMD-E | 97-14-029 |
| 182-25-040 | AMD | 97-15-003 |
| 182-25-090 | AMD-E | 97-06-069 |
| 182-25-090 | AMD-P | 97-08-067 |
| 182-25-090 | AMD-E | 97-14-029 |
| 182-25-090 | AMD | 97-15-003 |
| 192-12-042 | PREP | 97-16-011 |
| 192-12-072 | PREP | 97-16-012 |
| 192-32 | AMD-E | 97-15-022 |
| 192-32 | PREP | 97-16-010 |
| 192-32-001 | AMD-E | 97-15-022 |

| WAC # | ACTION | WSR # |
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| 192-32-015 | REP-E | 97-15-022 |
| 192-32-025 | REP-E | 97-15-022 |
| 192-32-035 | AMD-E | 97-15-022 |
| 192-32-045 | AMD-E | 97-15-022 |
| 192-32-065 | AMD-E | 97-15-022 |
| 192-32-095 | AMD-E | 97-15-022 |
| 192-32-100 | NEW-E | 97-15-022 |
| 192-32-105 | AMD-E | 97-15-022 |
| 192-32-120 | REP-E | 97-15-022 |
| 192-32-125 | REP-E | 97-15-022 |
| 192-32-130 | NEW-E | 97-15-022 |
| 192-32-135 | NEW-E | 97-15-022 |
| 192-33 | PREP | 97-16-010 |
| 192-33-005 | NEW-E | 97-14-022 |
| 192-33-006 | NEW-E | 97-14-022 |
| 196-12-010 | PREP | 97-03-029 |
| 196-12-020 | PREP | 97-03-029 |
| 196-12-030 | PREP | 97-03-029 |
| 196-12-050 | PREP | 97-03-029 |
| 196-12-060 | PREP | 97-03-029 |
| 196-24-030 | PREP | 97-03-029 |
| 196-24-040 | PREP | 97-03-029 |
| 196-24-050 | PREP | 97-03-029 |
| 196-24-085 | PREP | 97-03-029 |
| 196-24-100 | PREP | 97-03-029 |
| 196-24-105 | PREP | 97-03-029 |
| 197-11 | PREP | 97-03-130 |
| 197-11 | AMD-C | 97-15-129 |
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| 197-11-060 | AMD-P | 97-08-085 |
| 197-11-070 | AMD-P | 97-08-085 |
| 197-11-158 | NEW-P | 97-08-085 |
| 197-11-164 | NEW-P | 97-08-085 |
| 197-11-168 | NEW-P | 97-08-085 |
| 197-11-172 | NEW-P | 97-08-085 |
| 197-11-210 | AMD-P | 97-08-085 |
| 197-11-238 | NEW-P | 97-08-085 |
| 197-11-259 | AMD-P | 97-08-085 |
| 197-11-300 | AMD-P | 97-08-085 |
| 197-11-310 | AMD-P | 97-08-085 |
| 197-11-315 | AMD-P | 97-08-085 |
| 197-11-330 | AMD-P | 97-08-085 |
| 197-11-340 | AMD-P | 97-08-085 |
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| 197-11-390 | AMD-P | 97-08-085 |
| 197-11-408 | AMD-P | 97-08-085 |
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| 197-11-600 | AMD-P | 97-08-085 |
| 197-11-660 | AMD-P | 97-08-085 |
| 197-11-680 | AMD-P | 97-08-085 |
| 197-11-702 | AMD-P | 97-08-085 |
| 197-11-721 | NEW-P | 97-08-085 |
| 197-11-728 | AMD-P | 97-08-085 |
| 197-11-775 | NEW-P | 97-08-085 |
| 197-11-790 | AMD-P | 97-08-085 |
| 197-11-800 | AMD-P | 97-08-085 |
| 197-11-912 | AMD-P | 97-08-085 |
| 197-11-914 | AMD-P | 97-08-085 |
| 197-11-938 | AMD-P | 97-08-085 |
| 197-11-940 | AMD-P | 97-08-085 |
| 197-11-948 | AMD-P | 97-08-085 |
| 197-11-970 | AMD-P | 97-08-085 |
| 204-10-035 | NEW | 97-03-087 |
| 204-10-045 | PREP | 97-03-042 |
| 204-10-045 | NEW-P | 97-07-036 |
| 204-10-045 | NEW | 97-10-024 |
| 204-41-060 | PREP | 97-03-043 |
| 204-41-060 | NEW-P | 97-07-037 |
| 204-41-060 | NEW | 97-10-023 |
| 204-48-010 | PREP-X | 97-14-041 |
| 204-48-020 | PREP-X | 97-14-041 |
| 204-48-030 | PREP-X | 97-14-041 |
| 204-48-040 | PREP-X | 97-14-041 |
| 204-60 | AMD | 97-04-054 |
| 204-60-010 | AMD | 97-04-054 |
| 204-60-030 | AMD | 97-04-054 |
| 204-64-010 | PREP-X | 97-14-040 |
| 204-64-020 | PREP-X | 97-14-040 |
| 204-64-040 | PREP-X | 97-14-040 |
| 204-64-060 | PREP-X | 97-14-040 |
| 204-64-080 | PREP-X | 97-14-040 |
| 204-64-100 | PREP-X | 97-14-040 |
| 204-72-040 | PREP | 97-06-100 |
| 204-72-040 | AMD-P | 97-09-069 |
| 204-72-040 | AMD | 97-12-061 |
| 204-90-040 | AMD | 97-04-055 |
| 204-91A-060 | AMD-S | 97-04-053 |
| 204-91A-060 | AMD-E | 97-04-056 |
| 204-91A-060 | AMD | 97-08-021 |
| 204-91A-140 | AMD-S | 97-04-053 |
| 204-91A-140 | AMD-E | 97-04-056 |
| 204-91A-140 | AMD | 97-08-021 |
| 204-95-030 | NEW | 97-03-127 |
| 204-95-080 | NEW | 97-03-127 |
| 208-440-030 | AMD-W | 97-03-074 |
| 208-630-020 | AMD-P | 97-06-092 |
| 208-630-020 | AMD | 97-09-035 |
| 208-630-021 | NEW-P | 97-06-092 |
| 208-630-021 | NEW | 97-09-035 |
| 208-630-022 | NEW-P | 97-06-092 |
| 208-630-022 | NEW | 97-09-035 |
| 208-630-023 | NEW-P | 97-06-092 |
| 208-630-023 | NEW | 97-09-035 |
| 208-680D-050 | AMD-W | 97-04-071 |
| 212-17 | PREP | 97-05-028 |
| 212-17 | PREP | 97-13-073 |
| 212-17-185 | AMD-E | 97-11-023 |
| 212-17-185 | RESCIND | 97-11-041 |
| 212-17-185 | AMD-E | 97-11-041 |
| 212-17-185 | RESCIND | 97-14-019 |
| 212-17-185 | AMD-E | 97-14-019 |
| 212-17-185 | AMD-P | 97-16-120 |
| 212-17-190 | REP-E | 97-11-023 |
| 212-17-190 | RESCIND | 97-11-041 |
| 212-17-190 | REP-E | 97-11-041 |
| 212-17-190 | RESCIND | 97-14-019 |
| 212-17-190 | REP-E | 97-14-019 |
| 212-17-195 | REP-E | 97-11-023 |
| 212-17-195 | RESCIND | 97-11-041 |
| 212-17-195 | REP-E | 97-11-041 |
| 212-17-195 | RESCIND | 97-14-019 |
| 212-17-195 | REP-E | 97-14-019 |
| 212-17-200 | REP-E | 97-11-023 |
| 212-17-200 | RESCIND | 97-11-041 |
| 212-17-200 | REP-E | 97-11-041 |
| 212-17-200 | RESCIND | 97-14-019 |
| 212-17-200 | REP-E | 97-14-019 |
| 212-17-203 | REP-E | 97-11-023 |
| 212-17-203 | RESCIND | 97-11-041 |
| 212-17-203 | REP-E | 97-11-041 |
| 212-17-203 | RESCIND | 97-14-019 |
| 212-17-203 | REP-E | 97-14-019 |
| 212-17-205 | REP-E | 97-11-023 |
| 212-17-205 | RESCIND | 97-11-041 |
| 212-17-205 | REP-E | 97-11-041 |
| 212-17-205 | RESCIND | 97-14-019 |
| 212-17-205 | REP-E | 97-14-019 |
| 212-17-210 | REP-E | 97-11-023 |
| 212-17-210 | RESCIND | 97-11-041 |
| 212-17-210 | REP-E | 97-11-041 |
| 212-17-210 | RESCIND | 97-14-019 |
| 212-17-210 | REP-E | 97-14-019 |
| 212-17-215 | REP-E | 97-11-023 |
| 212-17-215 | RESCIND | 97-11-041 |
| 212-17-215 | REP-E | 97-11-041 |
| 212-17-215 | RESCIND | 97-14-019 |
| 212-17-215 | REP-E | 97-14-019 |
| 212-17-21503 | NEW-E | 97-11-023 |
| 212-17-21503 | RESCIND | 97-11-041 |
| 212-17-21503 | NEW-E | 97-11-041 |
| 212-17-21503 | RESCIND | 97-14-019 |
| 212-17-21503 | NEW-E | 97-14-019 |
| 212-17-21503 | NEW-P | 97-16-120 |
| 212-17-21505 | NEW-E | 97-11-023 |
| 212-17-21505 | RESCIND | 97-11-041 |
| 212-17-21505 | NEW-E | 97-11-041 |
| 212-17-21505 | RESCIND | 97-14-019 |
| 212-17-21505 | NEW-E | 97-14-019 |
| 212-17-21505 | NEW-P | 97-16-120 |
| 212-17-21507 | NEW-E | 97-11-023 |
| 212-17-21507 | RESCIND | 97-11-041 |
| 212-17-21507 | NEW-E | 97-11-041 |
| 212-17-21507 | RESCIND | 97-14-019 |
| 212-17-21507 | NEW-E | 97-14-019 |
| 212-17-21507 | NEW-P | 97-16-120 |
| 212-17-21509 | NEW-E | 97-11-023 |
| 212-17-21509 | RESCIND | 97-11-041 |
| 212-17-21509 | NEW-E | 97-11-041 |
| 212-17-21509 | RESCIND | 97-14-019 |
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| 212-17-21509 | NEW-P | 97-16-120 |
| 212-17-21511 | NEW-E | 97-11-023 |
| 212-17-21511 | RESCIND | 97-11-041 |
| 212-17-21511 | NEW-E | 97-11-041 |
| 212-17-21511 | RESCIND | 97-14-019 |
| 212-17-21511 | NEW-E | 97-14-019 |
| 212-17-21511 | NEW-P | 97-16-120 |
| 212-17-21513 | NEW-E | 97-11-023 |
| 212-17-21513 | RESCIND | 97-14-019 |
| 212-17-21513 | NEW-E | 97-14-019 |
| 212-17-21513 | NEW-P | 97-16-120 |
| 212-17-21515 | NEW-E | 97-11-023 |
| 212-17-21515 | RESCIND | 97-11-041 |
| 212-17-21515 | NEW-E | 97-11-041 |
| 212-17-21515 | RESCIND | 97-14-019 |
| 212-17-21515 | NEW-E | 97-14-019 |
| 212-17-21515 | NEW-P | 97-16-120 |
| 212-17-21517 | NEW-E | 97-11-041 |
| 212-17-21517 | RESCIND | 97-14-019 |
| 212-17-21517 | NEW-E | 97-14-019 |
| 212-17-21517 | NEW-P | 97-16-120 |
| 212-17-21519 | NEW-E | 97-11-023 |
| 212-17-21519 | RESCIND | 97-11-041 |
| 212-17-21519 | NEW-E | 97-11-041 |
| 212-17-21519 | RESCIND | 97-14-019 |
| 212-17-21519 | NEW-E | 97-14-019 |
| 212-17-21519 | NEW-P | 97-16-120 |
| 212-17-21521 | NEW-E | 97-11-023 |
| 212-17-21521 | RESCIND | 97-11-041 |
| 220-12-01000B | NEW-E | 97-15-108 |
| 220-16-470 | NEW-P | 97-15-147 |
| 220-16-47000A | NEW-E | 97-14-052 |
| 220-16-47000A | REP-E | 97-14-052 |
| 220-20-020 | AMD-P | 97-04-080 |
| 220-20-020 | AMD | 97-07-043 |
| 220-20-021 | AMD-P | 97-04-080 |
| 220-20-021 | AMD | 97-07-043 |
| 220-20-038 | AMD | 97-08-078 |
| 220-24-02000D | NEW-E | 97-10-029 |
| 220-24-02000D | REP-E | 97-10-029 |
| 220-32-05100X | NEW-E | 97-04-046 |
| 220-32-05100X | REP-E | 97-04-046 |
| 220-32-05100X | REP-E | 97-07-044 |
| 220-32-05100Y | NEW-E | 97-07-044 |
| 220-32-05500B | NEW-E | 97-08-007 |
| 220-32-05500B | REP-E | 97-08-007 |

| WAC # | ACTION | WSR # |
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| 220-32-05500B | REP-E | 97-12-036 |
| 220-32-05500C | NEW-E | 97-12-036 |
| 220-32-05500C | REP-E | 97-12-036 |
| 220-32-05500C | REP-E | 97-12-069 |
| 220-32-05500D | NEW-E | 97-12-069 |
| 220-32-05500D | REP-E | 97-12-069 |
| 220-32-05500D | REP-E | 97-13-007 |
| 220-32-05500E | NEW-E | 97-13-007 |
| 220-32-05500E | REP-E | 97-13-007 |
| 220-32-05500E | REP-E | 97-13-029 |
| 220-32-05500F | NEW-E | 97-13-029 |
| 220-32-05500F | REP-E | 97-13-049 |
| 220-32-05500G | NEW-E | 97-13-049 |
| 220-32-05500G | REP-E | 97-14-035 |
| 220-32-05500H | NEW-E | 97-14-035 |
| 220-32-05500H | REP-E | 97-15-007 |
| 220-32-05500I | NEW-E | 97-15-007 |
| 220-32-05500I | REP-E | 97-15-118 |
| 220-32-05500J | NEW-E | 97-15-118 |
| 220-32-05700U | REP-E | 97-03-002 |
| 220-32-05700U | NEW-E | 97-03-002 |
| 220-32-05700V | REP-E | 97-09-009 |
| 220-32-05700V | NEW-E | 97-09-009 |
| 220-32-05700V | REP-E | 97-13-048 |
| 220-32-05700W | NEW-E | 97-13-048 |
| 220-32-05700W | REP-E | 97-13-048 |
| 220-32-05700W | REP-E | 97-14-020 |
| 220-33-01000M | NEW-E | 97-04-013 |
| 220-33-01000M | REP-E | 97-04-013 |
| 220-33-01000N | NEW-E | 97-05-042 |
| 220-33-01000P | NEW-E | 97-16-075 |
| 220-33-01000P | REP-E | 97-16-075 |
| 220-33-020 | AMD-P | 97-04-080 |
| 220-33-020 | AMD | 97-07-043 |
| 220-33-03000K | NEW-E | 97-11-045 |
| 220-33-03000K | REP-E | 97-11-045 |
| 220-33-04000C | NEW-E | 97-04-014 |
| 220-33-04000C | REP-E | 97-05-041 |
| 220-33-04000D | NEW-E | 97-05-041 |
| 220-36-021 | AMD-P | 97-09-097 |
| 220-36-021 | AMD | 97-15-148 |
| 220-36-02100M | NEW-E | 97-16-058 |
| 220-36-023 | AMD-P | 97-09-097 |
| 220-36-023 | AMD | 97-15-148 |
| 220-40-021 | AMD-P | 97-09-097 |
| 220-40-021 | AMD | 97-15-148 |
| 220-40-02100V | NEW-E | 97-16-058 |
| 220-40-027 | AMD-P | 97-09-097 |
| 220-40-027 | AMD | 97-15-148 |
| 220-40-02700P | NEW-E | 97-16-058 |
| 220-44-05000E | REP-E | 97-10-021 |
| 220-44-05000F | NEW-E | 97-10-021 |
| 220-44-05000F | REP-E | 97-14-054 |
| 220-44-05000G | NEW-E | 97-14-054 |
| 220-44-05000G | REP-E | 97-14-054 |
| 220-47-301 | AMD-P | 97-09-104 |
| 220-47-301 | AMD | 97-16-030 |
| 220-47-302 | AMD-P | 97-09-104 |
| 220-47-302 | AMD | 97-16-030 |
| 220-47-304 | AMD-P | 97-09-104 |
| 220-47-304 | AMD | 97-16-030 |
| 220-47-307 | AMD-P | 97-09-104 |
| 220-47-307 | AMD | 97-16-030 |
| 220-47-311 | AMD-P | 97-09-104 |
| 220-47-311 | AMD | 97-16-030 |
| 220-47-319 | AMD-P | 97-09-104 |
| 220-47-319 | AMD | 97-16-030 |
| 220-47-325 | NEW-P | 97-09-096 |
| 220-47-325 | NEW | 97-16-030 |
| 220-47-326 | NEW-P | 97-09-096 |
| 220-47-326 | NEW | 97-16-032 |
| 220-47-401 | AMD-P | 97-09-104 |
| 220-47-401 | AMD | 97-16-030 |
| 220-47-410 | NEW-P | 97-09-104 |
| 220-47-410 | NEW | 97-16-030 |
| 220-47-411 | AMD-P | 97-09-104 |
| 220-47-411 | AMD | 97-16-030 |
| 220-47-427 | AMD-P | 97-09-104 |
| 220-47-427 | AMD | 97-16-030 |
| 220-47-428 | AMD-P | 97-09-104 |
| 220-47-428 | AMD | 97-16-030 |
| 220-47-800 | NEW-E | 97-15-006 |
| 220-47-801 | NEW-E | 97-15-006 |
| 220-47-801 | REP-E | 97-15-026 |
| 220-47-802 | NEW-E | 97-15-095 |
| 220-47-802 | REP-E | 97-16-003 |
| 220-47-803 | NEW-E | 97-16-003 |
| 220-47-803 | REP-E | 97-16-031 |
| 220-47-804 | NEW-E | 97-16-031 |
| 220-47-804 | REP-E | 97-16-068 |
| 220-47-805 | NEW-E | 97-16-068 |
| 220-48-015 | AMD | 97-07-053 |
| 220-48-06100A | NEW-E | 97-15-108 |
| 220-49-02000J | NEW-E | 97-14-086 |
| 220-49-02000J | REP-E | 97-14-086 |
| 220-52-03000K | NEW-E | 97-07-050 |
| 220-52-03000K | REP-E | 97-07-050 |
| 220-52-040 | AMD | 97-08-052 |
| 220-52-04000D | NEW-E | 97-05-029 |
| 220-52-046 | AMD | 97-08-052 |
| 220-52-04600T | NEW-E | 97-05-029 |
| 220-52-04600T | REP-E | 97-06-054 |
| 220-52-04600U | NEW-E | 97-06-054 |
| 220-52-050 | AMD-W | 97-14-080 |
| 220-52-07100A | NEW-E | 97-14-028 |
| 220-52-07100A | REP-E | 97-15-023 |
| 220-52-07100B | NEW-E | 97-15-023 |
| 220-52-07100B | REP-E | 97-15-117 |
| 220-52-07100C | NEW-E | 97-15-117 |
| 220-52-07100C | REP-E | 97-16-016 |
| 220-52-07100D | NEW-E | 97-16-016 |
| 220-52-07100D | REP-E | 97-16-069 |
| 220-52-07100E | NEW-E | 97-16-069 |
| 220-52-07300L | REP-E | 97-03-045 |
| 220-52-07300M | NEW-E | 97-03-045 |
| 220-52-07300M | REP-E | 97-03-101 |
| 220-52-07300N | NEW-E | 97-03-101 |
| 220-52-07300N | REP-E | 97-04-011 |
| 220-52-07300P | NEW-E | 97-04-011 |
| 220-52-07300P | REP-E | 97-04-049 |
| 220-52-07300Q | NEW-E | 97-04-049 |
| 220-52-07300Q | REP-E | 97-05-025 |
| 220-52-07300R | NEW-E | 97-05-025 |
| 220-52-075 | AMD | 97-08-052 |
| 220-56 | AMD-C | 97-05-075 |
| 220-56-100 | AMD | 97-07-078 |
| 220-56-103 | AMD | 97-07-078 |
| 220-56-105 | AMD | 97-07-078 |
| 220-56-115 | AMD-W | 97-10-075 |
| 220-56-11800A | NEW-E | 97-15-108 |
| 220-56-124 | AMD-P | 97-15-147 |
| 220-56-128 | AMD | 97-07-078 |
| 220-56-12800A | NEW-E | 97-10-043 |
| 220-56-180 | AMD | 97-07-078 |
| 220-56-18000A | NEW-E | 97-15-080 |
| 220-56-190 | AMD-P | 97-15-147 |
| 220-56-19000I | NEW-E | 97-14-052 |
| 220-56-19000I | REP-E | 97-14-052 |
| 220-56-19000I | REP-E | 97-15-119 |
| 220-56-19000J | NEW-E | 97-15-119 |
| 220-56-19000J | REP-E | 97-16-002 |
| 220-56-19000K | NEW-E | 97-16-002 |
| 220-56-19000K | REP-E | 97-16-067 |
| 220-56-19000L | NEW-E | 97-16-067 |
| 220-56-191 | AMD-P | 97-15-147 |
| 220-56-19100V | NEW-E | 97-09-068 |
| 220-56-19100V | REP-E | 97-14-052 |
| 220-56-19100W | NEW-E | 97-14-052 |
| 220-56-19100W | REP-E | 97-14-052 |
| 220-56-195 | AMD-P | 97-15-147 |
| 220-56-19500B | NEW-E | 97-09-068 |
| 220-56-19500B | REP-E | 97-14-052 |
| 220-56-19500C | NEW-E | 97-14-052 |
| 220-56-19500C | REP-E | 97-14-052 |
| 220-56-205 | AMD | 97-07-078 |
| 220-56-205 | AMD-P | 97-15-147 |
| 220-56-20500B | NEW-E | 97-14-052 |
| 220-56-20500B | REP-E | 97-14-052 |
| 220-56-225 | AMD-C | 97-07-052 |
| 220-56-225 | AMD | 97-09-066 |
| 220-56-235 | AMD | 97-07-078 |
| 220-56-240 | AMD | 97-08-017 |
| 220-56-240 | AMD-W | 97-14-079 |
| 220-56-24000A | NEW-E | 97-15-108 |
| 220-56-24000F | REP-E | 97-03-001 |
| 220-56-24000G | NEW-E | 97-03-001 |
| 220-56-255 | AMD | 97-07-078 |
| 220-56-25500E | NEW-E | 97-11-031 |
| 220-56-25500E | REP-E | 97-11-061 |
| 220-56-25500F | NEW-E | 97-11-061 |
| 220-56-25500F | REP-E | 97-16-057 |
| 220-56-25500G | NEW-E | 97-16-057 |
| 220-56-27000A | NEW-E | 97-06-035 |
| 220-56-28500I | NEW-E | 97-06-036 |
| 220-56-28500I | REP-E | 97-06-036 |
| 220-56-28500J | NEW-E | 97-09-001 |
| 220-56-28500K | NEW-E | 97-10-063 |
| 220-56-28500L | NEW-E | 97-14-053 |
| 220-56-305 | AMD | 97-08-018 |
| 220-56-305 | AMD-W | 97-10-075 |
| 220-56-310 | AMD | 97-07-078 |
| 220-56-31000N | REP-E | 97-05-011 |
| 220-56-31000P | NEW-E | 97-05-011 |
| 220-56-31000P | REP-E | 97-10-065 |
| 220-56-315 | AMD-W | 97-10-075 |
| 220-56-320 | AMD | 97-07-078 |
| 220-56-325 | AMD | 97-07-078 |
| 220-56-32500L | NEW-E | 97-09-033 |
| 220-56-32500M | NEW-E | 97-10-070 |
| 220-56-32500M | REP-E | 97-12-037 |
| 220-56-32500N | NEW-E | 97-11-011 |
| 220-56-32500P | NEW-E | 97-12-037 |
| 220-56-32500P | REP-E | 97-12-037 |
| 220-56-330 | AMD | 97-07-078 |
| 220-56-336 | NEW | 97-07-078 |
| 220-56-350 | AMD | 97-07-078 |
| 220-56-35000P | NEW-E | 97-12-009 |
| 220-56-355 | AMD | 97-07-078 |
| 220-56-36000T | NEW-E | 97-04-045 |
| 220-56-36000T | REP-E | 97-04-045 |
| 220-56-36000U | NEW-E | 97-07-051 |
| 220-56-36000U | REP-E | 97-07-051 |
| 220-56-375 | AMD | 97-07-078 |
| 220-56-380 | AMD | 97-07-078 |
| 220-57 | AMD-C | 97-05-075 |
| 220-57-130 | AMD-P | 97-15-147 |
| 220-57-13000V | NEW-E | 97-14-052 |
| 220-57-13000V | REP-E | 97-14-052 |
| 220-57-135 | AMD-P | 97-15-147 |
| 220-57-13500T | NEW-E | 97-14-052 |
| 220-57-13500T | REP-E | 97-14-052 |
| 220-57-137 | AMD-P | 97-15-147 |
| 220-57-13701 | NEW-P | 97-15-147 |
| 220-57-13700D | NEW-E | 97-14-052 |
| 220-57-13700D | REP-E | 97-14-052 |
| 220-57-140 | AMD-P | 97-15-147 |
| 220-57-14000R | NEW-E | 97-09-068 |
| 220-57-14000R | REP-E | 97-14-052 |
| 220-57-14000S | NEW-E | 97-14-052 |

| WAC # | ACTION | WSR # |
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| 220-57-14000S | REP-E | 97-14-052 |
| 220-57-155 | AMD-P | 97-15-147 |
| 220-57-15500B | NEW-E | 97-09-068 |
| 220-57-15500B | REP-E | 97-14-052 |
| 220-57-15500D | NEW-E | 97-14-052 |
| 220-57-15500D | REP-E | 97-14-052 |
| 220-57-160 | AMD | 97-07-078 |
| 220-57-160 | AMD-P | 97-15-147 |
| 220-57-16000H | NEW-E | 97-06-036 |
| 220-57-16000I | NEW-E | 97-09-008 |
| 220-57-16000J | NEW-E | 97-14-052 |
| 220-57-16000J | REP-E | 97-14-052 |
| 220-57-16500A | NEW-E | 97-14-052 |
| 220-57-16500A | REP-E | 97-14-052 |
| 220-57-175 | AMD-P | 97-15-147 |
| 220-57-17500G | NEW-E | 97-06-036 |
| 220-57-17500H | NEW-E | 97-14-052 |
| 220-57-17500H | REP-E | 97-14-052 |
| 220-57-18700A | NEW-E | 97-14-052 |
| 220-57-18700A | REP-E | 97-14-052 |
| 220-57-190 | AMD-P | 97-15-147 |
| 220-57-19000A | NEW-E | 97-14-052 |
| 220-57-19000A | REP-E | 97-14-052 |
| 220-57-200 | AMD-P | 97-15-147 |
| 220-57-20000L | NEW-E | 97-14-052 |
| 220-57-20000L | REP-E | 97-14-052 |
| 220-57-230 | AMD-P | 97-15-147 |
| 220-57-23000H | NEW-E | 97-14-052 |
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| 220-57-25000C | NEW-E | 97-14-052 |
| 220-57-25000C | REP-E | 97-14-052 |
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| 220-57-25500B | NEW-E | 97-14-052 |
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| 220-57-27000C | NEW-E | 97-09-068 |
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| 220-57-27000D | NEW-E | 97-14-052 |
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| 232-28-270 | NEW-P | 97-06-126 |
| 232-28-270 | NEW | 97-12-059 |
| 232-28-420 | REP-P | 97-14-096 |
| 232-28-421 | NEW-P | 97-14-097 |
| 232-28-514 | REP-P | 97-14-096 |
| 232-28-515 | NEW-P | 97-14-099 |
| 232-28-619 | AMD | 97-07-076 |
| 232-28-619 | AMD-P | 97-15-147 |
| 232-28-61900A | REP-E | 97-04-001 |
| 232-28-61900B | NEW-E | 97-03-039 |
| 232-28-61900C | NEW-E | 97-03-099 |
| 232-28-61900C | REP-E | 97-03-099 |
| 232-28-61900D | NEW-E | 97-03-100 |
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| 232-28-61900E | NEW-E | 97-04-001 |
| 232-28-61900F | NEW-E | 97-06-034 |
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| 232-28-61900F | REP-E | 97-12-035 |
| 232-28-61900G | NEW-E | 97-07-056 |
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| 232-28-61900H | NEW-E | 97-08-047 |
| 232-28-61900H | REP-E | 97-08-047 |
| 232-28-61900I | NEW-E | 97-09-068 |
| 232-28-61900I | REP-E | 97-14-052 |
| 232-28-61900J | NEW-E | 97-10-043 |
| 232-28-61900K | NEW-E | 97-12-035 |
| 232-28-61900K | REP-E | 97-14-052 |
| 232-28-61900L | NEW-E | 97-14-052 |
| 232-28-61900L | REP-E | 97-14-052 |
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| 232-28-61900M | REP-E | 97-16-103 |
| 232-28-61900N | NEW-P | 97-16-104 |
| 232-28-61900N | REP-P | 97-16-104 |
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| 242-02-892 | AMD | 97-04-008 |
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| 246-100-072 | AMD-P | 97-06-110 |
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| 246-100-206 | AMD-P | 97-06-110 |
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| 246-100-207 | AMD | 97-04-041 |
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| 246-171-060 | PREP-X | 97-14-056 |
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| 246-171-120 | PREP-X | 97-14-056 |
| 246-171-130 | PREP-X | 97-14-056 |
| 246-171-140 | PREP-X | 97-14-056 |
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| 246-203-170 | PREP-X | 97-14-057 |
| 246-203-180 | PREP-X | 97-14-057 |
| 246-220-130 | PREP-X | 97-14-056 |
| 246-224-040 | PREP-X | 97-14-056 |
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| 246-225-99910 | PREP-X | 97-14-056 |
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| 246-227-170 | PREP-X | 97-14-056 |
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| 246-229-040 | PREP-X | 97-14-056 |
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| 246-271-080 | PREP-X | 97-14-057 |
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| 246-280-080 | PREP-X | 97-14-057 |
| 246-282-990 | AMD-P | 97-08-025 |
| 246-282-990 | AMD | 97-12-031 |
| 246-290-500 | PREP-X | 97-14-057 |
| 246-290-680 | PREP-X | 97-14-057 |
| 246-290-990 | AMD-P | 97-07-073 |
| 246-290-990 | AMD | 97-12-032 |
| 246-291-370 | PREP-X | 97-14-057 |
| 246-293-310 | PREP-X | 97-14-056 |
| 246-310-040 | PREP-X | 97-14-056 |
| 246-310-041 | PREP-X | 97-14-056 |

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| 246-310-630 | PREP-X | 97-14-056 |
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| 246-312-020 | NEW-E | 97-15-127 |
| 246-316-001 | PREP-X | 97-14-056 |
| 246-316-990 | PREP | 97-13-097 |
| 246-318-018 | PREP-X | 97-14-056 |
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| 246-318-080 | PREP-X | 97-14-056 |
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| 246-321-055 | REP | 97-03-080 |
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| 246-324-001 | PREP-X | 97-14-056 |
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| 246-326-001 | PREP-X | 97-14-056 |
| 246-327-001 | PREP-X | 97-14-056 |
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| 246-360-170 | PREP-X | 97-14-057 |
| 246-360-210 | PREP-X | 97-14-057 |
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| 246-808-530 | PREP-X | 97-14-058 |
| 246-808-710 | PREP-X | 97-14-058 |
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| 246-810-731 | REP-P | 97-13-099 |
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| 246-810-741 | REP-P | 97-13-099 |
| 246-810-745 | NEW-P | 97-13-099 |
| 246-810-748 | NEW-P | 97-13-099 |
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| 246-810-760 | REP-P | 97-13-099 |
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| 251-12-600 | AMD-P | 97-08-090 |
| 251-12-600 | AMD-W | 97-10-088 |
| 251-12-600 | AMD-P | 97-10-089 |
| 251-12-600 | AMD | 97-13-045 |
| 251-14-060 | AMD | 97-06-012 |
| 251-14-120 | AMD | 97-06-012 |
| 251-20-020 | AMD-P | 97-08-090 |
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| 260-24-030 | REP-P | 97-04-060 |
| 260-24-040 | REP-P | 97-04-060 |
| 260-24-050 | REP-P | 97-04-060 |
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| 260-24-070 | REP-P | 97-04-060 |
| 260-24-080 | REP-P | 97-04-060 |
| 260-24-090 | REP-P | 97-04-060 |
| 260-24-100 | REP-P | 97-04-060 |
| 260-24-110 | REP-P | 97-04-060 |
| 260-24-120 | REP-P | 97-04-060 |
| 260-24-130 | REP-P | 97-04-060 |
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| 260-24-200 | REP-P | 97-04-060 |
| 260-24-210 | REP-P | 97-04-060 |
| 260-24-220 | REP-P | 97-04-060 |
| 260-24-230 | REP-P | 97-04-060 |
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| 260-24-250 | REP-P | 97-04-060 |
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| 260-24-465 | REP-P | 97-04-060 |
| 260-24-470 | REP-P | 97-04-060 |
| 260-24-480 | REP-P | 97-04-060 |
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| 260-24-680 | NEW-P | 97-04-060 |
| 260-24-690 | NEW-P | 97-04-060 |
| 260-24-700 | NEW-P | 97-04-060 |
| 260-32 | PREP | 97-04-059 |
| 260-48 | PREP | 97-04-058 |
| 262-01-030 | PREP | 97-06-112 |
| 262-01-030 | AMD-P | 97-09-091 |
| 262-01-030 | AMD-W | 97-10-060 |
| 262-01-030 | AMD-P | 97-11-065 |
| 262-01-030 | AMD | 97-16-021 |
| 262-02-020 | PREP | 97-06-112 |
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| 262-02-020 | AMD-W | 97-10-060 |
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| 262-02-030 | AMD | 97-16-020 |
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| 262-03-090 | NEW-P | 97-11-063 |
| 262-03-090 | NEW | 97-16-019 |
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| 275-27-023 | AMD-P | 97-08-007 |
| 275-27-023 | AMD-E | 97-11-009 |
| 275-27-023 | AMD | 97-13-051 |
| 275-27-220 | AMD-E | 97-03-033 |
| 275-27-220 | AMD-P | 97-08-007 |
| 275-27-220 | AMD-E | 97-11-009 |
| 275-27-220 | AMD | 97-13-051 |
| 275-27-221 | REP-E | 97-03-033 |
| 275-27-221 | REP-P | 97-08-007 |
| 275-27-221 | REP-E | 97-11-009 |
| 275-27-221 | REP | 97-13-051 |
| 275-27-222 | NEW-P | 97-08-007 |
| 275-27-222 | NEW-E | 97-11-009 |
| 275-27-222 | NEW | 97-13-051 |
| 275-27-223 | AMD-E | 97-03-033 |
| 275-27-223 | AMD-P | 97-08-007 |
| 275-27-223 | AMD-E | 97-11-009 |
| 275-27-223 | AMD | 97-13-051 |
| 275-27-400 | AMD-E | 97-03-033 |
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| 275-27-400 | AMD | 97-13-051 |
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| 275-48-015 | PREP | 97-15-131 |
| 275-48-020 | PREP | 97-15-131 |
| 275-48-025 | PREP | 97-15-131 |
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| 275-48-045 | PREP | 97-15-131 |
| 275-48-050 | PREP | 97-15-131 |
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| 275-60-020 | PREP-X | 97-14-071 |
| 275-60-030 | PREP-X | 97-14-071 |
| 275-60-040 | PREP-X | 97-14-071 |
| 275-60-050 | PREP-X | 97-14-071 |
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| 275-60-200 | PREP-X | 97-14-071 |
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| 275-60-510 | PREP-X | 97-14-071 |
| 275-60-520 | PREP-X | 97-14-071 |
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| 275-80-810 | PREP | 97-15-131 |
| 275-80-815 | PREP | 97-15-131 |
| 275-80-840 | PREP | 97-15-131 |
| 275-80-842 | PREP | 97-15-131 |
| 275-80-844 | PREP | 97-15-131 |
| 275-80-846 | PREP | 97-15-131 |
| 275-80-848 | PREP | 97-15-131 |
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| 275-80-870 | PREP | 97-15-131 |
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| 275-80-895 | PREP | 97-15-131 |
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| 275-80-905 | PREP | 97-15-131 |
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| 275-80-935 | PREP | 97-15-131 |
| 275-80-940 | PREP | 97-15-131 |
| 275-80-995 | PREP | 97-15-131 |
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| 275-155-010 | AMD-P | 97-11-044 |

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| 275-155-120 | NEW-P | 97-11-044 |
| 275-155-130 | NEW-P | 97-11-044 |
| 275-155-140 | NEW-P | 97-11-044 |
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| 284-04 | NEW-C | 97-08-091 |
| 284-04 | NEW-W | 97-10-072 |
| 284-13-505 | NEW | 97-05-012 |
| 284-13-515 | NEW | 97-05-012 |
| 284-13-520 | AMD | 97-05-012 |
| 284-13-530 | NEW | 97-05-012 |
| 284-13-535 | NEW | 97-05-012 |
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| 284-13-560 | AMD | 97-05-012 |
| 284-13-570 | AMD | 97-05-012 |
| 284-13-590 | AMD | 97-05-012 |
| 284-13-595 | NEW | 97-05-012 |
| 284-17-220 | AMD-P | 97-15-150 |
| 284-30-395 | NEW-S | 97-03-090 |
| 284-30-395 | NEW-C | 97-08-045 |
| 284-30-395 | NEW-C | 97-11-010 |
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| 284-43-120 | NEW-W | 97-08-044 |
| 284-43-130 | NEW-W | 97-08-044 |
| 284-43-200 | NEW-W | 97-08-044 |
| 284-43-210 | NEW-W | 97-08-044 |
| 284-43-300 | NEW-W | 97-08-044 |
| 284-43-310 | NEW-W | 97-08-044 |
| 284-43-320 | NEW-W | 97-08-044 |
| 284-43-330 | NEW-W | 97-08-044 |
| 284-43-340 | NEW-W | 97-08-044 |
| 284-43-350 | NEW-W | 97-08-044 |
| 284-43-360 | NEW-W | 97-08-044 |
| 284-43-400 | NEW-W | 97-08-044 |
| 284-43-410 | NEW-W | 97-08-044 |
| 284-43-420 | NEW-W | 97-08-044 |
| 284-43-500 | NEW-W | 97-08-044 |
| 284-43-510 | NEW-W | 97-08-044 |
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| 284-43-620 | NEW-W | 97-08-044 |
| 284-43-630 | NEW-W | 97-08-044 |
| 284-43-640 | NEW-W | 97-08-044 |
| 284-43-650 | NEW-W | 97-08-044 |
| 284-43-700 | NEW-C | 97-05-006 |
| 284-43-700 | NEW-C | 97-08-046 |
| 284-43-700 | NEW-W | 97-11-001 |
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| 284-44-410 | REP-W | 97-08-044 |
| 284-46-575 | REP-W | 97-08-044 |
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| 284-54-750 | NEW-P | 97-15-150 |
| 284-85-085 | AMD-P | 97-15-150 |
| 286-13-040 | PREP | 97-08-079 |
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| 286-13-115 | PREP | 97-08-079 |
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| 296-17 | PREP | 97-15-140 |
| 296-17 | PREP | 97-15-141 |
| 296-17 | PREP | 97-15-142 |
| 296-17-45003 | AMD | 97-06-007 |
| 296-17-45003 | AMD-E | 97-08-043 |
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| 296-17-52107 | REP | 97-06-007 |
| 296-17-52112 | REP | 97-06-007 |
| 296-17-52114 | NEW | 97-06-007 |
| 296-17-52114 | REP-E | 97-08-043 |
| 296-17-52114 | REP-P | 97-08-051 |
| 296-17-52114 | REP | 97-12-011 |
| 296-17-52115 | NEW | 97-06-007 |
| 296-17-52115 | REP-E | 97-08-043 |
| 296-17-52115 | REP-P | 97-08-051 |
| 296-17-52115 | REP | 97-12-011 |
| 296-17-52116 | NEW | 97-06-007 |
| 296-17-52117 | NEW | 97-06-007 |
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| 296-17-52117 | REP-P | 97-08-051 |
| 296-17-52117 | REP | 97-12-011 |
| 296-17-52118 | NEW-E | 97-08-043 |
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| 296-17-52120 | NEW-E | 97-08-043 |
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| 296-20 | PREP | 97-02-096 |
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| 296-20-135 | AMD | 97-10-017 |
| 296-20-200 | AMD | 97-09-036 |
| 296-20-210 | AMD | 97-09-036 |
| 296-20-220 | AMD | 97-09-036 |
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| 296-23-26506 | NEW | 97-09-036 |
| 296-23-267 | NEW | 97-09-036 |
| 296-23A | PREP | 97-02-097 |
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| 296-23A-0110 | NEW | 97-06-066 |
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| 296-23A-315 | REP | 97-06-066 |
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| 296-23A-400 | REP | 97-06-066 |
| 296-23A-430 | REP | 97-06-066 |
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| 296-24-07801 | AMD-P | 97-03-085 |
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| 296-24-67505 | AMD-P | 97-13-062 |
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| 296-24-67521 | NEW-P | 97-13-062 |
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| 296-24-67701 | REP-P | 97-13-062 |
| 296-27-15503 | AMD-P | 97-03-085 |
| 296-27-15503 | AMD | 97-11-054 |
| 296-44 | PREP | 97-16-119 |
| 296-45 | PREP | 97-16-119 |
| 296-46 | PREP | 97-02-095 |
| 296-46 | AMD-C | 97-15-143 |
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| 296-46-090 | AMD | 97-12-016 |
| 296-46-090 | AMD-P | 97-14-111 |
| 296-46-130 | AMD-P | 97-03-083 |
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| 296-46-140 | AMD-P | 97-03-083 |
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| 296-46-150 | REP-P | 97-03-083 |
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| 296-46-21008 | AMD-P | 97-03-083 |
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| 296-46-21052 | AMD-P | 97-03-083 |
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| 296-46-21052 | AMD-P | 97-14-111 |
| 296-46-225 | AMD-P | 97-03-083 |
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| 296-46-23028 | AMD-P | 97-03-083 |
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| 296-46-30001 | AMD-P | 97-03-083 |
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| 296-46-360 | AMD-P | 97-03-083 |
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| 296-46-370 | AMD-P | 97-03-083 |
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| 296-46-700 | AMD-P | 97-03-083 |
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| 296-46-910 | AMD-P | 97-03-083 |
| 296-46-910 | AMD-E | 97-10-064 |
| 296-46-910 | AMD | 97-12-016 |
| 296-46-910 | AMD-P | 97-14-111 |
| 296-46-910 | AMD | 97-16-070 |
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| 296-46-915 | AMD-P | 97-14-111 |

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| 296-46-950 | AMD-P | 97-14-111 |
| 296-46-960 | NEW-P | 97-14-111 |
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| 296-49-005 | REP | 97-16-043 |
| 296-49-010 | REP-P | 97-09-039 |
| 296-49-010 | REP | 97-16-043 |
| 296-49-015 | REP-P | 97-09-039 |
| 296-49-015 | REP | 97-16-043 |
| 296-49-020 | REP-P | 97-09-039 |
| 296-49-020 | REP | 97-16-043 |
| 296-49-025 | REP-P | 97-09-039 |
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| 296-49-030 | REP-P | 97-09-039 |
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| 296-49-035 | REP-P | 97-09-039 |
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| 296-49-040 | REP-P | 97-09-039 |
| 296-49-040 | REP | 97-16-043 |
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| 296-49-060 | REP-P | 97-09-039 |
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| 296-49-065 | REP-P | 97-09-039 |
| 296-49-065 | REP | 97-16-043 |
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| 296-49A-010 | NEW | 97-16-043 |
| 296-49A-020 | NEW-P | 97-09-039 |
| 296-49A-020 | NEW | 97-16-043 |
| 296-49A-030 | NEW-P | 97-09-039 |
| 296-49A-030 | NEW | 97-16-043 |
| 296-49A-040 | NEW-P | 97-09-039 |
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| 296-49A-100 | NEW | 97-16-043 |
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| 296-54 | PREP | 97-10-071 |
| 296-62 | PREP | 97-05-047 |
| 296-62 | PREP | 97-06-101 |
| 296-62 | PREP | 97-09-078 |
| 296-62-05413 | AMD-P | 97-03-085 |
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| 296-62-07113 | AMD-P | 97-09-079 |
| 296-62-07460 | NEW-P | 97-09-079 |
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| 296-93-290 | REP-P | 97-14-110 |
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| 296-99-045 | AMD-P | 97-09-079 |
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| 296-99-055 | AMD-P | 97-09-079 |
| 296-99-060 | AMD-P | 97-09-079 |
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| 296-99-075 | AMD-P | 97-09-079 |
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| 296-104-200 | AMD-P | 97-15-138 |
| 296-104-215 | AMD-P | 97-15-138 |
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| 296-104-270 | AMD-P | 97-15-138 |
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| 296-104-415 | REP-P | 97-15-138 |
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| 296-128-013 | NEW-W | 97-03-073 |
| 296-129-020 | PREP-X | 97-13-034 |
| 296-129-030 | PREP-X | 97-13-034 |
| 296-129-040 | PREP-X | 97-13-034 |
| 296-150C-0040 | AMD-P | 97-09-039 |
| 296-150C-0040 | AMD | 97-16-043 |
| 296-150C-0090 | NEW-W | 97-04-070 |
| 296-150C-0100 | AMD-P | 97-09-039 |
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| 296-150C-1010 | NEW-W | 97-04-070 |
| 296-150C-3000 | AMD-P | 97-03-132 |
| 296-150C-3000 | AMD | 97-11-053 |
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| 296-150P-1010 | NEW | 97-16-043 |
| 296-150P-1020 | NEW-P | 97-09-039 |
| 296-150P-1020 | NEW | 97-16-043 |
| 296-150P-2000 | NEW-P | 97-09-039 |
| 296-150P-2000 | NEW | 97-16-043 |
| 296-150P-2010 | NEW-P | 97-09-039 |
| 296-150P-2010 | NEW | 97-16-043 |
| 296-150P-2020 | NEW-P | 97-09-039 |
| 296-150P-2020 | NEW | 97-16-043 |
| 296-150P-2030 | NEW-P | 97-09-039 |
| 296-150P-2030 | NEW | 97-16-043 |
| 296-150P-3000 | NEW-P | 97-09-039 |
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| 296-150R-0280 | AMD | 97-16-043 |
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| 296-150R-3000 | AMD-P | 97-03-132 |
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| 296-150R-3000 | AMD | 97-16-043 |
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| 296-155-24525 | AMD-P | 97-16-091 |
| 296-155-481 | AMD-P | 97-16-091 |
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| 296-155-700 | AMD-P | 97-16-091 |
| 296-155-730 | AMD-P | 97-16-091 |
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| 296-200-015 | REP-P | 97-16-090 |
| 296-200-025 | AMD-P | 97-03-132 |

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| 296-200-110 | REP-P | 97-16-090 |
| 296-200-111 | REP-P | 97-16-090 |
| 296-200-112 | REP-P | 97-16-090 |
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| 296-200-410 | REP-P | 97-16-090 |
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| 296-401-090 | AMD-P | 97-03-083 |
| 296-401-090 | AMD | 97-12-016 |
| 296-401-100 | AMD-P | 97-03-083 |
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| 296-401-100 | AMD-P | 97-14-111 |
| 296-401-120 | AMD-P | 97-03-083 |
| 296-401-120 | AMD | 97-12-016 |
| 296-401-163 | AMD-P | 97-14-111 |
| 296-401-165 | AMD-P | 97-03-083 |
| 296-401-165 | AMD | 97-12-016 |
| 296-401-165 | AMD-P | 97-14-111 |
| 296-401-170 | AMD-P | 97-14-111 |
| 296-401-175 | AMD-P | 97-03-083 |
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| 308-11-140 | NEW-P | 97-07-035 |
| 308-11-140 | NEW | 97-10-046 |
| 308-11-150 | NEW-P | 97-07-035 |
| 308-11-150 | NEW | 97-10-046 |
| 308-11-160 | NEW-P | 97-07-035 |
| 308-11-160 | NEW | 97-10-046 |
| 308-12-025 | AMD | 97-03-121 |
| 308-12-031 | AMD | 97-03-121 |
| 308-12-040 | AMD | 97-03-121 |
| 308-12-050 | AMD | 97-03-121 |
| 308-12-140 | REP | 97-03-121 |
| 308-12-145 | REP | 97-03-121 |
| 308-12-210 | NEW | 97-03-121 |
| 308-12-220 | NEW | 97-03-121 |
| 308-12-230 | NEW | 97-03-121 |
| 308-12-240 | NEW-W | 97-03-065 |
| 308-12-240 | NEW | 97-03-121 |
| 308-12-250 | NEW-W | 97-03-065 |
| 308-12-260 | NEW-W | 97-03-065 |
| 308-12-320 | AMD | 97-06-064 |
| 308-12-324 | AMD | 97-03-121 |
| 308-12-326 | AMD | 97-06-064 |
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| 308-12-326 | AMD | 97-13-095 |
| 308-13-045 | NEW-P | 97-03-022 |
| 308-13-045 | NEW | 97-06-065 |
| 308-13-160 | AMD-P | 97-03-022 |
| 308-13-160 | AMD | 97-06-065 |
| 308-13-210 | NEW | 97-10-026 |
| 308-13-220 | NEW | 97-10-026 |
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| 308-13-240 | NEW | 97-10-026 |
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| 308-14-230 | NEW-P | 97-07-031 |
| 308-14-230 | NEW | 97-10-053 |
| 308-17 | AMD-P | 97-13-080 |
| 308-17-010 | AMD-P | 97-13-080 |
| 308-17-020 | AMD-P | 97-13-080 |
| 308-17-030 | AMD-P | 97-13-080 |
| 308-17-100 | AMD-P | 97-13-080 |
| 308-17-105 | AMD-P | 97-13-080 |
| 308-17-110 | AMD-P | 97-13-080 |
| 308-17-120 | AMD-P | 97-13-080 |
| 308-17-130 | AMD-P | 97-13-080 |
| 308-17-140 | AMD-P | 97-13-080 |
| 308-17-150 | AMD-P | 97-13-080 |
| 308-17-160 | AMD-P | 97-13-080 |
| 308-17-165 | AMD-P | 97-13-080 |
| 308-17-170 | AMD-P | 97-13-080 |
| 308-17-180 | NEW-P | 97-13-080 |
| 308-17-185 | NEW-P | 97-13-080 |
| 308-17-190 | NEW-P | 97-13-080 |
| 308-17-205 | AMD-P | 97-13-080 |
| 308-17-210 | AMD-P | 97-13-080 |
| 308-17-230 | AMD-P | 97-13-080 |
| 308-17-240 | AMD-P | 97-13-080 |
| 308-17-300 | AMD-P | 97-13-080 |
| 308-17-310 | AMD-P | 97-13-080 |
| 308-17-320 | AMD-P | 97-13-080 |
| 308-18-020 | AMD-P | 97-13-081 |
| 308-18-030 | AMD-P | 97-13-081 |
| 308-18-100 | AMD-P | 97-13-081 |
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| 308-18-120 | AMD-P | 97-13-081 |
| 308-18-140 | AMD-P | 97-13-081 |
| 308-18-150 | AMD-P | 97-13-081 |
| 308-18-170 | AMD-P | 97-13-081 |
| 308-18-180 | NEW-P | 97-13-081 |
| 308-18-185 | NEW-P | 97-13-081 |
| 308-18-190 | NEW-P | 97-13-081 |
| 308-18-240 | AMD-P | 97-13-081 |
| 308-18-300 | AMD-P | 97-13-081 |
| 308-19-400 | NEW-P | 97-07-026 |
| 308-19-400 | NEW | 97-10-047 |
| 308-19-410 | NEW-P | 97-07-026 |
| 308-19-410 | NEW | 97-10-047 |
| 308-19-420 | NEW-P | 97-07-026 |
| 308-19-420 | NEW | 97-10-047 |
| 308-20-160 | PREP-X | 97-13-026 |
| 308-20-500 | PREP-X | 97-13-026 |
| 308-20-710 | NEW-P | 97-07-032 |
| 308-20-710 | NEW | 97-10-049 |
| 308-20-720 | NEW-P | 97-07-032 |
| 308-20-720 | NEW | 97-10-049 |
| 308-20-730 | NEW-P | 97-07-032 |

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| 308-29-090 | NEW-P | 97-07-033 |
| 308-29-090 | NEW-W | 97-09-022 |
| 308-29-100 | NEW-P | 97-07-033 |
| 308-29-100 | NEW-W | 97-09-022 |
| 308-29-110 | NEW-P | 97-07-033 |
| 308-29-110 | NEW-W | 97-09-022 |
| 308-30-170 | NEW-P | 97-07-029 |
| 308-30-170 | NEW | 97-10-052 |
| 308-30-180 | NEW-P | 97-07-029 |
| 308-30-180 | NEW | 97-10-052 |
| 308-30-190 | NEW-P | 97-07-029 |
| 308-30-190 | NEW | 97-10-052 |
| 308-32-100 | NEW-P | 97-07-027 |
| 308-32-100 | NEW | 97-10-050 |
| 308-32-110 | NEW-P | 97-07-027 |
| 308-32-110 | NEW | 97-10-050 |
| 308-32-120 | NEW-P | 97-07-027 |
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| 308-33-110 | NEW-P | 97-07-030 |
| 308-33-110 | NEW | 97-10-054 |
| 308-33-120 | NEW-P | 97-07-030 |
| 308-33-120 | NEW | 97-10-054 |
| 308-33-130 | NEW-P | 97-07-030 |
| 308-33-130 | NEW | 97-10-054 |
| 308-48-030 | AMD-P | 97-16-064 |
| 308-48-031 | AMD-P | 97-16-063 |
| 308-48-150 | AMD-P | 97-16-062 |
| 308-48-160 | AMD-P | 97-16-062 |
| 308-48-810 | NEW-P | 97-16-060 |
| 308-48-820 | NEW-P | 97-16-060 |
| 308-48-830 | NEW-P | 97-16-060 |
| 308-49-162 | REP-P | 97-16-061 |
| 308-49-164 | AMD-P | 97-16-061 |
| 308-56A | PREP | 97-15-037 |
| 308-56A-060 | AMD-P | 97-09-002 |
| 308-56A-060 | AMD-W | 97-13-009 |
| 308-56A-065 | AMD | 97-03-076 |
| 308-56A-070 | AMD | 97-03-076 |
| 308-56A-075 | AMD | 97-03-076 |
| 308-56A-095 | NEW-P | 97-15-091 |
| 308-56A-150 | AMD | 97-07-014 |
| 308-56A-160 | AMD | 97-07-014 |
| 308-56A-200 | AMD-P | 97-09-002 |
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| 308-56A-205 | AMD-P | 97-09-002 |
| 308-56A-205 | AMD-W | 97-13-009 |
| 308-56A-210 | AMD-P | 97-09-002 |
| 308-56A-210 | AMD-W | 97-13-009 |
| 308-56A-215 | AMD-P | 97-09-002 |
| 308-56A-215 | AMD-W | 97-13-009 |
| 308-56A-250 | AMD-P | 97-09-002 |
| 308-56A-250 | AMD-W | 97-13-009 |
| 308-56A-255 | REP-P | 97-09-002 |
| 308-56A-255 | REP-W | 97-13-009 |
| 308-56A-265 | AMD-P | 97-09-002 |
| 308-56A-265 | AMD-W | 97-13-009 |
| 308-56A-270 | AMD-P | 97-09-002 |
| 308-56A-270 | AMD-W | 97-13-009 |
| 308-56A-275 | AMD-P | 97-09-002 |
| 308-56A-275 | AMD-W | 97-13-009 |
| 308-56A-280 | AMD-P | 97-09-002 |
| 308-56A-280 | AMD-W | 97-13-009 |
| 308-56A-285 | AMD-P | 97-09-002 |
| 308-56A-285 | AMD-W | 97-13-009 |
| 308-56A-300 | AMD-P | 97-09-002 |
| 308-56A-300 | AMD-W | 97-13-009 |
| 308-56A-305 | AMD-P | 97-09-002 |
| 308-56A-305 | AMD-W | 97-13-009 |
| 308-56A-310 | AMD-P | 97-09-002 |
| 308-56A-310 | AMD-W | 97-13-009 |
| 308-56A-315 | AMD-P | 97-09-002 |
| 308-56A-315 | AMD-W | 97-13-009 |
| 308-56A-320 | AMD-P | 97-09-002 |
| 308-56A-320 | AMD-W | 97-13-009 |
| 308-56A-325 | AMD-P | 97-09-002 |
| 308-56A-325 | AMD-W | 97-13-009 |
| 308-56A-330 | AMD-P | 97-09-002 |
| 308-56A-330 | AMD-W | 97-13-009 |
| 308-56A-335 | AMD-P | 97-09-002 |
| 308-56A-335 | AMD-W | 97-13-009 |
| 308-56A-340 | REP-P | 97-09-002 |
| 308-56A-340 | REP-W | 97-13-009 |
| 308-56A-345 | REP-P | 97-09-002 |
| 308-56A-345 | REP-W | 97-13-009 |
| 308-56A-350 | AMD-P | 97-09-002 |
| 308-56A-350 | AMD-W | 97-13-009 |
| 308-56A-355 | REP-P | 97-09-002 |
| 308-56A-355 | REP-W | 97-13-009 |
| 308-56A-360 | AMD-P | 97-09-002 |
| 308-56A-360 | AMD-W | 97-13-009 |
| 308-56A-365 | AMD-P | 97-09-002 |
| 308-56A-365 | AMD-W | 97-13-009 |
| 308-56A-370 | NEW-P | 97-09-002 |
| 308-56A-370 | NEW-W | 97-13-009 |
| 308-56A-400 | REP-P | 97-09-002 |
| 308-56A-400 | REP-W | 97-13-009 |
| 308-56A-405 | REP-P | 97-09-002 |
| 308-56A-405 | REP-W | 97-13-009 |
| 308-56A-410 | REP-P | 97-09-002 |
| 308-56A-410 | REP-W | 97-13-009 |
| 308-56A-415 | REP-P | 97-09-002 |
| 308-56A-415 | REP-W | 97-13-009 |
| 308-56A-470 | AMD | 97-07-014 |
| 308-56A-610 | AMD-P | 97-06-028 |
| 308-56A-610 | AMD-S | 97-09-038 |
| 308-56A-610 | AMD | 97-14-034 |
| 308-56A-620 | AMD-P | 97-06-028 |
| 308-56A-620 | AMD-S | 97-09-038 |
| 308-56A-620 | AMD | 97-14-034 |
| 308-56A-630 | REP-P | 97-06-028 |
| 308-56A-630 | REP-S | 97-09-038 |
| 308-56A-630 | REP | 97-14-034 |
| 308-56A-640 | AMD-P | 97-06-028 |
| 308-56A-640 | AMD-S | 97-09-038 |
| 308-56A-640 | AMD | 97-14-034 |
| 308-56A-650 | AMD-P | 97-06-028 |
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| 308-56A-660 | AMD-S | 97-09-038 |
| 308-56A-660 | AMD | 97-14-034 |
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| 308-56A-680 | AMD-P | 97-06-028 |
| 308-56A-680 | AMD-S | 97-09-038 |
| 308-56A-680 | AMD | 97-14-034 |
| 308-56A-690 | AMD-P | 97-06-028 |
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| 308-56A-690 | AMD | 97-14-034 |
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| 308-57-010 | AMD-P | 97-07-069 |
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| 308-57-020 | AMD-P | 97-07-069 |
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| 308-57-030 | AMD-P | 97-07-069 |
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| 308-57-140 | AMD-P | 97-07-069 |
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| 308-57-210 | AMD-P | 97-07-069 |
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| 308-57-220 | REP | 97-12-015 |
| 308-57-230 | AMD-P | 97-07-069 |
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| 308-57-240 | AMD-P | 97-07-069 |
| 308-57-240 | AMD | 97-12-015 |
| 308-57-250 | REP-P | 97-07-069 |
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| 308-57-310 | REP-P | 97-07-069 |
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| 308-57-320 | REP-P | 97-07-069 |
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| 308-57-410 | REP-P | 97-07-069 |
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| 308-57-420 | REP-P | 97-07-069 |
| 308-57-420 | REP | 97-12-015 |
| 308-57-430 | REP-P | 97-07-069 |
| 308-57-430 | REP | 97-12-015 |
| 308-57-440 | REP-P | 97-07-069 |
| 308-57-440 | REP | 97-12-015 |
| 308-58-010 | AMD-P | 97-03-096 |
| 308-58-010 | AMD-S | 97-08-005 |
| 308-58-010 | AMD | 97-11-049 |
| 308-58-030 | AMD-P | 97-03-096 |
| 308-58-030 | AMD-S | 97-08-005 |
| 308-58-030 | AMD | 97-11-049 |
| 308-58-040 | AMD-P | 97-03-096 |
| 308-58-040 | AMD-S | 97-08-005 |
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| 308-58-050 | NEW-S | 97-08-005 |
| 308-58-050 | NEW | 97-11-049 |
| 308-72-506 | PREP-X | 97-13-026 |
| 308-72-510 | PREP-X | 97-13-026 |
| 308-72-543 | PREP-X | 97-13-026 |
| 308-76-005 | PREP-X | 97-13-026 |
| 308-76-400 | PREP-X | 97-13-026 |
| 308-76-405 | PREP-X | 97-13-026 |
| 308-76-410 | PREP-X | 97-13-026 |
| 308-76-415 | PREP-X | 97-13-026 |
| 308-76-420 | PREP-X | 97-13-026 |
| 308-76-425 | PREP-X | 97-13-026 |
| 308-76-430 | PREP-X | 97-13-026 |
| 308-77-030 | PREP-X | 97-13-026 |
| 308-77-090 | PREP-X | 97-13-026 |
| 308-93 | PREP | 97-12-026 |
| 308-95-010 | PREP-X | 97-13-026 |
| 308-95-020 | PREP-X | 97-13-026 |
| 308-95-030 | PREP-X | 97-13-026 |
| 308-96A | PREP | 97-12-067 |
| 308-96A-005 | AMD-P | 97-06-027 |
| 308-96A-005 | AMD | 97-10-003 |
| 308-96A-046 | AMD-P | 97-03-028 |
| 308-96A-046 | AMD | 97-07-013 |
| 308-96A-056 | AMD-P | 97-03-028 |
| 308-96A-056 | AMD | 97-07-013 |
| 308-96A-057 | AMD-P | 97-03-028 |
| 308-96A-057 | AMD | 97-07-013 |
| 308-96A-072 | AMD-P | 97-03-028 |
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| 308-96A-073 | AMD | 97-07-014 |
| 308-96A-074 | AMD | 97-07-014 |
| 308-96A-075 | REP | 97-07-014 |
| 308-96A-136 | AMD-P | 97-03-028 |
| 308-96A-136 | AMD | 97-07-013 |
| 308-96A-161 | AMD-P | 97-06-027 |
| 308-96A-161 | AMD | 97-10-003 |
| 308-96A-162 | AMD-P | 97-06-027 |

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| 308-125-120 | PREP | 97-09-083 |
| 308-125-120 | PREP | 97-11-059 |
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| 308-125-120 | AMD-P | 97-15-101 |
| 308-125-120 | AMD | 97-16-042 |
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| 308-127-320 | NEW-P | 97-07-028 |
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| 308-127-330 | NEW-P | 97-07-028 |
| 308-127-330 | NEW | 97-10-051 |
| 308-300-310 | PREP | 97-14-088 |
| 308-330-121 | REP-P | 97-07-015 |
| 308-330-121 | REP | 97-10-068 |
| 308-330-123 | REP-P | 97-07-015 |
| 308-330-123 | REP | 97-10-068 |
| 308-330-197 | AMD-P | 97-07-015 |
| 308-330-197 | AMD | 97-10-068 |
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| 308-330-300 | AMD-P | 97-07-015 |
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| 308-330-305 | AMD-P | 97-07-015 |
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| 308-330-307 | AMD-P | 97-07-015 |
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| 308-330-307 | AMD-P | 97-12-044 |
| 308-330-307 | AMD | 97-16-041 |
| 308-330-316 | AMD-P | 97-07-015 |
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| 308-330-322 | AMD-P | 97-07-015 |
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| 308-330-329 | REP | 97-10-068 |
| 308-330-370 | AMD-P | 97-07-015 |
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| 308-330-375 | REP-P | 97-07-015 |
| 308-330-375 | REP | 97-10-068 |
| 308-330-400 | AMD-P | 97-07-015 |
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| 308-330-408 | AMD-P | 97-07-015 |
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| 308-330-415 | AMD-P | 97-07-015 |
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| 308-330-421 | AMD-P | 97-07-015 |
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| 308-330-425 | AMD-P | 97-07-015 |
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| 308-330-425 | AMD-P | 97-12-044 |
| 308-330-425 | AMD | 97-16-041 |
| 308-330-436 | AMD-P | 97-07-015 |
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| 308-330-462 | AMD-P | 97-07-015 |
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| 308-420-260 | NEW-P | 97-07-034 |
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| 308-420-270 | NEW-P | 97-07-034 |
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| 314-60-040 | PREP | 97-13-070 |
| 315-06 | PREP | 97-11-057 |
| 315-06 | PREP | 97-16-116 |
| 315-06-120 | AMD-P | 97-15-123 |
| 315-06-123 | AMD-P | 97-15-123 |
| 315-10-010 | AMD | 97-04-047 |
| 315-10-020 | AMD | 97-04-047 |
| 315-10-022 | NEW | 97-04-047 |
| 315-10-025 | NEW | 97-04-047 |
| 315-10-030 | AMD | 97-04-047 |
| 315-10-035 | NEW | 97-04-047 |
| 315-10-055 | NEW | 97-04-047 |
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| 315-10-065 | NEW | 97-04-047 |
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| 315-11-601 | PREP-X | 97-14-016 |
| 315-11-602 | PREP-X | 97-14-016 |
| 315-11-610 | PREP-X | 97-14-016 |
| 315-11-611 | PREP-X | 97-14-016 |
| 315-11-612 | PREP-X | 97-14-016 |
| 315-11-620 | PREP-X | 97-14-016 |
| 315-11-621 | PREP-X | 97-14-016 |
| 315-11-622 | PREP-X | 97-14-016 |
| 315-11-630 | PREP-X | 97-14-016 |
| 315-11-631 | PREP-X | 97-14-016 |
| 315-11-632 | PREP-X | 97-14-016 |
| 315-11-640 | PREP-X | 97-14-016 |
| 315-11-641 | PREP-X | 97-14-016 |
| 315-11-642 | PREP-X | 97-14-016 |
| 315-11-650 | PREP-X | 97-14-016 |
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| 315-11-661 | PREP-X | 97-14-016 |
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| 315-11-670 | PREP-X | 97-14-016 |
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| 315-11-680 | PREP-X | 97-14-016 |
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| 315-11-711 | PREP-X | 97-14-016 |
| 315-11-712 | PREP-X | 97-14-016 |
| 315-11-720 | PREP-X | 97-14-016 |
| 315-11-721 | PREP-X | 97-14-016 |
| 315-11-722 | PREP-X | 97-14-016 |
| 315-11-730 | PREP-X | 97-14-016 |
| 315-11-731 | PREP-X | 97-14-016 |
| 315-11-732 | PREP-X | 97-14-016 |
| 315-11-740 | PREP-X | 97-14-016 |
| 315-11-741 | PREP-X | 97-14-016 |
| 315-11-742 | PREP-X | 97-14-016 |
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| 315-11A-109 | PREP-X | 97-14-016 |
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| 315-11A-136 | PREP-X | 97-14-016 |
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| 315-11A-184 | AMD | 97-07-063 |
| 315-11A-187 | NEW-P | 97-03-123 |
| 315-11A-187 | NEW | 97-07-063 |
| 315-11A-188 | NEW-P | 97-03-123 |
| 315-11A-188 | NEW | 97-07-063 |
| 315-11A-189 | NEW-P | 97-03-123 |
| 315-11A-189 | NEW | 97-07-063 |
| 315-11A-190 | NEW-P | 97-03-123 |
| 315-11A-190 | NEW | 97-07-063 |
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| 315-11A-191 | NEW | 97-07-063 |
| 315-11A-192 | NEW-P | 97-07-062 |
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| 315-11A-193 | NEW | 97-11-003 |
| 315-11A-194 | NEW-P | 97-07-062 |
| 315-11A-194 | NEW | 97-11-003 |
| 315-11A-195 | NEW-P | 97-07-062 |
| 315-11A-195 | NEW | 97-11-003 |
| 315-11A-196 | NEW-P | 97-11-058 |
| 315-11A-196 | NEW | 97-15-122 |
| 315-11A-197 | NEW-P | 97-11-058 |
| 315-11A-197 | NEW | 97-15-122 |
| 315-11A-198 | NEW-P | 97-11-058 |
| 315-11A-198 | NEW | 97-15-122 |
| 315-11A-199 | NEW-P | 97-11-058 |
| 315-11A-199 | NEW | 97-15-122 |
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| 315-11A-200 | NEW | 97-15-122 |
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| 315-11A-201 | NEW | 97-15-122 |
| 315-11A-202 | NEW-P | 97-11-058 |
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| 315-11A-204 | NEW-P | 97-15-123 |
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| 315-11A-206 | NEW-P | 97-15-123 |
| 315-11A-207 | NEW-P | 97-15-123 |
| 315-12-020 | AMD-P | 97-03-123 |
| 315-12-020 | AMD | 97-07-063 |
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| 315-12-030 | AMD | 97-15-122 |
| 315-12-080 | AMD-P | 97-03-123 |
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| 315-32-020 | PREP-X | 97-14-016 |
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| 315-34 | PREP | 97-16-116 |
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| 315-40-080 | PREP-X | 97-14-016 |
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| 315-41-50120 | PREP-X | 97-14-016 |
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| 315-41-50220 | PREP-X | 97-14-016 |
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| 315-41-50310 | PREP-X | 97-14-016 |
| 315-41-50320 | PREP-X | 97-14-016 |
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| 315-41-50420 | PREP-X | 97-14-016 |
| 315-41-50500 | PREP-X | 97-14-016 |
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| 315-41-50520 | PREP-X | 97-14-016 |
| 315-41-50600 | PREP-X | 97-14-016 |
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| 326-30-041 | PREP | 97-09-093 |
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| 332-24-720 | AMD | 97-05-066 |
| 332-24-730 | AMD | 97-05-066 |
| 332-26-040 | NEW-E | 97-14-044 |
| 332-26-050 | NEW-E | 97-14-044 |
| 352-32-010 | PREP | 97-15-152 |
| 352-32-210 | PREP | 97-15-152 |
| 352-32-235 | PREP | 97-06-063 |
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| 352-32-235 | AMD-W | 97-09-113 |
| 352-32-235 | AMD-P | 97-09-114 |
| 352-32-235 | AMD | 97-12-042 |
| 352-32-250 | PREP | 97-15-152 |
| 352-32-252 | PREP | 97-15-152 |
| 352-32-270 | PREP | 97-15-113 |
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| 356-05-075 | AMD-P | 97-12-079 |
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| 356-05-422 | NEW-C | 97-16-015 |
| 356-06-020 | AMD-P | 97-08-089 |
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| 356-14-069 | NEW-C | 97-16-015 |
| 356-14-110 | AMD-P | 97-12-079 |
| 356-14-110 | AMD-C | 97-16-015 |
| 356-14-120 | AMD-P | 97-12-079 |
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| 356-14-160 | AMD-P | 97-12-079 |
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| 356-30-065 | AMD-W | 97-13-044 |
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| 356-30-330 | AMD-P | 97-12-079 |
| 356-30-330 | AMD-C | 97-16-015 |
| 356-34-020 | AMD-P | 97-12-079 |
| 356-34-020 | AMD | 97-16-015 |
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| 365-40-051 | AMD-P | 97-15-106 |
| 365-40-071 | AMD-P | 97-15-106 |
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| 365-90-020 | REP-P | 97-15-107 |
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| 365-90-080 | REP-P | 97-15-107 |
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| 365-135-060 | AMD | 97-02-093 |
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| 371-08-335 | AMD-E | 97-12-003 |
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| 388-14-376 | NEW | 97-13-092 |
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| 388-14-430 | REP-P | 97-09-020 |
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| 388-15-020 | PREP | 97-15-131 |
| 388-15-110 | PREP | 97-15-131 |
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| 388-15-134 | AMD-P | 97-09-106 |
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| 388-15-190 | PREP-X | 97-14-071 |
| 388-15-192 | PREP-X | 97-14-071 |
| 388-15-196 | PREP | 97-08-072 |
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| 388-15-580 | PREP | 97-15-131 |
| 388-21-005 | PREP | 97-15-131 |
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| 388-96-735 | AMD-P | 97-12-082 |
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| 388-201-100 | REP-E | 97-15-043 |
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| 388-201-200 | REP-P | 97-15-031 |
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| 388-201-300 | REP-P | 97-15-031 |
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| 388-201-400 | REP-P | 97-15-031 |
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| 388-201-410 | REP-P | 97-15-031 |
| 388-201-410 | REP-E | 97-15-043 |

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| 388-215-1115 | NEW-P | 97-05-068 |
| 388-215-1115 | NEW | 97-08-032 |
| 388-215-1115 | NEW | 97-10-041 |
| 388-215-1210 | NEW-E | 97-16-055 |
| 388-215-1375 | AMD-P | 97-09-108 |
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| 388-215-1550 | NEW-P | 97-03-052 |
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| 388-215-1620 | AMD-E | 97-16-052 |
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| 388-215-1660 | NEW-E | 97-06-026 |
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| 388-215-1670 | NEW-E | 97-16-052 |
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| 388-216-2450 | AMD-P | 97-15-089 |
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| 388-218-1430 | PREP | 97-11-079 |
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| 388-230-0140 | AMD-E | 97-14-107 |
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| 388-235 | PREP | 97-14-081 |
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| 388-265-1275 | AMD-E | 97-14-108 |
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| 388-300 | PREP | 97-14-046 |
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| 392-137 | PREP | 97-09-010 |
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| 392-140 | PREP | 97-15-116 |
| 392-142 | PREP | 97-12-041 |
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| 415-200-030 | NEW-E | 97-08-053 |
| 415-200-030 | NEW-P | 97-13-058 |
| 415-200-030 | NEW | 97-16-039 |
| 415-200-040 | NEW-E | 97-08-053 |
| 415-200-040 | NEW-P | 97-13-058 |
| 415-200-040 | NEW | 97-16-039 |
| 415-512-090 | AMD | 97-05-009 |
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| 434-09-020 | AMD-P | 97-14-106 |
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| 434-09-080 | AMD-P | 97-14-106 |
| 434-09-080 | DECOD-P | 97-14-106 |
| 434-09-090 | AMD-P | 97-14-106 |
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| 434-20-010 | REP-P | 97-14-106 |
| 434-20-020 | REP-P | 97-14-106 |
| 434-20-030 | REP-P | 97-14-106 |
| 434-20-040 | REP-P | 97-14-106 |
| 434-20-050 | REP-P | 97-14-106 |
| 434-24-010 | AMD-P | 97-14-106 |
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| 434-24-015 | AMD-P | 97-14-106 |
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| 434-24-020 | AMD-P | 97-14-106 |
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| 434-24-025 | DECOD-P | 97-14-106 |
| 434-24-030 | DECOD-P | 97-14-106 |
| 434-24-035 | AMD-P | 97-14-106 |
| 434-24-035 | DECOD-P | 97-14-106 |
| 434-24-040 | REP-P | 97-14-106 |
| 434-24-050 | AMD-P | 97-14-106 |
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| 434-24-055 | REP-P | 97-14-106 |
| 434-24-060 | AMD-P | 97-14-106 |
| 434-24-060 | DECOD-P | 97-14-106 |
| 434-24-065 | NEW-P | 97-09-099 |
| 434-24-065 | NEW-E | 97-12-039 |
| 434-24-070 | REP-P | 97-14-106 |
| 434-24-080 | REP-P | 97-14-106 |
| 434-24-085 | AMD-P | 97-14-106 |
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| 434-24-115 | AMD-P | 97-14-106 |
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| 434-24-120 | AMD-P | 97-14-106 |
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| 434-24-140 | AMD-P | 97-14-106 |
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| 434-24-155 | REP-P | 97-14-106 |
| 434-24-160 | AMD-P | 97-14-106 |
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| 434-30-080 | DECOD-P | 97-14-106 |
| 434-30-090 | DECOD-P | 97-14-106 |
| 434-30-100 | REP-P | 97-14-106 |
| 434-30-110 | REP-P | 97-14-106 |
| 434-30-120 | REP-P | 97-14-106 |
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| 434-30-140 | REP-P | 97-14-106 |
| 434-30-150 | REP-P | 97-14-106 |
| 434-30-160 | AMD-P | 97-14-106 |
| 434-30-160 | DECOD-P | 97-14-106 |
| 434-30-170 | AMD-P | 97-14-106 |
| 434-30-170 | DECOD-P | 97-14-106 |
| 434-30-180 | AMD-P | 97-14-106 |
| 434-30-180 | DECOD-P | 97-14-106 |
| 434-30-190 | DECOD-P | 97-14-106 |
| 434-30-200 | DECOD-P | 97-14-106 |
| 434-30-210 | AMD-P | 97-14-106 |
| 434-30-210 | DECOD-P | 97-14-106 |
| 434-30-220 | REP-P | 97-14-106 |
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| 434-34-015 | DECOD-P | 97-14-106 |
| 434-34-020 | DECOD-P | 97-14-106 |
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| 434-34-030 | DECOD-P | 97-14-106 |
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| 434-34-090 | AMD-P | 97-14-106 |
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| 434-34-095 | DECOD-P | 97-14-106 |
| 434-34-100 | DECOD-P | 97-14-106 |
| 434-34-105 | DECOD-P | 97-14-106 |
| 434-34-110 | AMD-P | 97-14-106 |
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| 434-34-115 | DECOD-P | 97-14-106 |

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| 434-36-050 | DECOD-P | 97-14-106 |
| 434-36-060 | AMD-P | 97-14-106 |
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| 434-36-070 | DECOD-P | 97-14-106 |
| 434-36-080 | AMD-P | 97-14-106 |
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| 434-36-110 | AMD-P | 97-14-106 |
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| 434-36-120 | AMD-E | 97-13-003 |
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| 434-36-130 | REP-P | 97-14-106 |
| 434-36-140 | AMD-P | 97-14-106 |
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| 434-36-150 | REP-P | 97-14-106 |
| 434-36-160 | DECOD-P | 97-14-106 |
| 434-36-170 | AMD-P | 97-14-106 |
| 434-36-170 | DECOD-P | 97-14-106 |
| 434-36-180 | AMD-E | 97-13-003 |
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| 434-36-180 | DECOD-P | 97-14-106 |
| 434-36-190 | REP-P | 97-14-106 |
| 434-36-200 | AMD-P | 97-14-106 |
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| 434-40-080 | REP-P | 97-14-106 |
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| 434-40-120 | DECOD-P | 97-14-106 |
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| 434-40-170 | REP-P | 97-14-106 |
| 434-40-180 | DECOD-P | 97-14-106 |
| 434-40-190 | AMD-P | 97-14-106 |
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| 434-40-200 | AMD-P | 97-14-106 |
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| 434-40-210 | REP-P | 97-14-106 |
| 434-40-220 | REP-P | 97-14-106 |
| 434-40-225 | NEW-E | 97-13-003 |
| 434-40-230 | AMD-E | 97-13-003 |
| 434-40-230 | AMD-P | 97-14-106 |
| 434-40-230 | DECOD-P | 97-14-106 |
| 434-40-235 | NEW-E | 97-13-003 |
| 434-40-240 | AMD-P | 97-14-106 |
| 434-40-240 | DECOD-P | 97-14-106 |
| 434-40-250 | AMD-P | 97-14-106 |
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| 434-40-260 | DECOD-P | 97-14-106 |
| 434-40-270 | AMD-P | 97-14-106 |
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| 434-40-280 | REP-P | 97-14-106 |
| 434-40-290 | AMD-P | 97-14-106 |
| 434-40-290 | DECOD-P | 97-14-106 |
| 434-40-300 | DECOD-P | 97-14-106 |
| 434-40-310 | REP-E | 97-13-003 |
| 434-40-310 | REP-P | 97-14-106 |
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| 434-53-030 | AMD-P | 97-14-106 |
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| 434-53-140 | DECOD-P | 97-14-106 |
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| 434-53-190 | AMD-P | 97-14-106 |
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| 434-53-200 | AMD-P | 97-14-106 |
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| 434-53-270 | AMD-P | 97-14-106 |
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| 434-79-010 | DECOD-P | 97-14-106 |
| 434-120-025 | AMD-P | 97-13-093 |
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| 434-120-040 | NEW-P | 97-08-076 |
| 434-120-040 | NEW | 97-16-035 |
| 434-120-105 | AMD-P | 97-08-076 |
| 434-120-105 | AMD-S | 97-16-034 |
| 434-120-130 | AMD-P | 97-08-076 |
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| 434-120-210 | AMD-P | 97-13-093 |
| 434-120-210 | AMD | 97-16-036 |
| 434-120-212 | NEW-P | 97-13-093 |
| 434-120-212 | NEW | 97-16-036 |
| 434-120-215 | AMD-P | 97-08-076 |
| 434-120-215 | AMD | 97-16-035 |
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| 440-22-220 | AMD-S | 97-08-073 |
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| 440-22-220 | AMD-E | 97-15-033 |
| 440-22-220 | AMD-P | 97-15-133 |
| 440-22-225 | AMD-S | 97-08-073 |
| 440-22-225 | AMD | 97-13-050 |
| 440-22-230 | AMD-S | 97-08-073 |
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| 440-22-240 | AMD-S | 97-08-073 |
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| 440-22-255 | NEW-S | 97-08-073 |
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| 440-22-257 | NEW-S | 97-08-073 |
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| 440-22-260 | AMD-S | 97-08-073 |
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| 440-22-300 | AMD-S | 97-08-073 |
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| 440-22-310 | AMD-S | 97-08-073 |
| 440-22-320 | AMD-S | 97-08-073 |
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| 440-22-325 | AMD-S | 97-08-073 |
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| 440-22-335 | AMD-S | 97-08-073 |
| 440-22-335 | AMD | 97-13-050 |
| 440-22-406 | NEW | 97-03-062 |
| 446-16-010 | AMD | 97-05-048 |
| 446-16-025 | AMD | 97-05-048 |
| 446-16-030 | AMD | 97-05-048 |
| 446-16-040 | REP | 97-05-048 |
| 446-16-050 | REP | 97-05-048 |
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| 446-16-120 | AMD | 97-05-048 |
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| 446-20-110 | REP | 97-05-048 |
| 446-20-170 | AMD | 97-05-048 |
| 446-20-280 | AMD | 97-05-048 |
| 446-20-285 | AMD | 97-05-048 |
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| 446-20-530 | AMD | 97-05-048 |

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| 458-10-040 | NEW | 97-08-068 |
| 458-10-050 | NEW | 97-08-068 |
| 458-10-060 | NEW | 97-08-068 |
| 458-10-070 | NEW | 97-08-068 |
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| 458-12-185 | PREP-X | 97-14-043 |
| 458-12-340 | PREP-X | 97-14-043 |
| 458-12-341 | PREP-X | 97-14-043 |
| 458-12-345 | PREP-X | 97-14-043 |
| 458-12-355 | PREP-X | 97-14-043 |
| 458-12-365 | PREP-X | 97-14-043 |
| 458-12-370 | PREP-X | 97-14-043 |
| 458-12-375 | PREP-X | 97-14-043 |
| 458-12-385 | PREP-X | 97-14-043 |
| 458-20-101 | AMD | 97-08-050 |
| 458-20-104 | AMD | 97-08-050 |
| 458-20-14601 | NEW | 97-11-033 |
| 458-20-174 | AMD-P | 97-07-079 |
| 458-20-174 | AMD | 97-11-022 |
| 458-20-17401 | AMD-P | 97-07-079 |
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| 458-20-184 | PREP-X | 97-14-042 |
| 458-20-263 | NEW | 97-03-027 |
| 458-40-540 | AMD | 97-07-041 |
| 458-40-540 | AMD-W | 97-11-060 |
| 458-40-660 | PREP | 97-06-111 |
| 458-40-660 | AMD-P | 97-10-027 |
| 458-40-660 | AMD | 97-14-068 |
| 460-21B-050 | AMD | 97-03-122 |
| 460-21B-080 | REP | 97-03-122 |
| 460-22B-070 | REP | 97-03-122 |
| 460-22B-080 | REP | 97-03-122 |
| 460-22B-090 | AMD-P | 97-13-076 |
| 460-22B-090 | AMD | 97-16-050 |
| 460-24A | PREP | 97-08-059 |
| 460-24A-040 | AMD-P | 97-13-076 |
| 460-24A-040 | AMD | 97-16-050 |
| 460-24A-045 | AMD-P | 97-13-076 |
| 460-24A-045 | AMD | 97-16-050 |
| 460-24A-046 | REP | 97-03-122 |
| 460-24A-050 | AMD-P | 97-13-076 |
| 460-24A-050 | AMD | 97-16-050 |
| 460-24A-170 | AMD-P | 97-13-076 |
| 460-24A-170 | AMD | 97-16-050 |
| 460-42A-082 | NEW-P | 97-13-077 |
| 460-42A-082 | NEW | 97-16-051 |
| 460-44A-300 | NEW-P | 97-08-061 |
| 460-44A-300 | NEW | 97-16-121 |
| 460-44A-506 | PREP | 97-08-057 |
| 461-08-310 | AMD-E | 97-12-004 |
| 461-08-310 | AMD-P | 97-15-057 |
| 461-08-560 | AMD-P | 97-15-057 |
| 461-08-570 | AMD-P | 97-15-057 |
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| 466-02-010 | REP | 97-15-110 |
| 466-03-010 | REP-P | 97-12-074 |
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| 466-03-020 | REP-P | 97-12-074 |
| 466-03-020 | REP | 97-15-110 |
| 466-03-030 | REP-P | 97-12-074 |
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| 466-03-050 | REP | 97-15-110 |
| 466-03-060 | REP-P | 97-12-074 |
| 466-03-060 | REP | 97-15-110 |
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| 466-03-070 | REP | 97-15-110 |
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| 466-03-090 | REP-P | 97-12-074 |
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| 466-04-020 | REP-P | 97-12-074 |
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| 468-16-080 | AMD-P | 97-05-007 |
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| 468-16-160 | AMD-P | 97-05-007 |
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| 468-16-170 | AMD-P | 97-05-007 |
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| 468-16-180 | AMD-P | 97-05-007 |
| 468-16-180 | AMD | 97-09-045 |
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| 468-66-010 | AMD-P | 97-13-028 |
| 468-66-030 | AMD-P | 97-13-028 |
| 468-66-150 | AMD-P | 97-13-02 |
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| 468-105-040 | AMD-P | 97-11-040 |
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| 468-105-080 | AMD | 97-14-037 |
| 468-200-080 | AMD | 97-03-064 |
| 468-200-160 | AMD | 97-03-064 |
| 468-200-350 | AMD | 97-03-064 |
| 468-300-210 | PREP | 97-03-118 |
| 468-300-210 | REP-P | 97-12-074 |
| 468-300-210 | REP-E | 97-15-109 |
| 468-300-210 | REP | 97-15-110 |
| 468-300-220 | NEW-P | 97-12-074 |
| 468-300-220 | NEW-E | 97-15-109 |
| 468-300-220 | NEW | 97-15-110 |
| 468-500-001 | NEW | 97-06-002 |
| 478-04-020 | AMD-P | 97-08-062 |
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| 478-108-020 | AMD-P | 97-08-062 |
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| 478-116-010 | AMD-P | 97-09-071 |
| 478-116-010 | AMD | 97-14-005 |
| 478-116-020 | AMD-P | 97-09-071 |
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| 478-116-030 | AMD-P | 97-09-071 |
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| 478-116-044 | NEW | 97-14-005 |
| 478-116-046 | NEW-P | 97-09-071 |
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| 478-116-111 | NEW-P | 97-09-071 |
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| 478-116-114 | NEW-P | 97-09-071 |
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| 478-116-116 | NEW-P | 97-09-071 |
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| 478-116-120 | REP-P | 97-09-071 |
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| 478-116-121 | NEW-P | 97-09-071 |
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| 478-116-125 | NEW-P | 97-09-071 |
| 478-116-125 | NEW | 97-14-005 |
| 478-116-130 | REP-P | 97-09-071 |
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| 480-120-138 | PREP | 97-08-036 |
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