

# Washington State Register

December 16, 1998

OLYMPIA, WASHINGTON

ISSUE 98-24



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filed not later than December 2, 1998

## 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) 786-6697.

## REPUBLICATION OF OFFICIAL DOCUMENTS

All documents appearing in the Washington State Register are prepared and printed at public expense. There are no restrictions on the republication of official documents appearing in the Washington State Register. All news services are especially encouraged to give wide publicity to all documents printed in the Washington State Register.

## 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

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## 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 December 1998 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.

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# WASHINGTON STATE REGISTER

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**Dennis W. Cooper**  
*Code Reviser*

**Gary Reid**  
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**Joyce Matzen**  
*Subscription Clerk*

# STYLE AND FORMAT OF THE WASHINGTON STATE REGISTER

## 1. ARRANGEMENT OF THE REGISTER

The Register is arranged in the following nine sections:

- (a) **PREPROPOSAL**-includes the Preproposal Statement of Intent that will be used to solicit public comments on a general area of proposed rule making before the agency files a formal notice.
- (b) **EXPEDITED REPEAL**-includes the Preproposal Statement of Inquiry that lists rules being repealed using the expedited repeal process. Expedited repeals are not consistently filed and may not appear in every issue of the register.
- (c) **PROPOSED**-includes the full text of formal proposals, continuances, supplemental notices, and withdrawals.
- (d) **EXPEDITED ADOPTION**-includes the full text of rules being changed using the expedited adoption process. Expedited adoptions are not consistently filed and may not appear in every issue of the Register.
- (e) **PERMANENT**-includes the full text of permanently adopted rules.
- (f) **EMERGENCY**-includes the full text of emergency rules and rescissions.
- (g) **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.
- (h) **TABLE**-includes a cumulative table of the WAC sections that are affected in the current year.
- (i) **INDEX**-includes a cumulative index of Register Issues 01 through 24.

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. Each filing is listed under the agency name and then describes the subject matter, type of filing and the WSR number. 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].

## DATES FOR REGISTER CLOSING, DISTRIBUTION, AND FIRST AGENCY ACTION

Issue Number	Closing Dates <sup>1</sup>			Distribution Date	First Agency Hearing Date <sup>3</sup>	Expedited Adoption <sup>4</sup>
	Non-OTS and 30 p. or more	Non-OTS and 11 to 29 p.	OTS <sup>2</sup> or 10 p. max. Non-OTS	Count 20 days from -	For hearing on or after	First Agency Adoption Date
For Inclusion in -	File no later than 12:00 noon -					
98 - 16	Jul 7, 98	Jul 21, 98	Aug 5, 98	Aug 18, 98	Sep 7, 98	Oct 2, 98
98 - 17	Jul 22, 98	Aug 5, 98	Aug 19, 98	Sep 2, 98	Sep 22, 98	Oct 17, 98
98 - 18	Aug 5, 98	Aug 19, 98	Sep 2, 98	Sep 16, 98	Oct 6, 98	Oct 31, 98
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98 - 24	Nov 4, 98	Nov 18, 98	Dec 2, 98	Dec 16, 98	Jan 5, 99	Jan 30, 99
99 - 01	Nov 25, 98	Dec 9, 98	Dec 23, 98	Jan 6, 99	Jan 26, 99	Feb 20, 99
99 - 02	Dec 9, 98	Dec 23, 98	Jan 6, 99	Jan 20, 99	Feb 9, 99	Mar 6, 99
99 - 03	Dec 23, 98	Jan 6, 99	Jan 20, 99	Feb 3, 99	Feb 23, 99	Mar 20, 99
99 - 04	Jan 6, 99	Jan 20, 99	Feb 3, 99	Feb 17, 99	Mar 9, 99	Apr 3, 99
99 - 05	Jan 20, 99	Feb 3, 99	Feb 17, 99	Mar 3, 99	Mar 23, 99	Apr 17, 99
99 - 06	Feb 3, 99	Feb 17, 99	Mar 3, 99	Mar 17, 99	Apr 6, 99	May 1, 99
99 - 07	Feb 24, 99	Mar 10, 99	Mar 24, 99	Apr 7, 99	Apr 27, 99	May 22, 99
99 - 08	Mar 10, 99	Mar 24, 99	Apr 7, 99	Apr 21, 99	May 11, 99	Jun 5, 99
99 - 09	Mar 24, 99	Apr 7, 99	Apr 21, 99	May 5, 99	May 25, 99	Jun 19, 99
99 - 10	Apr 7, 99	Apr 21, 99	May 5, 99	May 19, 99	Jun 8, 99	Jul 3, 99
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99 - 13	May 26, 99	Jun 9, 99	Jun 23, 99	Jul 7, 99	Jul 27, 99	Aug 21, 99
99 - 14	Jun 9, 99	Jun 23, 99	Jul 7, 99	Jul 21, 99	Aug 10, 99	Sep 4, 99
99 - 15	Jun 23, 99	Jul 7, 99	Jul 21, 99	Aug 4, 99	Aug 24, 99	Sep 18, 99
99 - 16	Jul 7, 99	Jul 21, 99	Aug 4, 99	Aug 18, 99	Sep 7, 99	Oct 2, 99
99 - 17	Jul 21, 99	Aug 4, 99	Aug 18, 99	Sep 1, 99	Sep 21, 99	Oct 16, 99
99 - 18	Aug 4, 99	Aug 18, 99	Sep 1, 99	Sep 15, 99	Oct 5, 99	Oct 30, 99
99 - 19	Aug 25, 99	Sep 8, 99	Sep 22, 99	Oct 6, 99	Oct 26, 99	Nov 20, 99
99 - 20	Sep 8, 99	Sep 22, 99	Oct 6, 99	Oct 20, 99	Nov 9, 99	Dec 4, 99
99 - 21	Sep 22, 99	Oct 6, 99	Oct 20, 99	Nov 3, 99	Nov 23, 99	Dec 18, 99
99 - 22	Oct 6, 99	Oct 20, 99	Nov 3, 99	Nov 17, 99	Dec 7, 99	Jan 1, 00
99 - 23	Oct 20, 99	Nov 3, 99	Nov 17, 99	Dec 1, 99	Dec 21, 99	Jan 15, 00
99 - 24	Nov 3, 99	Nov 17, 99	Dec 1, 99	Dec 15, 99	Jan 4, 00	Jan 29, 00

<sup>1</sup>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.

<sup>2</sup>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.

<sup>3</sup>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.

<sup>4</sup>A minimum of forty-five days is required between the distribution date of the Register giving notice of the expedited adoption and the agency adoption date. No hearing is required, but the public may file written objections. See RCW 34.05.230, as amended by section 202, chapter 409, Laws of 1997.



## **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;

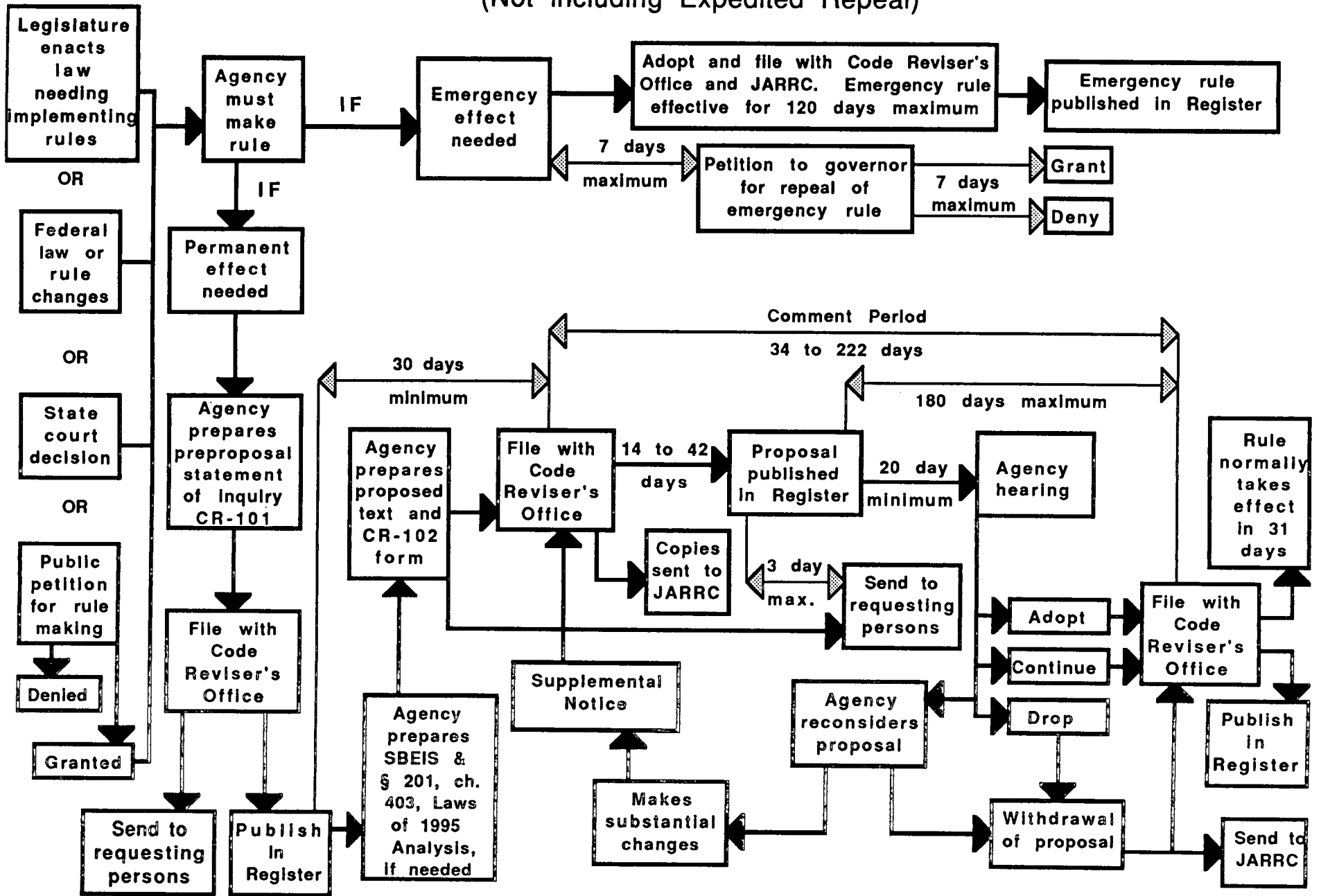
The rule **REDUCES** costs to business (although an SBEIS may be a useful tool for demonstrating this reduced impact);

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 98-24-003**  
**PREPROPOSAL STATEMENT OF INQUIRY**  
**DEPARTMENT OF LICENSING**

[Filed November 19, 1998, 11:10 a.m.]

Subject of Possible Rule Making: Chapter 308-56A WAC, Certificate of title—Motor vehicles etc., including but not limited to WAC 308-56A-140, 308-56A-145, 308-56A-150, 308-56A-160, 308-56A-200, 308-56A-205, 308-56A-210, and 308-56A-215.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 46.01.110, 46.12.040, 46.16.216.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: Rule making may be required as a result of this review in accordance with Executive Order 97-02.

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. Interested parties are invited to participate in this rule making. Please contact Patrick J. Zlateff, Contracts Manager, Title and Registration Services, P.O. Box 2957, Olympia, WA 98507-2957, phone (360) 902-3718, fax (360) 664-0831, TDD (360) 664-8885.

November 18, 1998  
 Nancy Kelly, Administrator  
 Title and Registration Services

**WSR 98-24-004**  
**PREPROPOSAL STATEMENT OF INQUIRY**  
**DEPARTMENT OF LICENSING**

[Filed November 19, 1998, 11:13 a.m.]

Subject of Possible Rule Making: Chapter 308-93 WAC, Vessel registration and certificate of title, including but not limited to WAC 308-93-030, 308-93-040, 308-93-079, 308-93-090, 308-93-100, 308-93-160, and 308-93-340.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 88.02.070, 88.02.100.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: Rule making may be required as a result of this review in accordance with Executive Order 97-02.

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. Interested parties are invited to participate in this rule making. Please contact Patrick J. Zlateff, Contracts Manager, Title and Registration Services, P.O. Box 2957,

Olympia, WA 98507-2957, phone (360) 902-3718, fax (360) 664-0831, TDD (360) 664-8885.

November 18, 1998  
 Nancy Kelly, Administrator  
 Title and Registration Services

**WSR 98-24-005**  
**PREPROPOSAL STATEMENT OF INQUIRY**  
**DEPARTMENT OF LICENSING**

[Filed November 19, 1998, 11:14 a.m.]

Subject of Possible Rule Making: Chapter 308-96A WAC, Vehicle licensing, including but not limited to WAC 308-96A-161, 308-96A-162, 308-96A-275, 308-96A-400, 308-96A-410, 308-96A-415, and 308-96A-420.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 46.01.110, 46.01.100, 46.16.060.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: Rule making may be required as a result of this review in accordance with Executive Order 97-02.

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. Interested parties are invited to participate in this rule making. Please contact Patrick J. Zlateff, Rules Coordinator, Title and Registration Services, P.O. Box 2957, Olympia, WA 98507-2957, phone (360) 902-3718, fax (360) 664-0831, TDD (360) 664-8885.

November 18, 1998  
 Nancy S. Kelly, Administrator  
 Title and Registration Services

**WSR 98-24-006**  
**PREPROPOSAL STATEMENT OF INQUIRY**  
**DEPARTMENT OF LICENSING**

[Filed November 19, 1998, 11:15 a.m.]

Subject of Possible Rule Making: Chapter 308-56A WAC, Certificate of title—Motor vehicles etc., including but not limited to WAC 308-56A-065, 308-56A-070, and 308-56A-075.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 46.01.110.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: Rule making may be required as a result of this review in accordance with Executive Order 97-02.

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. Interested parties are invited to participate in this rule making. Please contact Patrick J. Zlateff, Contracts Manager, Title and Registration Services, P.O. Box 2957, Olympia, WA 98507-2957, phone (360) 902-3718, fax (360) 664-0831, TDD (360) 664-8885.

November 18, 1998  
Nancy Kelly, Administrator  
Title and Registration Services

**WSR 98-24-007**

**PREPROPOSAL STATEMENT OF INQUIRY  
DEPARTMENT OF LICENSING**

[Filed November 19, 1998, 11:17 a.m.]

Subject of Possible Rule Making: Chapter 308-56A WAC, Certificate of title—Motor vehicles etc., including but not limited to WAC 308-56A-300, 308-56A-305, 308-56A-310, 308-56A-315, 308-56A-320, 308-56A-325, and 308-56A-330.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 46.01.110, 46.12.101.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: Rule making may be required as a result of this review in accordance with Executive Order 97-02.

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. Interested parties are invited to participate in this rule making. Please contact Patrick J. Zlateff, Contracts Manager, Title and Registration Services, P.O. Box 2957, Olympia, WA 98507-2957, phone (360) 902-3718, fax (360) 664-0831, TDD (360) 664-8885.

November 18, 1998  
Nancy Kelly, Administrator  
Title and Registration Services

**WSR 98-24-050**

**PREPROPOSAL STATEMENT OF INQUIRY  
DEPARTMENT OF  
SOCIAL AND HEALTH SERVICES**

(Medical Assistance Administration)

[Filed November 25, 1998, 1:58 p.m.]

Subject of Possible Rule Making: A new chapter of WAC related to oxygen and respiratory therapy equipment, supplies, and services covered by the department. The new chapter will outline eligibility criteria, requirements for pro-

viders, covered items and services, and reimbursement methodology.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 74.08.090, 74.04.050, 74.09.520, 74.09.530.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: To set in WAC the department's payment methodology, covered items and services, and requirements for reimbursement.

Process for Developing New Rule: The department invites the interested public to review and provide input on the draft language of this WAC. Draft material and information about how to participate are available by contacting the Department of Social and Health Services representative identified below.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication by contacting Patte King, Program Assistance and Support Services, Medical Assistance Administration, Olympia, Washington 98504-5530, phone (360) 586-0830, fax (360) 753-7315, TTY 1-800-848-5429, e-mail kingpl@dshs.wa.gov.

November 25, 1998  
Marie Myerchin-Redifer, Manager  
Rules and Policies Assistance Unit

**WSR 98-24-053**

**PREPROPOSAL STATEMENT OF INQUIRY  
BOARD OF ACCOUNTANCY**

[Filed November 25, 1998, 3:03 p.m.]

Subject of Possible Rule Making: WAC 4-25-730 Experience.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 18.04.055(5), 18.04.215.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: Part of the agency's fiscal year 1999 rules review, reviewing the rule for effectiveness, clarity, cost, fairness, and need. The effectiveness and fairness of the board's experience sponsor program was questioned in late 1997. The board wishes to review the experience rule to ensure all candidates for a CPA license obtain experience necessary for competence. The board will also consider its rule in conjunction with the model Uniform Accountancy Act to promote uniformity between the other State Boards of Accountancy.

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 by writing to Dana M. McInturff, Executive Director, Washington State Board of Accountancy, P.O. Box 9131, Olympia, WA 98507-9131, (360) 664-9194, fax (360) 664-9190, e-mail 103124.2013@compuserve.com.

November 12, 1998  
Dana M. McInturff, CPA  
Executive Director

**WSR 98-24-054****PREPROPOSAL STATEMENT OF INQUIRY  
BOARD OF ACCOUNTANCY**

[Filed November 25, 1998, 3:04 p.m.]

Subject of Possible Rule Making: WAC 4-25-740 CPA certificate and license.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 18.04.055, 18.04.215.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: Part of the agency's fiscal year 1999 rules review, reviewing the rule for effectiveness, clarity, cost, fairness, and need. Board staff has requested that the board consider changing (1) the renewal due date to April 30 rather than March 31 which falls during CPAs' "busy season" and (2) the process for allowing CPAs extra time to complete the renewal requirements, specifically continuing professional education.

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 by writing to Dana M. McInturff, Executive Director, Washington State Board of Accountancy, P.O. Box 9131, Olympia, WA 98507-9131, (360) 664-9194, fax (360) 664-9190, e-mail 103124.2013@compuserve.com.

November 17, 1998

Dana M. McInturff, CPA  
Executive Director

**WSR 98-24-055****PREPROPOSAL STATEMENT OF INQUIRY  
BOARD OF ACCOUNTANCY**

[Filed November 25, 1998, 3:05 p.m.]

Subject of Possible Rule Making: WAC 4-25-760 Reinstating certificates and licenses.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 18.04.055(11), 18.04.335.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: Part of the agency's fiscal year 1999 rule review, reviewing the rule for effectiveness, clarity, cost, fairness, and need. The agency is analyzing all of its license renewal and continuing competency rules. The current rule allows for reinstatement after a minimum of one year has elapsed unless the board sets some other period by order. The one-year minimum needs to be reviewed for fairness.

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 by writing to Dana M. McInturff, Executive Director, Washington State Board of Accountancy, P.O. Box 9131,

Olympia, WA 98507-9131, (360) 664-9194, fax (360) 664-9190, e-mail 103124.2013@compuserve.com.

November 12, 1998

Dana M. McInturff, CPA  
Executive Director

**WSR 98-24-056****PREPROPOSAL STATEMENT OF INQUIRY  
BOARD OF ACCOUNTANCY**

[Filed November 25, 1998, 3:07 p.m.]

Subject of Possible Rule Making: WAC 4-25-810 Continuing professional education (CPE)—Who must have CPE.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 18.04.055, 18.04.215.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: Part of the agency's fiscal year 1999 rules review, reviewing the rule for effectiveness, clarity, cost, fairness, and need. The agency is analyzing all of its certificate and license renewal and continuing competency rules. The board will also consider its rule in conjunction with the model Uniform Accountancy Act drafted to promote uniformity with the other State Boards of Accountancy across the United States.

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 by writing to Dana M. McInturff, Executive Director, Washington State Board of Accountancy, P.O. Box 9131, Olympia, WA 98507-9131, (360) 664-9194, fax (360) 664-9190, e-mail 103124.2013@compuserve.com.

November 12, 1998

Dana M. McInturff, CPA  
Executive Director

**WSR 98-24-057****PREPROPOSAL STATEMENT OF INQUIRY  
BOARD OF ACCOUNTANCY**

[Filed November 25, 1998, 3:08 p.m.]

Subject of Possible Rule Making: WAC 4-25-811 continuing professional education (CPE)—Programs standards.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 18.04.055, 18.04.215.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: Part of the agency's fiscal year 1999 rules review, reviewing the rule for effectiveness, clarity, cost, fairness, and need. The agency is analyzing all of its certificate and license renewal and continuing competency rules. The board will also consider its rule in conjunction with the model Uniform Accountancy Act drafted to promote uniformity with the other State Boards of Accountancy across the United States.

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 by writing to Dana M. McInturff, Executive Director, Washington State Board of Accountancy, P.O. Box 9131, Olympia, WA 98507-9131, (360) 664-9194, fax (360) 664-9190, e-mail 103124.2013@compuserve.com.

November 12, 1998

Dana M. McInturff, CPA

Executive Director

**WSR 98-24-058**

**PREPROPOSAL STATEMENT OF INQUIRY  
BOARD OF ACCOUNTANCY**

[Filed November 25, 1998, 3:08 p.m.]

Subject of Possible Rule Making: WAC 4-25-812 Continuing professional education (CPE)—Reports.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 18.04.055, 18.04.215.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: Part of the agency's fiscal year 1999 rules review, reviewing the rule for effectiveness, clarity, cost, fairness, and need. The agency is analyzing all of its certificate and license renewal and continuing competency rules. The board will also consider its rule in conjunction with the model Uniform Accountancy Act drafted to promote uniformity with the other State Boards of Accountancy across the United States. Board staff requests that the board consider substituting the requirement that CPAs list each CPE program completed with a signed affidavit completed by the CPA attesting to the completion of the CPE requirement.

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 by writing to Dana M. McInturff, Executive Director, Washington State Board of Accountancy, P.O. Box 9131, Olympia, WA 98507-9131, (360) 664-9194, fax (360) 664-9190, e-mail 103124.2013@compuserve.com.

November 12, 1998

Dana M. McInturff, CPA

Executive Director

**WSR 98-24-059**

**PREPROPOSAL STATEMENT OF INQUIRY  
BOARD OF ACCOUNTANCY**

[Filed November 25, 1998, 3:09 p.m.]

Subject of Possible Rule Making: WAC 4-25-813 Continuing professional education (CPE)—Program sponsor agreements.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 18.04.055, 18.04.215.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: Part of the agency's fiscal year 1999 rules review, reviewing the rule for effectiveness, clarity, cost, fairness, and need. The agency is analyzing all of its certificate and license renewal and continuing competency rules. The board will also consider its rule in conjunction with the model Uniform Accountancy Act drafted to promote uniformity with the other State Boards of Accountancy across the United States. Board staff and the board's CPE committee ask that the board consider eliminating sponsor agreements. This program requires significant staff time for little benefit to Washington CPAs.

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 by writing to Dana M. McInturff, Executive Director, Washington State Board of Accountancy, P.O. Box 9131, Olympia, WA 98507-9131, (360) 664-9194, fax (360) 664-9190, e-mail 103124.2013@compuserve.com.

November 12, 1998

Dana M. McInturff, CPA

Executive Director

**WSR 98-24-071**

**PREPROPOSAL STATEMENT OF INQUIRY  
DEPARTMENT OF  
LABOR AND INDUSTRIES**

[Filed November 30, 1998, 3:59 p.m.]

Subject of Possible Rule Making: Asbestos, chapter 296-62 WAC, General occupational health standards and chapter 296-65 WAC, Asbestos removal and encapsulation.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 49.17.040 and chapter 49.26 RCW.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: The department will proposing amendments as a result of federal final rules as published June 29, 1998, in Federal Register (Vol. 63, No. 124). OSHA made changes to Shipyards 29 CFR 1915.1001 and Construction 29 CFR 1926.1101, reducing the scope of these standards, due to a federal court decision. The federal changes add a statement that these standards do not apply to asbestos-containing asphalt roof cements, coatings and mastics; and delete references to roofing cements. OSHA did not change 29 CFR 1910.1001 Asbestos. WISHA will be proposing

other amendments to improve the clarity of the rule. WISHA consolidated the three federal standards by placing all of the requirements in chapter 296-62 WAC. WISHA is considering rule making to make changes similar as those made by OSHA.

Other Federal and State Agencies that Regulate this Subject and the Process Coordinating the Rule with These Agencies: Environmental Protection Agency and local air pollution authorities. However, this particular project does not need additional coordination with these agencies. WISHA will submit a state plan change to OSHA using the normal process.

Process for Developing New Rule: The department must adopt rules identical or at-least-as-effective-as OSHA rules as required by the OSHA/WISHA state plan agreement.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication by contacting Christy Wood, Project Manager, Department of Labor and Industries, WISHA Services Division, P.O. Box 44620, Olympia, WA 98504-4620, phone (360) 902-5524, fax (360) 902-5529.

November 25, 1998

Gary Moore  
Director

#### WSR 98-24-085

#### PREPROPOSAL STATEMENT OF INQUIRY WASHINGTON STATE PATROL

[Filed December 1, 1998, 2:02 p.m.]

Subject of Possible Rule Making: Amending WAC 446-16-070 Report contents—General, 446-16-080 Report time limitations, 446-16-100 Prosecutorial agencies—Reporting responsibilities, and 446-16-110 Courts—Reporting responsibilities.

Statutes Authorizing the Agency to Adopt Rules on this Subject: Chapter 10.98 RCW as amended by SSB 6535, 1998 regular session.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: Adds the option of electronically transferring disposition reports on approved forms; requires that the process control number (PCN) be included on dispositions if known; and updates the persons responsible for transmission of completed disposition information.

Process for Developing New Rule: The identification and criminal history section reviewed these WAC sections to ensure the language was current and standard.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication by contacting Ms. Toni Korneder, Washington State Patrol, P.O. Box 42633, Olympia, WA 98504-2633, phone (360) 705-5101, fax (360) 664-9461.

November 30, 1998

Annette M. Sandberg  
Chief

AMENDATORY SECTION (Amending WSR 97-05-048, filed 2/18/97, effective 3/21/97)

**WAC 446-16-070 Report contents—General.** The report of disposition shall be made on forms provided by the section (~~(The name of the subject about which the report is made, the designated fingerprints of the subject, the name of the original contributor of the fingerprint or arrest record, and the original arrest number shall be entered on the disposition report exactly the same))~~ or shall be transferred electronically on forms approved by the section. The disposition report shall include all arrest details as they ((appear)) appeared on the fingerprint card or arrest record previously forwarded to the section. The state identification number and PCN number should be indicated on the disposition report if known.

AMENDATORY SECTION (Amending WSR 97-05-048, filed 2/18/97, effective 3/21/97)

**WAC 446-16-080 Report time limitations.** All of the information requested on the disposition report shall be completed and the report mailed or electronically transferred to the Washington state patrol identification and criminal history section, within 10 days of the date that a disposition becomes effective.

AMENDATORY SECTION (Amending WSR 97-05-048, filed 2/18/97, effective 3/21/97)

**WAC 446-16-100 Prosecutorial agencies—Reporting responsibilities.** (1) The prosecutor or (~~(city attorney shall complete the disposition report))~~ county clerk shall promptly transmit the completed disposition information to the section if ((he)) the prosecutor determines not to file charges or the case is not otherwise acted upon by a judicial body. In such cases, the prosecutor or (~~(city attorney))~~ county clerk shall mail or transfer the completed disposition report to the section within 10 days from the date that it is determined no further judicial action will be taken on the charges.

AMENDATORY SECTION (Amending WSR 97-05-048, filed 2/18/97, effective 3/21/97)

**WAC 446-16-110 Courts—Reporting responsibilities.** Where the disposition of criminal charges occurs as a result of action taken by or within the jurisdiction of any court in the state of Washington, the disposition of such charges shall be reported to the identification and criminal history section pursuant to rules of the supreme court of the state of Washington on forms approved by the supreme court and supplied by the section. However, in a county where the judicial information system or other secure method of electronic transfer of information has been implemented between the court and the section, the court may electronically provide the disposition information to the section.

**WSR 98-24-086**

**PREPROPOSAL STATEMENT OF INQUIRY  
WASHINGTON STATE PATROL**

[Filed December 1, 1998, 2:03 p.m.]

Subject of Possible Rule Making: Amending WAC 446-20-600 Fees.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 43.43.830 through 43.43.845 and chapter 10.97 RCW.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: The section will accept credit card payments for electronic background check requests.

Process for Developing New Rule: The identification and criminal history section reviewed this WAC section to ensure the language was current and standard.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication by contacting Ms. Toni Korner, Washington State Patrol, P.O. Box 42633, Olympia, WA 98504-2633, phone (360) 705-5101, fax (360) 664-9461.

November 30, 1998  
Annette M. Sandberg  
Chief

**WSR 98-24-088**

**PREPROPOSAL STATEMENT OF INQUIRY  
GAMBLING COMMISSION**

[Filed December 1, 1998, 2:04 p.m.]

Subject of Possible Rule Making: Card rooms.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 9.46.070.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: To implement legislation that passed in 1996 and 1997 enabling card rooms to offer the following; increased number of tables, alternative collection of fees, jackpot schemes and house banked card games. These rules set forth the regulatory and licensing requirements for card rooms to offer these activities.

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 Ben Bishop, Deputy Director, P.O. Box 42400, Olympia, WA 98504-2400, (360) 438-7640; Sherri Winslow, Deputy Director, P.O. Box 42400, Olympia, WA 98504-2400, (360) 438-7654 ext. 301; or Susan Arland, Public Information Officer, P.O. Box 42400, Olympia, WA 98504-2400, (360) 438-7654 ext. 374.

Meetings at the Ramada Governor House, 621 Capitol Way South, Olympia, WA 98501, (360) 352-7700, on February 11-12, 1999; at the Cavanaugh's Ridpath Hotel, West 1515 Sprague, Spokane, WA 99204, (509) 838-2711, on

March 11-12, 1999; and at The Inn at Semi-ah-moo, 9565 Semiahmoo Parkway, Blaine, WA 98230, (360) 371-2000, on April 8-9, 1999.

December 1, 1998  
Susan Arland  
Rules Coordinator

**WSR 98-24-091**

**PREPROPOSAL STATEMENT OF INQUIRY  
HORSE RACING COMMISSION**

[Filed December 1, 1998, 2:44 p.m.]

Subject of Possible Rule Making: Chapter 260-40 WAC, Entries, starts, declarations and scratches.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 67.16.040.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: To bring into conformance with nationally adopted uniform rules regarding entries, starts, declarations and scratches.

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; and industry-wide horsemen's associations and national industry association.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication by contacting Bruce Batson, Executive Secretary, Washington Horse Racing Commission, 7912 Martin Way, Suite D, Olympia, WA 98516-5703, (360) 459-6462, fax (360) 459-6461, e-mail MIKEMCL@PRODIGY.NET.

December 1, 1998  
Bruce Batson  
Executive Secretary

**WSR 98-24-093**

**PREPROPOSAL STATEMENT OF INQUIRY  
DEPARTMENT OF  
LABOR AND INDUSTRIES**

[Filed December 1, 1998, 3:15 p.m.]

Subject of Possible Rule Making: A rule to prevent musculoskeletal disorders.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 49.17.040.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: Work related musculoskeletal disorders (WRMSDs) are among the most common and costly occupational injuries and illnesses in the United States and Washington state. They result in substantial pain, suffering, cost and lost productivity. Much of this is preventable through the application of the tools and principles of ergonomics. The Department of Labor and Industries has encouraged the voluntary, nonregulatory application of ergonomic methods for reducing WRMSDs for a number of years. The



department has concluded that these nonregulatory methods have been necessary but not sufficient to prevent WRMSDs. The department believes that rules which are fair, flexible and feasible will provide substantial benefit to employers and employees which will not be accomplished in any other way.

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 plans a rule development process that stresses participation from the business, labor and safety and health professional communities. This process will include informal rule development conferences throughout the state to identify issues, concerns and options. It will include working with one or more advisory committees to explore options and develop proposed rules. It will include public hearings to ensure full opportunity for public review and comment. Pilot rule projects which measure the feasibility of complying with or administering the rules and for identifying options for achieving the goal of the rules will be considered.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication by contacting John Peard, Department of Labor and Industries, WISHA Services Division, P.O. Box 44610, Olympia, WA 98504-4610, phone (360) 902-5425, fax (360) 902-5438.

November 30, 1998  
Gary Moore  
Director

**WSR 98-24-097**  
**PREPROPOSAL STATEMENT OF INQUIRY**  
**DEPARTMENT OF AGRICULTURE**

[Filed December 2, 1998, 8:13 a.m.]

Subject of Possible Rule Making: Chapter 16-54 WAC, Animal importation.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 16.36.040.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: Revisions to chapter 16-54 WAC update language redefining brucellosis vaccination to accommodate new technology, exempts certain privately owned animals from health certificate requirements for visits less than ninety-six hours and removes unnecessary requirements for equine quarantine stations. Requirements are added consistent with scrapie control in sheep and goats.

Other Federal and State Agencies that Regulate this Subject and the Process Coordinating the Rule with These Agencies: USDA-APHIS, Veterinary Services, also regulates interstate movement of animals. We cooperate with APHIS by means of a formal cooperative agreement. Chapter 16.36 RCW allows state animal health rules to be more restrictive than federal rules.

Process for Developing New Rule: The Washington State Department of Agriculture has met with interested parties and industry stakeholders to discuss this proposal. Any-

one wishing to receive more information on the proposed rule should contact the department using the information listed below.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication by contacting Dr. Robert W. Mead, State Veterinarian, Washington State Department of Agriculture, Food Safety/Animal Health Division, P.O. Box 42577, Olympia, WA 98504-2577, (360) 902-1878, fax (360) 902-2087, e-mail rmead@agr.wa.gov.

December 2, 1998  
Candace Jacobs, DVM  
Assistant Director

**WSR 98-24-098**  
**PREPROPOSAL STATEMENT OF INQUIRY**  
**DEPARTMENT OF AGRICULTURE**

[Filed December 2, 1998, 8:14 a.m.]

Subject of Possible Rule Making: Chapter 16-59 WAC, Importation of poultry and hatching eggs.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 16.36.040.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: Chapter 16-59 WAC allows for control, surveillance and eradication of important poultry diseases with public health implications.

Other Federal and State Agencies that Regulate this Subject and the Process Coordinating the Rule with These Agencies: United States Department of Agriculture, Animal and Plant Health Inspection Service, Veterinary Services. USDA-APHIS, national poultry improvement plan. Egg inspection program in the Washington State Department of Agriculture's Food Safety/Animal Health Division. RCW 16.36.100 authorizes the director to cooperate with agencies of Washington, other states and the federal government. A general cooperative agreement with USDA-APHIS, VS, delineates each agency's responsibilities.

Process for Developing New Rule: The Washington State Department of Agriculture has met with interested parties and industry stakeholders to discuss this proposal. Any-one wishing to receive more information on the proposed rule should contact the department using the information listed below.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication by contacting Dr. Kathleen Connell, Assistant State Veterinarian, Washington State Department of Agriculture, Food Safety/Animal Health Division, P.O. Box 42577, Olympia, WA 98405-2577 [98504-2577], (360) 902-1878, fax (360) 902-2087, e-mail kconnell@agr.wa.gov.

December 2, 1998  
Candace Jacobs, DVM  
Assistant Director

**WSR 98-24-099**

**PREPROPOSAL STATEMENT OF INQUIRY  
DEPARTMENT OF AGRICULTURE**

[Filed December 2, 1998, 8:15 a.m.]

Subject of Possible Rule Making: Chapter 16-74 WAC, Livestock testing—Duties of owners.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 16.36.040.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: These rules are necessary to provide control, surveillance and eradication of important animal diseases with public health implications. They also require safe working conditions for the animal health program staff and for animals being handled and tested.

Other Federal and State Agencies that Regulate this Subject and the Process Coordinating the Rule with These Agencies: United States Department of Agriculture, Animal and Plant Health Inspection Service, Veterinary Services. Food safety program in the Washington State Department of Agriculture's Food Safety and Animal Health Division. RCW 16.36.100 authorizes the director of the Washington State Department of Agriculture to cooperate with agencies of Washington, other states and the federal government. A general cooperative agreement with USDA-APHIS, VS delineates each agency's responsibilities.

Process for Developing New Rule: The Washington State Department of Agriculture has met with interested parties and industry stakeholders to discuss this proposal. Anyone wishing to receive more information on the proposed rule should contact the department using the information listed below.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication by contacting Dr. Kathleen Connell, Assistant State Veterinarian, Washington State Department of Agriculture, Food Safety/Animal Health Division, P.O. Box 42577, Olympia, WA 98504-2577, (360) 902-1878, fax (360) 902-2087, e-mail kconnell@agr.wa.gov.

December 2, 1998  
Candace Jacobs, DVM  
Assistant Director

**WSR 98-24-100**

**PREPROPOSAL STATEMENT OF INQUIRY  
DEPARTMENT OF AGRICULTURE**

[Filed December 2, 1998, 8:16 a.m.]

Subject of Possible Rule Making: Chapter 16-80 WAC, Pseudorabies in swine.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 16.36.040.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: These rules are necessary to provide control, surveillance and eradication of an important swine disease.

Other Federal and State Agencies that Regulate this Subject and the Process Coordinating the Rule with These Agen-

cies: United States Department of Agriculture, Animal and Plant Health Inspection Service, Veterinary Services. RCW 16.36.100 authorizes the director of the Washington State Department of Agriculture to cooperate with agencies of Washington, other states and the federal government. A general cooperative agreement with USDA-APHIS, VS delineates each agency's responsibilities.

Process for Developing New Rule: The Washington State Department of Agriculture has met with interested parties and industry stakeholders to discuss this proposal. Anyone wishing to receive more information on the proposed rule should contact the department using the information listed below.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication by contacting Dr. Kathleen Connell, Assistant State Veterinarian, Washington State Department of Agriculture, Food Safety/Animal Health Division, P.O. Box 42577, Olympia, WA 98504-2577, (360) 902-1878, fax (360) 902-2087, e-mail kconnell@agr.wa.gov.

December 2, 1998  
Candace Jacobs, DVM  
Assistant Director

**WSR 98-24-101**

**PREPROPOSAL STATEMENT OF INQUIRY  
DEPARTMENT OF AGRICULTURE**

[Filed December 2, 1998, 8:17 a.m.]

Subject of Possible Rule Making: Chapter 16-86 WAC, Brucellosis, tuberculosis and scrapie in cattle, goats and sheep.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 16.36.040.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: Additional changes beyond the present pilot rule (WSR 98-11-010) to chapter 16-86 WAC are necessary to update language and simplify language concerning interstate pasture permits. Reference to the disease "scrapie" is removed and a separate WAC is being developed for scrapie.

Other Federal and State Agencies that Regulate this Subject and the Process Coordinating the Rule with These Agencies: USDA-APHIS, Veterinary Services, also regulates brucellosis and tuberculosis. Coordination is maintained by regular joint meetings under a cooperative agreement. Chapter 16.36 RCW allows state animal health rules to be more restrictive than federal rules.

Process for Developing New Rule: The Washington State Department of Agriculture has met with interested parties and industry stakeholders to discuss this proposal. Anyone wishing to receive more information on the proposed rule should contact the department using the information listed below.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication by contacting Dr. Robert W. Mead, State Veterinarian, Washington State Department of Agriculture, Food

Safety/Animal Health Division, P.O. Box 42577, Olympia, WA 98504-2577, (360) 902-1878, fax (360) 902-2087, e-mail rmead@agr.wa.gov.

December 2, 1998  
Candace Jacobs, DVM  
Assistant Director

WA 98504-2577, (360) 902-1878, fax (360) 902-2087, e-mail rmead@agr.wa.gov.

December 2, 1998  
Candace Jacobs, DVM  
Assistant Director

PREPROPOSAL

#### WSR 98-24-102

##### PREPROPOSAL STATEMENT OF INQUIRY DEPARTMENT OF AGRICULTURE

[Filed December 2, 1998, 8:18 a.m.]

Subject of Possible Rule Making: Revisions to chapter 16-86 WAC, Brucellosis, tuberculosis and scrapie in cattle, sheep and goats, pilot rule.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 16.36.040.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: A pilot rule project to allow veterinarians to vaccinate female cattle older than twelve months of age (mature) with RB-51 Brucella vaccine. This will be of economic benefit to cattle producers and will maintain the brucellosis immunity level of the collective state herd.

Other Federal and State Agencies that Regulate this Subject and the Process Coordinating the Rule with These Agencies: The United States Department of Agriculture biologics license all biologics. Present labeling allows adult vaccination with permission of state authorities.

Process for Developing New Rule: Pilot rule making, a pilot project pertaining to the RB-51 brucellosis vaccination program was filed by the department on May 11, 1998, WSR 98-11-010. The project began June 1, 1998, and was scheduled to be completed November 30, 1998. The department is now continuing the program through April 15, 1999. This pilot project is being extended to allow the department to accumulate additional information on the effectiveness of the program. In conducting this project, staff have been working with volunteer veterinarians and livestock saleyards.

These same volunteers will remain as participants through the duration of the program and will be exempt from the present vaccination rules under chapter 16-86 WAC. All provisions of the pilot project as filed on May 11, 1998, will continue to apply.

This pilot project provides for the development of methods for measuring and testing the feasibility of complying and administering this program. The final report on this project will be completed on December 31, 1998, and distributed to interested parties. A supplemental report will be completed by February 7, 1999, and a summary on the entire pilot project will be completed within thirty days of the end of the project.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication by contacting Dr. Robert W. Mead, State Veterinarian, Washington State Department of Agriculture, Food Safety/Animal Health Division, P.O. Box 42577, Olympia,

#### WSR 98-24-103

##### PREPROPOSAL STATEMENT OF INQUIRY DEPARTMENT OF AGRICULTURE

[Filed December 2, 1998, 8:19 a.m.]

Subject of Possible Rule Making: New rules on sheep and goat scrapie disease control.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 16.36.040.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: The disease scrapie has been named by the United States sheep producers as the number one problem in their industry. These rules will help trace scrapie positive animals to their parent flocks and provides for the quarantine of infected flocks.

Other Federal and State Agencies that Regulate this Subject and the Process Coordinating the Rule with These Agencies: USDA-APHIS administers the voluntary scrapie control program. Federal rules have mandated that states quarantine scrapie flocks or no sheep from a state that does not so quarantine will not be able to move sheep interstate.

Process for Developing New Rule: Request from Washington sheep producers. The animal health program has worked with a scrapie committee from the producers for two years to develop proposed rules. Anyone wishing to receive information on the proposed rule should contact the department using the information listed below.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication by contacting Dr. Robert W. Mead, State Veterinarian, Washington State Department of Agriculture, Food Safety/Animal Health Division, P.O. Box 42577, Olympia, WA 98405-2577 [98504-2577], (360) 902-1878, fax (360) 902-2087, e-mail rmead@agr.wa.gov.

December 2, 1998  
Candace Jacobs, DVM  
Assistant Director

#### WSR 98-24-104

##### PREPROPOSAL STATEMENT OF INQUIRY DEPARTMENT OF AGRICULTURE

[Filed December 2, 1998, 8:19 a.m.]

Subject of Possible Rule Making: New rules on a voluntary total quality assurance program for egg production.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 16.36.040.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: The egg industry has requested that the department develop a voluntary quality

assurance program modeled after the United Egg Producers "5-Star" program.

Other Federal and State Agencies that Regulate this Subject and the Process Coordinating the Rule with These Agencies: No other agencies regulate such voluntary quality assurance programs in the state of Washington.

Process for Developing New Rule: The Washington State Department of Agriculture has met with interested parties and industry stakeholders to discuss this proposal which was industry requested. Anyone wishing to receive more information on the proposed rule should contact the department using the information listed below.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication by contacting Dr. Robert W. Mead, State Veterinarian, Washington State Department of Agriculture, Food Safety/Animal Health Division, P.O. Box 42577, Olympia, WA 98504-2577, (360) 902-1878, fax (360) 902-2087, e-mail rmead@agr.wa.gov.

December 2, 1998  
Candace Jacobs, DVM  
Assistant Director

**WSR 98-24-105**

**PREPROPOSAL STATEMENT OF INQUIRY  
BOARD OF BOILER RULES**

[Filed December 2, 1998, 8:30 a.m.]

Subject of Possible Rule Making: WAC 296-104-700 Inspection fees—Certificate fees—Expenses and 296-104-285 Unfired pressure vessels in places of public assembly.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 70.79.040.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: Amend fee schedule to ensure revenue is sufficient to support expenses, WAC 296-104-700. Delete WAC 296-104-285, covered under WAC 296-104-107.

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

Process for Developing New Rule: Board of Boiler Rules study and solicitation of comments from stakeholders.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication by contacting Dick Barkdoll, Chief Boiler Inspector, Secretary to the Board of Boiler Rules, P.O. Box 44410, Olympia, WA 98504-4410, (360) 902-5270, fax (360) 902-5292; or at the Board of Boiler Rules regular meeting, on January 26, 1999, at 10:00 a.m., Tumwater L & I, 7273 Linderson Way S.W.; or at a public hearing on March 16, 1999, at 10:00 a.m., Tumwater L & I, 7273 Linderson Way S.W.

December 2, 1998  
Frank Sanchez  
Chair

**WSR 98-24-111**

**PREPROPOSAL STATEMENT OF INQUIRY  
DEPARTMENT OF AGRICULTURE**

[Filed December 2, 1998, 9:39 a.m.]

Subject of Possible Rule Making: To define maximum application rate for commercial fertilizer and to revise the registration application section of chapter 16-200 WAC to include a requirement that all commercial fertilizer registration applications contain a maximum application rate.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 15.54.325 and 15.54.800.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: Rules are needed which establish a requirement for the disclosure of the maximum application rate for each commercial fertilizer for which registration is requested so that the department can clearly determine if the commercial fertilizer meets Washington standards for metals.

Other Federal and State Agencies that Regulate this Subject and the Process Coordinating the Rule with These Agencies: The Washington State Department of Ecology (ecology) regulates the use of certain commercial fertilizers, and the Washington State Department of Agriculture has been working closely with ecology on the issue.

Process for Developing New Rule: The Washington State Department of Agriculture will meet with interested parties to discuss this proposal. Anyone wishing to receive more information on the proposed rule should contact the department by one of the methods listed below.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication by contacting Ted Maxwell, Program Manager, Registration Services, Pesticide Management Division, Washington State Department of Agriculture, P.O. Box 42560, Olympia, WA 98504-2560, phone (360) 902-2026.

Send written comments to Laurie Mauerman, Washington Department of Agriculture, P.O. Box 42560, Olympia, WA 98504-2560, fax (360) 902-2093.

December 1, 1998  
Bob Arrington  
Assistant Director

**WSR 98-24-112**

**PREPROPOSAL STATEMENT OF INQUIRY  
DEPARTMENT OF TRANSPORTATION**

[Filed December 2, 1998, 9:53 a.m.]

Subject of Possible Rule Making: WAC 468-300-010, 468-300-020, 468-300-040, and 468-300-220.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 47.56.030, 47.60.326.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: Annual review of Washington state ferries' farebox revenue needs has been completed, resulting in a proposal to raise ferry fares.

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 Mr. Ray Deardorf, Planning Director, Washington State Ferries, Colman Dock, Pier 52, 801 Alaskan Way, Seattle, WA 98104, phone (206) 515-3491, fax (206) 515-3499.

December 1, 1998  
Paul L. Green  
Director/CEO

#### WSR 98-24-114

##### PREPROPOSAL STATEMENT OF INQUIRY TRANSPORTATION IMPROVEMENT BOARD

[Filed December 2, 1998, 10:22 a.m.]

Subject of Possible Rule Making: Housekeeping on existing rules; WAC 479-16-020 Standard specifications, 479-16-040 Traffic control devices, 479-16-098 Inclusion of bicycle facilities in transportation improvement board projects, 479-20-007 Matching ratios for urban arterial trust account funds, 479-20-020 Partial or progress payments for project cost, 479-20-025 Records requirements, and 479-20-037 Procedure to request increase in board funds.

Statutes Authorizing the Agency to Adopt Rules on this Subject: Chapter 47.26 RCW.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: These rules are being revised to update current language, provide needed language to reflect the current procedures of the Transportation Improvement Board (TIB) programs, and to reflect desired changes in the TIB programs.

Process for Developing New Rule: Agency study, these rules were reviewed as part of our annual review of rules under the regulatory reform.

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 Mr. Rich Struna, Transportation Improvement Board, P.O. Box 40901, Olympia, WA 98504-0901, fax (360) 705-6830, or by phone at (360) 705-7589.

December 2, 1998  
Jerry M. Fay  
Executive Director

#### WSR 98-24-115

##### PREPROPOSAL STATEMENT OF INQUIRY TRANSPORTATION IMPROVEMENT BOARD

[Filed December 2, 1998, 10:23 a.m.]

Subject of Possible Rule Making: To amend rules for administering the federal Transportation Equity Act for the

21st Century (TEA-21) surface transportation program state-wide and enhancement program as directed by the state TEA-21 Steering Committee.

Statutes Authorizing the Agency to Adopt Rules on this Subject: Chapters 47.26 and 47.66 RCW.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: To define the criteria for eligible projects and develop a process for the submittal of a prioritized list of projects to the legislature and the Office of Financial Management.

Process for Developing New Rule: These rules are being amended as recommended by TEA-21 Steering Committee.

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 Mr. Omar Mehyar, Transportation Improvement Board, P.O. Box 40901, Olympia, WA 98504-0901, fax (360) 705-6830, or by phone at (360) 705-7590.

December 2, 1998  
Jerry M. Fay  
Executive Director

#### WSR 98-24-122

##### PREPROPOSAL STATEMENT OF INQUIRY DEPARTMENT OF COMMUNITY, TRADE AND ECONOMIC DEVELOPMENT

[Filed December 2, 1998, 11:05 a.m.]

Subject of Possible Rule Making: Chapter 365-100 WAC, Winter utility moratorium program.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 43.330.040.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: The review of this rule is necessary in order to update references to the agency after agency mergers. The review will also apply current standards of clarity and readability to the language of the WAC in accordance with the Administrative Procedure Act, chapter 34.05 RCW.

Process for Developing New Rule: The Department of Community, Trade and Economic Development will facilitate a meeting of interested persons, considering all input for inclusion in the revised rule.

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication by contacting Will Graham, Supervisor, Energy Services, Department of Community, Trade and Economic Development, 906 Columbia Street S.W., P.O. Box 48300, Olympia, WA 98504-8300, fax (360) 586-0489, phone (360) 753-3403.

December 1, 1998  
Jean L. Ameluxen  
Director, Government Relations

**WSR 98-24-130****PREPROPOSAL STATEMENT OF INQUIRY****DEPARTMENT OF  
FISH AND WILDLIFE**

[Filed December 2, 1998, 11:34 a.m.]

98504-2650, phone (360) 902-8595, fax (360) 586-5875, e-mail pamm@parks.wa.gov.

December 2, 1998  
Jim French  
Senior Policy Analyst

Subject of Possible Rule Making: Shellfish harvest and reporting rules.

Statutes Authorizing the Agency to Adopt Rules on this Subject: RCW 75.08.080.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: Shellfish harvest allocation has been affected by recent federal court rulings. Nontreaty harvest opportunity depends on stock status and negotiated agreements, and uncertainty exists until shortly before seasonal openings. It is necessary to manage some fisheries on an emergency rule basis, particularly as a result of overcapitalization in the fleets. Although legislation is being proposed to reduce this overcapitalization, it will not be effective for one to three years. More sophisticated reporting techniques are needed during the shellfish seasons to insure management data and prevent overharvest.

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 by contacting Bruce Crawford, Fish Program Manager, 600 Capitol Way North, Olympia, WA 98501-1091, (360) 902-2325. Please contact by February 16, 1999. Expected proposal filing February 17, 1999.

December 2, 1998

Evan Jacoby

Rules Coordinator

**WSR 98-24-131****PREPROPOSAL STATEMENT OF INQUIRY****PARKS AND RECREATION  
COMMISSION**

[Filed December 2, 1998, 11:36 a.m.]

Subject of Possible Rule Making: Chapter 352-32 WAC, Public use of state park areas.

Statutes Authorizing the Agency to Adopt Rules on this Subject: Chapter 43.51 RCW.

Reasons Why Rules on this Subject may be Needed and What They Might Accomplish: Existing rules will be opened for review and modifications and some will be repealed.

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. To request additional information or to comment in writing, contact Pamela McConkey, Washington State Parks, 7150 Cleanwater Lane, P.O. Box 42650, Olympia, WA

**NO EXPEDITED REPEALS FILED IN THIS ISSUE**

**EXPEDITED REPEAL**





**WSR 98-22-017****PROPOSED RULES****DEPARTMENT OF ECOLOGY**

[Order 98-19—Filed October 23, 1998, 3:03 p.m.]

**Original Notice.**

Preproposal statement of inquiry was filed as WSR 98-16-084.

Title of Rule: Forest practices rules and regulations to protect water quality, chapter 173-202 WAC.

Purpose: Incorporate by reference revisions to forest practices rules to better protect resources. Current forest practices rules are not providing adequate protection for salmon and other public resources. Resource agencies face many new resource protection challenges, including current and proposed listings of salmonids under the federal Endangered Species Act (ESA) and water quality-limited waters under the federal Clean Water Act (CWA).

At its September 22, 1998, [meeting] the Forest Practices Board approved the following goals for this rule package:

1. To provide compliance with the Endangered Species Act for aquatic and riparian-dependent species;
2. To restore and maintain riparian habitat on state and private forest lands to support a harvestable supply of fish;
3. To meet the requirements of the Clean Water Act for water quality on state and private forest lands; and
4. To keep the timber industry economically viable in Washington.

The Forest Practices Board and ecology are planning to conduct rule making on a comprehensive package of new and revised rules. Called the "forestry module," TFW has identified the need to revise forest practices rules (Title 222 WAC) in order to better protect public resources. TFW participants have been negotiating issues covered by this proposal, but have not reached consensus. Should consensus be reached during this rule-making process, the proposal may be modified to include their recommendation as an alternative.

Other Identifying Information: The Forest Practices Board filed a companion preproposal as WSR 98-16-099 and a rule-making proposal as WSR 98-21-015. See Purpose above.

Statutory Authority for Adoption: RCW 90.48.420, 76.09.040, and chapter 34.05 RCW.

Statute Being Implemented: Chapter 90.48 RCW.

Summary: Adopt by reference modifications to forest practices rules (Title 222 WAC) to better protect public resources. Rule categories: Riparian protection for fish-bearing and nonfish-bearing streams; water typing; wetlands; Class IV-Special; SEPA guidance; roads; slope stability; forest chemicals; monitoring; adaptive management; watershed analysis. See Purpose above.

Reasons Supporting Proposal: Modifications to rules are needed to better protect Washington's public resources. See Purpose above.

Name of Agency Personnel Responsible for Drafting: Doug Rushton, 300 Desmond Drive, Lacey, WA 98503, (360) 407-6180; Implementation and Enforcement: Dick Wallace, 300 Desmond Drive, Lacey, WA 98503, (360) 407-6489.

Name of Proponent: Department of Ecology, governmental.

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

Explanation of Rule, its Purpose, and Anticipated Effects: The proposed rule includes the following forest practices rules that would be adopted by reference:

- Revises the water typing system used to identify fish-bearing and nonfish-bearing streams so that more adequate protection is provided for fish habitat.
- Provides a five-year forest practices permit for landowners who have completed watershed analysis or who have submitted an application for a road maintenance and abandonment plan that will take longer than two years to implement.
- Adds shorelines of the state to the Class IV-Special list and gives SEPA guidance for the applicant to follow.
- Expands the Class IV-Special SEPA trigger for unstable slopes, gives SEPA guidance, and adds twenty-four definitions related to unstable slopes.
- Revises riparian management zone requirements for eastern and western Washington, and includes options for possible buffer widths.
- Presents options for variable buffer widths for aerial application of pesticides and adds best management practices to the Forest Practices Board (FPB) manual.
- Adds best management practices related to roads to the FPB manual; revises requirements for road location and design, relief drainage structures, water crossing structures, and road maintenance and abandonment.
- Expands adaptive management requirements by formally establishing the Cooperative Monitoring, Evaluation, and Research (CMER) Committee of TFW and charging them with implementing adaptive management based on scientific findings; encourages cooperative opportunities for working with the board.

The purpose and anticipated effects for these rules include improved water quality and fish habitat, as well as better overall protection of public resources while maintaining a viable forest products industry. See Purpose above.

Proposal Changes the Following Existing Rules: The proposed rule amendment of chapter 173-202 WAC incorporates by reference changes to the forest practices rules related to water quality.

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

**Small Business Economic Impact Statement**

Proposed Forest Practices Rules (Title 222 WAC)  
 Implementing the Forestry Module  
 Proposed for coadoption by Forest Practices Board and  
 Department of Ecology  
 October 12, 1998

**PROPOSED**

Part 1: Background Information and Rule Proposal

The Forestry Module: The Forest Practices Board is charged with establishing rules to protect the state's natural resources while maintaining a viable forest products industry. Forest practices rules that pertain to water quality are co-adopted by the Department of Ecology.

The Forest Practices Board and the Department of Ecology are considering making changes to the rules that would implement recommendations that timber, fish and wildlife (TFW) participants were negotiating since November 1997, called the forestry module. TFW is comprised of six caucuses: Federal agencies, Indian tribes, state agencies, counties, the environmental community, and the timber industry. The environmental caucus withdrew from the negotiations in September 1998, but the other five caucuses are continuing to work on a forestry module agreement.

The board accepted TFW's goals<sup>1</sup> for the forestry module on September 22, 1998:

- 1. To provide compliance with the Endangered Species Act for aquatic and riparian-dependent species on nonfederal forest lands;
2. To restore and maintain riparian habitat on nonfederal forest lands to support a harvestable supply of fish;
3. To meet the requirements of the Clean Water Act for water quality on nonfederal forest lands; and
4. To keep the timber industry economically viable in the state of Washington.

1 Progress Report from TFW to the Forest Practices Board by Jane Lamensdorf-Bucher, TFW Administrator, August 12, 1998.

Initial Draft of Proposed Rules: This initial draft is a proposal to revise the forest practices rules to implement the forestry module. The draft rule frames the range of options for new state-wide forest practices rules:

Table with 2 columns: Current Forest Practice Rules and Initial Draft: Proposed Rules

These proposed rules are based largely on content of the current TFW negotiations that occurred from November 1997 to September 10, 1998<sup>2</sup>. The proposed rules are a starting point for the permanent rule adoption process while the five TFW caucuses finish negotiations and prepare rule recommendations. It is anticipated that if and when consensus is reached, the TFW rule recommendations will fall largely within the range of these alternatives.

2 The environmental caucus officially withdrew from the negotiations on September 10, 1998. The remaining five caucuses are continuing to negotiate the remaining issues.

An agency adopting administrative rules is required by the Regulatory Fairness Act (chapter 19.85 RCW) to analyze disproportionate impacts of the rules on small businesses. This small business economic impact statement (SBEIS) summarizes the analysis conducted in order to comply with the Regulatory Fairness Act requirements for a major component of the initial draft proposed rules, the riparian management zone requirements.

Rule Categories: The following categories of forest practices rules are expected to be included in the final forestry module proposal: Riparian protection for fish-bearing

and nonfish-bearing streams, SEPA guidance related to these rules, water typing, wetlands, Class IV-Special practice designations, roads, slope instability, pesticides, small landowner issues, enforcement, monitoring, adaptive management, and watershed analysis.

Summary of the Proposed Rules: The riparian management zone (RMZ) proposed rules include separate requirements for western and eastern Washington (WAC 222-30-020 (3), (4)<sup>3</sup>. The rules are summarized as follows:

3 For actual rule language including several different options, please see Proposed Forest Practices Rules for Implementing the Forestry Module, August 12, 1998, pp. 23-29.

In western Washington, RMZs include:

- One hundred foot wide no-harvest and no-ground-based-yarding-equipment zone along fish-bearing waters;
• Provision for an alternate plan proposal for harvest within the one hundred foot zone;
• Additional seventy-foot zone having a certain number of trees per acre (options of ten and forty are given).
• A fifty foot wide no-harvest and no-ground-based-yarding-equipment zone along nonfish-bearing perennial streams plus certain other requirements OR a 2/3 site potential tree height zone.
• A thirty foot no-ground-based-yarding-equipment zone along nonfish-bearing seasonal streams OR a 1/2 site potential tree height zone.

Because RMZ width requirements are still being negotiated, the following assumption has been made for this SBEIS: In western Washington, RMZ buffers are one hundred seventy feet along all Type 1-3 waters, and along Type 4 and 5 waters that [are] less or equal to 20% slope. This is likely to overestimate the acres taken up by riparian management zones, because not all streams contain fish up to 20% and because the one hundred seventy foot width does not take into account the fact that some management will take place particularly in the outer zone. Current RMZ rules require twenty-five to one hundred foot buffers along westside streams. No RMZs are required on nonfish-bearing streams under current rules unless required on a site-specific basis, i.e., for unstable slopes. The acres for the proposed rules and the existing rules were calculated and subtracted in order to determine the net impact of the proposed rules.

In eastern Washington, RMZs include:

- One hundred foot wide or a distance equal to a site potential tree height, whichever is greater, no-harvest and no-ground-based-yarding-equipment zone along fish-bearing waters;
• Provision for an alternate plan for harvest within the one hundred foot zone to address forest health and fire prevention;
• A fifty foot wide no-harvest and no-ground-based-yarding-equipment zone along nonfish-bearing perennial streams plus certain other requirements OR a 2/3 site potential tree height zone.
• A thirty foot no-ground-based-yarding-equipment zone along nonfish-bearing seasonal streams OR a 1/2 site potential tree height zone.

PROPOSED

Because RMZ width requirements are still being negotiated, the following assumption has been made for this SBEIS: In eastern Washington, buffers are one hundred feet along all Type 1-3 waters, and along Type 4 and 5 waters that are less or equal to 20% slope. This is likely to be an overestimate of the impacted acres because not all streams are fish bearing up to a 20% gradient and some management may occur within the one hundred feet. Current RMZ rules require thirty to three hundred foot buffers along eastside fish-bearing streams. No RMZs are required on nonfish-bearing streams under current rules unless required on a site-specific basis. Impacted acres were calculated for both proposed and current rules and subtracted in order to determine the net impact of the proposed rules.

**Earlier SBEIS for Proposed Water Type Rules:** The Forest Practices Board and ecology began the effort to adopt more effective forest practices rules in November 1996 when the water type emergency rule was adopted. The board accepted TFW's recommendation that the definitions used to determine water types reflect current knowledge about fish use and habitat. The water type emergency rule ensures that riparian rules are being applied to fish-bearing streams. The board and ecology proposed this same rule language as a permanent rule on June 18, 1997, and filed an SBEIS at the same time<sup>4</sup>. Certain parts of that study are included in this SBEIS. The Forestry Module proposed rules include a revised water typing system that provides additional protection to fish-bearing streams.

<sup>4</sup> Carruthers, C. 1997. Small Business Economic Impact Statement for the Proposed Forest Practices Rule Amendments on Water Typings. Hereafter referred to as the SBEIS on the Water Type Rules.

## Part 2: Regulatory Fairness Act (Chapter 19.85 RCW)

**Requirements:** The Regulatory Fairness Act requires preparation of an SBEIS for proposed rules affecting more than 10% of any one industry. An agency that is adopting administrative rules is required to analyze the compliance costs of the proposed rules. The SBEIS must compare the costs of compliance for small businesses with the costs of compliance for large businesses.

If there is a disproportionate economic impact on small businesses in comparison with large businesses, the act requires that the economic impacts be reduced or that the agency provide reasonable justification for not doing so. Mitigation measures must be both legal and feasible. The act says that to obtain information for the SBEIS, an agency may survey a sample of affected business. Whenever possible, a committee should be appointed under RCW 34.05.310(2) to assist in the accurate assessment of the costs of a proposed rule. (RCW 19.85.030, [19.85.]040).

This SBEIS has been prepared with the assistance of a committee representing concerned stakeholders.

For the Forest Practices Board and ecology's proposed rules, the relevant questions from the Regulatory Fairness Act are:

- What are the compliance costs for large and small forest businesses should they decide to harvest timber? and

- Do the proposed rules disproportionately impact small businesses as compared to large businesses?
- What legal and feasible measures are needed to mitigate disproportionate impacts on small businesses?

In order to conduct the SBEIS to fulfill the requirements of the Regulatory Fairness Act, we have made some basic assumptions and designed a two-phased analytical process.

**Two-Phased Analysis:** This SBEIS is the first phase of the economic analysis; it focuses on riparian protection requirements because existing data could be used to calculate buffer acreage. This could be analyzed within the limited amount of time available prior to the board and ecology formally proposing the rules.

It is anticipated that the Forest Practices Board and ecology will supplement the initial draft proposed rules with a more comprehensive proposal based on TFW's final negotiations. If TFW does not reach consensus or make a rule recommendation, then the board and ecology will move forward to prepare a supplemental rule proposal. At that time, the second phase of the SBEIS, a more comprehensive analysis of the proposed rules, will be prepared. Also during the course of the rule-making process, the board and ecology will prepare the cost-benefit analysis required for significant legislative rules (RCW 34.05.328).

The study design of the SBEIS is consistent for both phases. The limited time window to file the proposed rules also makes it difficult to conduct an empirical analysis in Phase 1. However, in Phase 2, the SBEIS will analyze a revised version of the proposed rules and use empirical methods in the economic analysis. While we don't expect any significant changes in the conclusions of the analysis between the two phases, the accuracy and reliability of the analytical results will be significantly improved. The key differences of these two phases are outlined as following:

### Phase 1:

- Focuses on riparian protection requirements.
- Uses GIS data at the aggregate level.
- Uses analytical data derived from the SBEIS on the Water Type Rules.

### Phase 2:

- Will include other protection requirements in the revised version of the proposed rule.
- Will use GIS data at a detailed level.
- Will use individual ownership data that has been newly gathered from county records for the sample analysis to identify small businesses.
- Will base most of the analyses on empirical data and first-hand information.

**Potentially Affected Industries:** 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). 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. SIC code 0811, "Timber Tracts," identifies some large and small forest businesses, but it only contains about one hundred fifty names and therefore does not provide adequate representation for these groups.

All forest landowners and businesses holding timber cutting rights are required to be in compliance with the proposed forest practices rules if their forest parcels contain any type of water defined by the rules. These landowners, timber rights holders or other land-based businesses represent different industries. Many of them are not registered as business owners although this does not exclude them from doing business or investing in land assets. They may also register for future businesses when timber and other commodities pertaining to land become commercially available. Therefore, these businesses are the rule complying community. The industries they represent are affected industries. The affected industries are identified in *Appendix 1*.

**Small Businesses Versus Large Businesses:** The Regulatory Fairness Act defines a "small business" as one that has fifty or fewer employees. The analysis of Phase 1 this SBEIS is based on data in the water type SBEIS which states:

"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: 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 companies. In forestry, individuals who own forested land may not act like a "business" until they harvest 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."<sup>5</sup>

<sup>5</sup> Carruthers, op. cit., p. 6.

Although a few small forest businesses have large landholdings, the vast majority of small businesses have very small landholdings. The average landholding for small forest businesses for Washington and Oregon is about eighty-three acres.<sup>6</sup> A 1994 United States Forest Service study estimated that one hundred landowners have ownerships greater than 5,000 acres, and their combined holdings equal about 65% of the acreage.<sup>7</sup> These landowners account for only 0.25% of the total nonindustrial private forest (NIPF) landowners. The same survey revealed that there are approximately 1,000 landowners with ownerships greater than 500 acres. There are approximately 15,000 landowners with ownerships greater than fifty acres. Finally, there are approximately 76,000 landowners with ownership less than fifty acres. Most of the landowners targeted are the landowners with more than fifty acres, but less than 5,000 acres. In Phase 2, small businesses will be identified and grouped based on data gathered from the county records.

<sup>6</sup> Johnson, R., R. Alig, E. Moore, and R. Johnson. 1997. NIPF Landowners, View of Regulation. *Journal of Forestry*, January 1997: 23-28.

<sup>7</sup> Birch, T.W. 1996. Private forest-land owners of the United States, 1994. USDA Forest Service Resource Bulletin NE-Review Draft: Data Tables: west.

The 10% largest businesses are likely to be those integrated forest product firms and they will be identified in Phase 2. In Phase 1, the regulatory impact on the 10% largest industrial businesses is estimated by adjusting the average industrial impacts using derived data from the SBEIS on the water type rules.

**Compliance Costs for Businesses:** Given the requirements for riparian management zones in the proposed rules, forest businesses would incur costs for complying with the rules when they decide to harvest their timber or sell their land assets because they would have to leave wider buffers along fish-bearing and nonfish-bearing streams. Such costs could be a loss in revenue, a loss in asset, or higher operation costs. In addition, these costs might trigger some other financial difficulties for small business owners and expose them to higher business risks. Even if the land is currently used for recreation or other nontimber uses, the business opportunities for the assets are reduced due to the regulatory constraints. The fair market values of these assets are lower although these paper losses may not be realized in the long term. Whether the regulatory impact is a real loss or a paper loss depends on the management goals, processes and decisions of the businesses. A recent survey shows that businesses' management decisions are significantly affected by expected regulations.<sup>8</sup>

<sup>8</sup> Johnson, R., R. Alig, E. Moore, and R. Johnson. 1997. NIPF Landowners' View of Regulation. *Journal of Forestry*, January 1997: 23-28.

Since forest related assets have a long management cycle, the regulatory impacts will take place over a long period. The present value of loss in asset is used as an indicator for regulatory impacts. In other words, the regulatory impacts are the difference between today's market value of a land asset with the proposed rules and today's market value without the proposed regulation. The basic assumption is that all businesses reserve the rights for best use no matter what their current uses are. This gives a maximum estimation of regulatory impact. We have also estimated the probabilities of small businesses being impacted during a certain period.<sup>9</sup>

<sup>9</sup> See Appendix 7 and Exhibit 4 for details.

**Involvement of Concerned Stakeholders:** The Regulatory Fairness Act requires the SBEIS to include a description of how the agency will involve small businesses in the development of the rule. While TFW negotiations have not been held in a public forum, key stakeholders have participated in the process. Also, the Forest Practices Board has received regular status reports at its public meetings, which include opportunities for public comment.<sup>10</sup> The board and ecology conducted the thirty-day review required by the Forest Practices Act from August 14 to September 14, 1998, and more than thirty-five written comments were received.

<sup>10</sup> November 12, 1997, February 11, 1998, April 2, 1998, May 13, 1998, and August 12, 1998. All meetings were held in Olympia, Washington. Some were broadcast statewide on TV Washington.

### Part 3: Economic Impacts on Small and Large Businesses

The process of the economic assessment includes three steps:

1. Determine if the preparation of an SBEIS is needed to meet the requirements of the Regulatory Fairness Act.

2. If the SBEIS is needed, then determine if there is a disproportionate economic impact on small businesses as a group in comparison with the top 10% of the large businesses. This will help determine if mitigation is needed.

3. If the proposed rule has disproportionate impact on small businesses and mitigation is required, then identify the distributional impacts and probabilities of being impacted among the small businesses with different sizes and management objectives to provide information for the design of appropriate mitigation measures.

#### Study Design:

**Empirical Approach Versus Survey Approach:** Two major categories of studies may be used for conducting an SBEIS assessment: The survey approach or empirical approach. A survey approach can include a broad dimension and usually has a quick result. But certain biases may affect the accuracy, validity and reliability of the results. Empirical studies need more detailed data and information and provide more accurate, valid and reliable results. But the empirical approach is usually time consuming and needs more resources. It also heavily depends on data quality. This study primarily uses the empirical approach while incorporating some insights from recent surveys and studies.

**Sampling:** The primary impact of the proposed rules on businesses is riparian buffers and buffer related land use constraints. There are three major factors that determine the intensity of the impact:

- Stream density
- Land location
- Size of landholding
- Stand condition and age class distribution

The sample elements should reflect the above factors. The ideal sample elements would be individual business owners required to comply with the rules. Stratified sampling design should be used for ownership groups with different sized landholdings. However, such individual ownership identities for small business groups are not available from the existing GIS database. To best identify the characteristics of individual businesses under the constraints of our available resources, we randomly selected samples of one square mile sections from private forest lands. The samples were collected separately for eastern Washington and western Washington since the proposed rules are different for these two geographical areas. The sample units and the process of randomization ensure that the characteristics of stream density and land location are well represented. The average impacts of large businesses and small businesses should be well represented by such a design.<sup>11</sup>

<sup>11</sup> See Appendix 3 about determination of sample sizes.

The samples will be further processed to identify individual ownerships by manually checking county records in Phase 2. These individual businesses will be identified and impacts of the proposed rules will be assessed through photo interpretation, map analysis and value assessment. The data obtained will be used to analyze the distribution of regulatory impacts among small businesses with landholdings of different size.

The sampling is designed to capture the impact of large industry businesses as a group. It is not intended to capture the distribution of regulatory impacts among large industrial businesses because no mitigation measures, which might need information about distribution of regulatory impacts, are required by law for large businesses. In Phase 1, the regulatory impacts for the 10% largest industry businesses are estimated by adjusting the average industry impacts using derived data from the SBEIS on the water type rules. In Phase 2, the 10% largest industrial businesses will be identified and the regulatory impacts on them will be estimated.

**Data:** A complete list of data, process of preparation, and map and photo interpretation will be listed as appendix in Phase 2.

**Determining the Need for an SBEIS:** According to the Regulatory Fairness Act, an SBEIS is required if the proposed rules affect 20% of all industries or more than 10% of any one of the affected industries. The potentially affected industries are listed in Appendix 1. For the industry "Timber Tracts" (SIC code 0811), as long as any type of water as defined in the rule is present on the land, the business owners will be required to comply with the proposed rule. We estimated that 57% of the NIPF lands will be affected by the proposed rule.<sup>12</sup> Since all large businesses will be affected by the proposed rules, given the natural density of Type 1 to 5 streams, it is certain that far more than 10% [of] business in the industry will be affected by the proposed rules, although some small businesses may not be affected at all due to the size of their landholding.<sup>13</sup>

<sup>12</sup> Appendix 4 provides an estimate of impacted acreage which is 57% of the total sampled acreage.

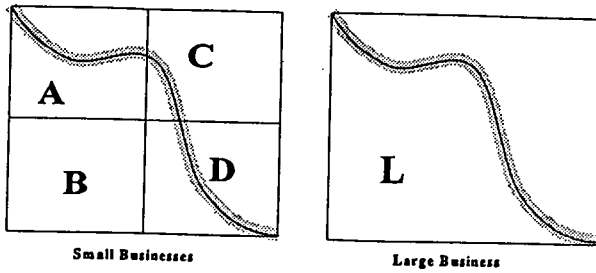
<sup>13</sup> The percentage of affected businesses will be determined after identifying ownerships in the samples in Phase 2.

#### Identifying Disproportionate Impacts:

**Primary Sources of Disproportionate Impacts:** Due to the differences in geographic/physical features of landholdings and differences in management and finance between large and small businesses, the proposed rules could have a disproportionate impact on small businesses.

Disproportional impacts result primarily from a combination of factors such as stream density, and location and size of landholding. Other factors such as financial status of the owners and economy of scale also contribute to the disproportionate impacts on small businesses.

**1. Disproportionate Share in Buffer:** Unlike large industrial businesses, some small forest businesses may not be affected by the proposed rules while others may share more skewed impacts from the rules. Due to the small size of landholdings, a parcel may be located between streams and not be impacted by the proposed rules. In other words, there is a disproportionate impact among the small businesses. As Exhibit 1 shows, the small business B is not impacted because no stream runs across this parcel. While other small businesses (A, C and D) have a relatively larger percentage of buffer in their parcels (shaded area) compared to the large land owner (L). These small businesses are likely to be impacted more severely compared to their larger counterparts. For the same reason, the impacts of economically inaccessible acres due to buffer requirement are also skewed for small businesses.

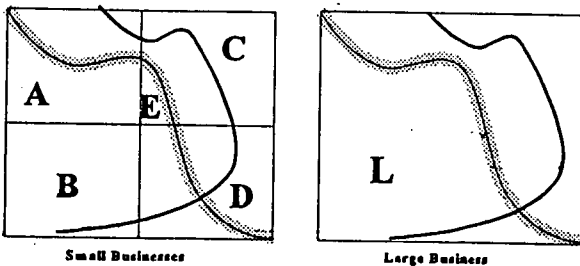


**Exhibit 1: Distributional Impacts: Small versus large business.**

The same buffer area will be required by the rules. Three small businesses will have the same number of acres in buffer as the large business. However, since small business B is not impacted, the percentage of acres in buffer for the other three small businesses will be higher than that of the large business.

**2. Economic Inaccessibility:** Another primary source of disproportionate impact of the proposed rules on small businesses is economic inaccessibility. The required buffers will make some of forest acres economically inaccessible because of fragmentation caused by buffers. This impact is likely to take place on small forest parcels.

Exhibit 2 illustrates a hypothetical example of economical inaccessibility. A portion of the parcel C is physically separated by the buffer area (area E). Obviously, small parcels are more likely to be separated by the buffer and the part separated by the buffer might become inaccessible economically due to the small size. Depending on the cost of crossing the buffer, part or all of the value of land area E will no longer be available to the business.



**Exhibit 2: Disproportionate Impacts: Lack of economic accessibility.**

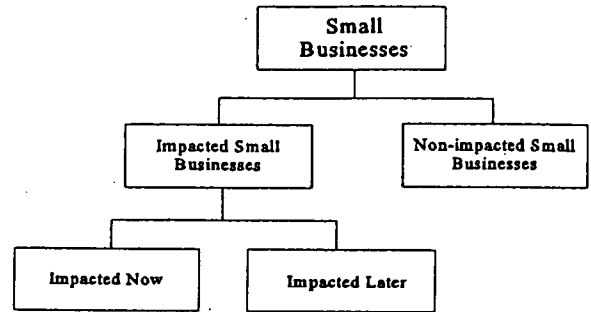
A buffer area can cut part of a forest off from the road. If the value of the timber in the separated area is too low to cover the cost of appropriate stream crossing, the acres become economically inaccessible. In this hypothetical example, the black line is the road, gray area is the buffer. Small business C's forestland is cut off by the buffer and acres in area E may become economically inaccessible. This is not the case for the large business to the scale of economy.

**Estimating Disproportionate Impacts:**

**1. Estimated Small Businesses Who Are Not Impacted:** All forest businesses are required to comply with forest practices rules.<sup>14</sup> As Exhibit 3 shows, some small businesses will not be impacted by the proposed rule at all while others may share disproportionate impacts. For those who are impacted by the rules, some of them will be impacted when the rules become effective while others may not be impacted for a long term if they decide not to harvest timber. The best way to do

this is to identify ownerships of each individual parcel in the samples and exclude those parcels without streams. This will be done in Phase 2. In Phase 1, information from samples and derived information from the SBEIS on the water type rules are used to estimate the portion of NIPF land that is not subject to the proposed rules. We estimated that about 47% of small businesses are not impacted by the proposed rules because no streams run through their land parcels. Appendix 4 provides a detailed procedure and the results of estimation. The estimated result will be revised as we obtain data from county records in Phase 2.

<sup>14</sup> Forest practices permits are not required for those landowners whose acreage is equal to or less than two acres.



**Exhibit 3: Regulatory Impacts on Small Businesses.**

**2. Acres in Buffers:** One of the primary disproportionate impacts of the proposed rules is the percentage of acres in buffers. Appendix 5 lists the riparian management zone (RMZ or buffers) requirements in the proposed rules for private forest lands for both western Washington and eastern Washington respectively. Since the requirements are different between the two geographical areas, the sampling procedures were performed separately and the results are summarized for eastside and westside.<sup>15</sup> The acres in buffers by ownership group have been estimated by regions. The data is obtained from GIS sampling. The total forest acres of impacted small businesses have been adjusted by excluding the acres of small businesses who are not impacted by the proposed rules. The total acres in buffers of the 10% largest businesses was estimated based on the adjustment of the sample data for the industry. Appendix 5 provides the detailed information about the estimating procedure and estimated results.

<sup>15</sup> Appendix 3 provides the details, see Exhibit A3-2.

**3. Estimating Economically Inaccessible Acres:** To determine economically inaccessible acres requires GIS analysis and identifying ownership of individual parcels through collecting county tax records.<sup>16</sup> To get a reasonable estimate of the number of economically inaccessible acres in Phase 1, we have made an inference from the data collected from the new samples and derived data from the SBEIS on the Water Type Rules. The estimating procedure and estimated results are described in Appendix 6.

<sup>16</sup> Inaccessible acres will be determined based on county tax records and interpretation of GIS samples in Phase 2 of this SBEIS.

**4. Findings: Disproportionate Impacts:** Disproportionate impacts for small businesses have been identified and Exhibit 4 provides a summary of the results about the find-

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ings. These results will be further refined in Phase 2 as we obtain more detailed data about each individual owner. The impacted acres will be further interpreted for their potentials for commodities and evaluated for their market values. The final regulatory impacts will be expressed as losses in assets although we use acreage as a proxy for assets in Phase 1.

The findings suggest that mitigation measures are needed for the proposed rules because disproportionate impacts of the proposed rules have been identified and small businesses have a higher burden in complying with the rules compared to the 10% largest counterparts.

**Exhibit 4: Disproportionate Impacts of the Forestry Module Proposed Rules.**

Impacts	10% Largest Industrial Businesses		Impacted Small Businesses	
	Acres	%	Acres	%
Acres in Buffers	504.8	13.98	3,546	17.97
Inaccessible Acres	26	0.72	591	2.99
Total Impacted Acres	529.8	14.70	4,137	20.96
Total Acres in Sample	3,604.2	100	19,736	100

Estimating Net Impacts of the Proposed Forestry Module Rules:

1. *Impacts of the Existing Forest Practices Rules:* The major impacts of the existing rules include the requirements for buffers and the inaccessible acres caused by buffers. The requirements of buffers of the existing rules for private forest lands are different for both western Washington and eastern Washington.<sup>17</sup> The separated GIS samples were used to estimate the impacts of acres in buffers of the existing forest practices rules by region. The results are summarized by regions and given in Exhibit 5.

<sup>17</sup> Washington Forest Practices Board. 1995. Washington Forest Practices. Department of Natural Resources, Olympia, Washington.

We have used the same procedure to estimate the acres in buffers by ownership group for both the proposed forestry module rules and the existing forest practice rules. While the wider buffers will substantially increase the acres in buffer areas, which implies that more timber in these areas is not harvestable, the assumption for estimating economically inaccessible acres has little change with the proposed rules. The geographic distribution of streams and the ownership boundaries are major factors that determine the inaccessibility of forest acres. While the wider buffers may increase some costs of accessing the acres separated by the buffers, such costs are not substantial compared to the losses of timber values due cut-off by buffers. Therefore, we assume that the wider buffer requires higher costs to build bridges and roads, compared to the medium costs for the existing rules.

**Exhibit 5: Impacts of the Existing Forest Practices Rules.**

Regions	Impacts	Acres*	
		10% Largest Industrial Businesses	Impacted Small Businesses
Acres in Buffers	Eastern Washington	4.0	156
	Western Washington	83.6	498
	Total	87.6	654
Inaccessible Acres**	Eastern Washington	0	202
	Western Washington	19.2	224
	Total	19.2	426
Total Impacted Acres		106.8	1,080
Total Forest Acres		3,604.2	17,647
Percent of Acres Impacted		2.96%	6.12%
*The acreage numbers reflect the 94 samples of private forest lands in western Washington and 73 samples in eastern Washington.			
** Assume that the business will choose the option that creates the smallest loss. If the value of timber is greater than the cost of building a stream crossing, the business will opt to harvest the timber. Thus, the cost of stream crossing is the maximum loss. A medium stream crossing cost of \$15,000 is used for the existing forest practice rules.			

2. *Net Impacts of the Forestry Module Proposed Rules:* Exhibit 6 provides an estimate of the net impact of the proposed rules over the existing rules.

**Exhibit 6: Net Impacts of the Proposed Forestry Module Rules.**

	Impacted Land Assets	
	% Largest Industrial Businesses	Impacted Small Businesses
Forestry Module Rules (Proposed)	14.70%	20.96%
Forest Practice Rules (Existing)	2.96%	6.12%
Percent of Impacted Acres	11.74%	14.84%

**Assessing Distribution of Disproportional Impacts: The Size of Landholdings and Ownership Objectives:** While the average impact of the proposed rule on small businesses is that about 21% of their lands will be constrained for business activities such as timber harvest. The distribution of the regulatory impact is very different among groups of small businesses with different sizes of landholdings and land-use objectives.



The size of landholdings are [is] also correlated to land use objectives. The objectives of land use for small businesses are very different. Some primarily use land for recreation and some use land for producing commodities such as timber. Also, some others use land as an asset class for investment. Due to multiple functions of forestlands, many businesses have multiple and dynamic objectives for their lands from time to time.

The different objectives and sizes of landholdings affect factors of management decisions and the response to business environment such as regulations. Whether or when a small business is impacted by the proposed rules is dependent upon their decisions on land use and the size of their landholdings (Exhibit 7). In general, smaller businesses are more likely to be a land user with recreation as the objective, while larger businesses tend to be timber producers and tree farmers. But many businesses have multiple objectives of land use.

**Exhibit 7: Small Business Management Objectives and Average Sizes of Landholdings.**

Management Objectives	Percent in Small Businesses*(%)	Average Landholdings* (Acres)
Timber	19.52	110
Multiple Objectives	40.13	101
Recreation	24.51	55.2
Other	15.84	37.8
<b>Weighted Average Acreage</b>		<b>81.6</b>

*Data Source: Kline J. And R. Johnson. 1998. U.S. Forest Service, PNW Research Station, Forestry Sciences Laboratory.*  
 \*The results reflect results from 461 survey respondents.

**Distributional Impacts:** Forestland has a long term management cycle, and the average rotation for NIPF forestland is about 50 - 60 years.<sup>18</sup> Whether timber is matured by a cer-

tain year is dependent on rotation, age distribution and size of landholding. Therefore, given the rotation and age distribution, the size of landholding will be a primary factor in making decisions about timber harvest. The larger the landholding, the more consistently forest harvest will take place somewhere on the ownership. Consequently, larger NIPF businesses are impacted by the proposed rules more consistently. On the other hand, the smaller the land parcel, the higher the percentage of land that will be impacted by the rules, although they are impacted less frequently.<sup>19</sup> Exhibit 8 describes the general data and trends of the distributional impacts among small forest businesses with different sizes of landholding.

<sup>18</sup> Lippke, B. And B. Bare. 1997. Viability of the Non-industrial Private Forestry Sector in Washington State.

<sup>19</sup> See Appendix 7 for details about the estimation of distribution impacts among NIPF small businesses.

The disproportionate impacts of the proposed rules on small businesses can vary greatly. While the regulatory constraints impact a larger percentage of land for businesses with smaller parcels, it is less intensive in terms of frequency. Businesses with smaller parcels or nontimber objectives may be less likely to be impacted by the proposed rules for the long term if they never decide to harvest timber. This is often the case. However, when they are impacted by the rule, the impact is more intensive. Therefore, the responses to regulation can be different due to the difference in size of landholding and management objectives. Smallest businesses tend to be less sensitive to the regulations.<sup>20</sup> This reflects the fact that these businesses are more recreation-oriented and are less likely to be impacted due to the smaller size of their landholdings.

<sup>20</sup> See Lippke's analysis of Johnson et. al. survey (1997) in Lippke, B. And B. Bare. 1997. Viability of the Non-industrial Private Forestry Sector in Washington State.

**Exhibit 8: Distributional Impacts Among Small Businesses by Size of Landholding.**

Size of Landholding (acres)	Number of Small Businesses (%)	Percent of Acreage in NIPF	Regulatory Impacts* (%)	Probability of Being Impacted in**		
				10 Years	50 Years	
Small Business	0-5	29.09%	1.96%	74.31%	20.00%***	74.31%
	6-20	37.27%	8.20%	55.66%	47.83%	96.14%
	21-40	15.45%	8.57%	27.96%	40.83%	92.75%
	41-160	12.73%	24.71%	21.80%	79.28%	99.96%
	>160	5.45%	64.24%	15.17%	98.52%	100.00%
<b>10% Largest Industry Businesses</b>		N/A	N/A	14.70%	100.00%	100.00%

\*Percentage of land that is constrained for business activities such as harvest by the proposed rules.

\*\*Regulatory impacts may not be realized until the businesses decide to harvest timber or sell their lands. These numbers are the probabilities that these businesses will harvest or sell their timber in 10 or 50 years.

\*\*\*The probability of mature forest at any 10 year period is 0.2 which is the probability of being impacted in this period for this group.

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Management goals are also an important factor to interpret the impact of the proposed rules on small businesses. A recent survey for small forestry businesses in western Washington and Oregon revealed an interesting fact. When asked how much incentive should be paid for improving wildlife habitat, on average, respondents classified as timber producers demand the greatest incentive payment (\$120 per acre per year) followed by respondents classified as multiobjective owners (\$107).<sup>21</sup> Businesses with recreation objectives and other nontimber objectives demand the least incentive payment (\$69 and \$66 respectively).

<sup>21</sup> Kline J. And R. Johnson. 1998. U.S. Forest Service, PNW Research Station, Forestry Sciences Laboratory.

#### Part 4: Mitigation Measures

If a rule has a disproportionate impact, mitigation is required. The mitigation must be legal and feasible in meeting the objectives of the statutes on which the rule is based.

Small landowner landscape plans may be a viable alternative for obtaining more value from the buffers while not impacting the functions being protected. One such option may be committing to a longer rotation for timber harvest so that certain important riparian functions are more likely to [be] provided. These plans could have an emergency exit clause that would allow the small business to deal with family emergencies (such as estate taxes), as long as the longer term of the plan is still valid.

The current rules already provide for some reduction of compliance costs. First, a further exemption is provided if a structure is on the parcel and trees are within 1.5 tree lengths of the structure. These tree[s] are exempt from the rule for safety reasons. Additionally, timber harvests on parcels under two acres do not require forest practices permits.

Exempting small businesses from part or all regulatory requirements is not feasible for these rules because, unlike the owl or murrelet rules recently adopted by the board, all businesses that have streams would be impacted at the time they choose to harvest or sell their property. The small number of small businesses impacted by the owl or murrelet rules justified an exemption from those rules.

Since mitigation measures must be both legal and feasible, they must fit within the authority of the Forest Practices Board and ecology. A system of alternative plans for small businesses is an example. Compensation for small businesses has been discussed in the negotiations, but the Forest Practices Board does not have authority for compensation. This type of mitigation would need approval from the legislature.

#### Part 5: Conclusions

The SBEIS analysis has been conducted to comply with the Regulatory Fairness Act requirement for the proposed forest practice rules.

1. The proposed rules will cause a disproportionate impact on small businesses. The average impact for small forestry businesses is about 42% higher than that of 10% of largest industrial businesses.

2. The impacts among small businesses are very different. While the impacts on a few largest NIPF businesses are

close to that of the 10% largest industrial businesses, most of the small businesses have a higher percentage of their land which is constrained for harvest by the proposed rules. The percentage increases as the size of landholding decreases.

3. Although the smaller parcels have the higher percentage of land in buffers, which implies potential loss in assets, the businesses of these parcels are less likely to harvest timber on their lands because

- More businesses in this group have recreation-related objectives which imply giving up or delaying timber harvest.
- It is not economically feasible to harvest a smaller parcel frequently.

Therefore, it may take a long time for these small businesses to realize the losses in their assets.

4. Small forestry businesses with timber producing objectives are most likely to be affected by the proposed rules. They will be impacted in both the short term and long term.

5. While smallest or recreational businesses might be less impacted by the proposed rules in the near term, they will be impacted in the long term if they decide to propose a forest practice operation or sell their property.

6. Legal and feasible measures are to be developed to mitigate disproportionate impacts or reduce compliance costs.

#### Part 6: Public Comment Opportunities

The Forest Practices Board and the Department of Ecology are conducting a full public review of the proposed rules as required by the Administrative Procedure Act (APA) (chapter 34.05 RCW). Joint public hearings that meet APA as well as the State Environmental Policy Act (SEPA) requirements will be held statewide. Hearing dates and locations will be announced with the publication of the draft environmental impact statement. To be notified about hearings, send your name and mailing address to the board at the address listed below.

In the interim, the board takes public comment at each of its meetings which are usually held at the Natural Resources Building, 1111 Washington Street S.E., Olympia. Upcoming regular quarterly meeting dates are: November 10, 1998; February 10, 1999; May 12, 1999; August 11, 1999; and November 10, 1999.

Written comments on the proposed rules may be sent to the board and ecology c/o: Judith Holter, FPB 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 forest.practices-board@wadnr.gov.

The anticipated adoption date for these rules has not yet been set.

Appendix 1: Potentially Affected Industries

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

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

Appendix 2: Small Businesses and NIPF Landowners

In Phase 1, NIPF landowners are assumed to be small businesses. Those NIPF businesses with two or less acres are excluded because they are not required to apply for a forest practices permit. In addition, most of these smallest businesses are residential or recreational users rather than business owners. Some small businesses do not have a UBI (universal business identification). But this does not exclude them from doing business in the future when timber is mature.

Although a few small businesses have large landholdings, the vast majority of NIPF businesses have very small landholdings. The average landholding for small forestry businesses for Washington and Oregon is about eighty-three acres.<sup>22</sup> Given the total acres of NIPF lands, we estimated that there are about 54,000 businesses in Washington. The Washington Farm Forestry Association estimates that there are about 30,000 small landowners in Washington.<sup>23</sup> The USDA Forest Service 1994 study estimated that there are about 76,000 landowners who own from one to forty-nine acre parcels. Exhibit A2-1 shows the distribution of these businesses by size of landholding from two hundred thirteen sample data in the SBEIS on the Water Type Rule.

<sup>22</sup> Johnson, R., R. Alig, E. Moore, and R. Johnson. 1997. NIPF Landowners, View of Regulation. Journal of Forestry, January 1997: 23-28.

<sup>23</sup> Personal Communication with Nels Hanson, WFFA.

Exhibit A2-1: Small Business Distribution by Size of Landholding.<sup>24</sup>

Size of Landholding (Acres)	Percent of Businesses	Percent of Landholding
5	29.09%	1.96%
20	37.27%	8.20%
40	15.45%	8.57%

160	12.73%	24.71%
>160	5.45%	64.24%

<sup>24</sup> Data source: Carruthers, C. 1997. Small Business Economic Impact Statement for the proposed Forest Practices Rule Amendments on Water Typing. This table will be recalculated based on new sample data from county records in Phase 2.

A 1994 U.S. Forest Service study estimates that about one hundred landowners have more [than] 5,000 acres and their combined holdings equal about 65% of the total NIPF acreage. Our data shows that for the larger "small" businesses, the regulatory impact on them is close to large businesses.<sup>25</sup> Given a fifty year rotation and \$10,000 income per acre from harvesting mature timber, about one hundred acres are harvestable annually, and revenue from the harvest is about \$1 million. Considering the seasonality of forestry, some of these large businesses (>5,000 acres) are likely to hire 50 or more permanent and seasonal employees, and should be identified and excluded from the small business group. However, since their ownership boundaries are not identifiable in the GIS database, our sample element, although large enough (six hundred forty acres) to well represent the land-based small businesses, did not exclude a few large NIPF businesses. Therefore, the group average impact of small businesses might be understated in Phase 1. The small businesses will be grouped after individual ownerships are identified in Phase 2. In Phase 1, NIPF businesses are assumed to be small businesses.

<sup>25</sup> See Exhibit 6 of the main document.

Appendix 3: Determine Sample Sizes for SBEIS

Since the proposed rules have different requirements for private forest lands in western and eastern Washington, and the ownership compositions are also different in the two geographic regions, sample size determination is performed for both western and eastern Washington separately. Samples

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will be analyzed separately for the two areas and the total economic impacts will be pooled to determine if disproportional impacts exist for small businesses.

#### 1. Statistical Procedure to Determine Sample Sizes

Population for samplings is all private forest lands in Washington. These lands are regulated by the proposed rule. What we are interested in is the difference in regulatory impacts between large and small businesses.

Suppose that

$\pi_s$  = The proportion of assets of small business owners that will be lost due to the proposed rule

$\pi_L$  = The proportion of assets of large business owners that will be lost due to the proposed rule

$\pi_s - \pi_L$  = True disproportional economic impacts on small businesses

$P_s$  = The estimated proportion of assets of small business owners that will be lost due to the proposed rule

$P_L$  = The estimated proportion of assets of large business owners that will be lost due to the proposed rule

$P_s - P_L$  = The estimated disproportional economic impacts on small businesses

Assume that no disproportional economic impacts exist on small business owners, then

$$H_0 = \pi_s - \pi_L = 0$$

We can test for equality of  $\pi_s$  and  $\pi_L$  with a test statistic given by the difference of  $P_s - P_L$  in sample proportions divided by an estimated standard error. The variance of  $P_s - P_L$  is

$$\sigma^2 = [\pi_s (1 - \pi_s)/A_s * n] + [\pi_L (1 - \pi_L)/A_L * n]$$

Where:

$n$  = sample size

$A_s$  = Asset proportion of small land owners

$A_L$  = Asset proportion of large industrial land owners

$Z = [(P_s - P_L) - (\pi_s - \pi_L)]/\sigma$  has approximately a normal distribution.

Then,  $Z_{\alpha/2} = 1.96 \leq \text{Prob}[P_s - P_L]/\sigma > = Z_{\alpha/2} = 1.96$  ( $\alpha = 0.05$ ) will give a 95% confidence level.

Then we can solve above equation for sample size  $n$ .

#### 2. Sample Sizes

We used information from the SBEIS for the water type rules as a base to determine  $P_s$  and  $P_L$ . Considering the proposed rules include water types 1 to 5,  $P_s$  and  $P_L$  will be much larger. We assume that  $P_s$  and  $P_L$  are twice as large as those of the water type rules. As a result, we have

$$P_s = 20\% \text{ and } P_L = 5.5\%$$

Given the asset proportion for both large and small land owners ( $A_s$  and  $A_L$ ), we can estimate sample size  $n$ .

Based on DNR's GIS database and using forestland acreage as a proxy asset indicator, then we have

$$A_s = 0.37 \text{ and } A_L = 0.73$$

The sample size  $n$  is estimated to be ninety-four for western Washington. In other words, ninety-four one square mile sections were selected from private forest lands in western Washington based on the random sampling procedure.

DNR's GIS database contains no ownership information for private forest lands in eastern Washington. United States

Forest Service FIA database ownership information<sup>26</sup> is used to determine sample size in eastern Washington.

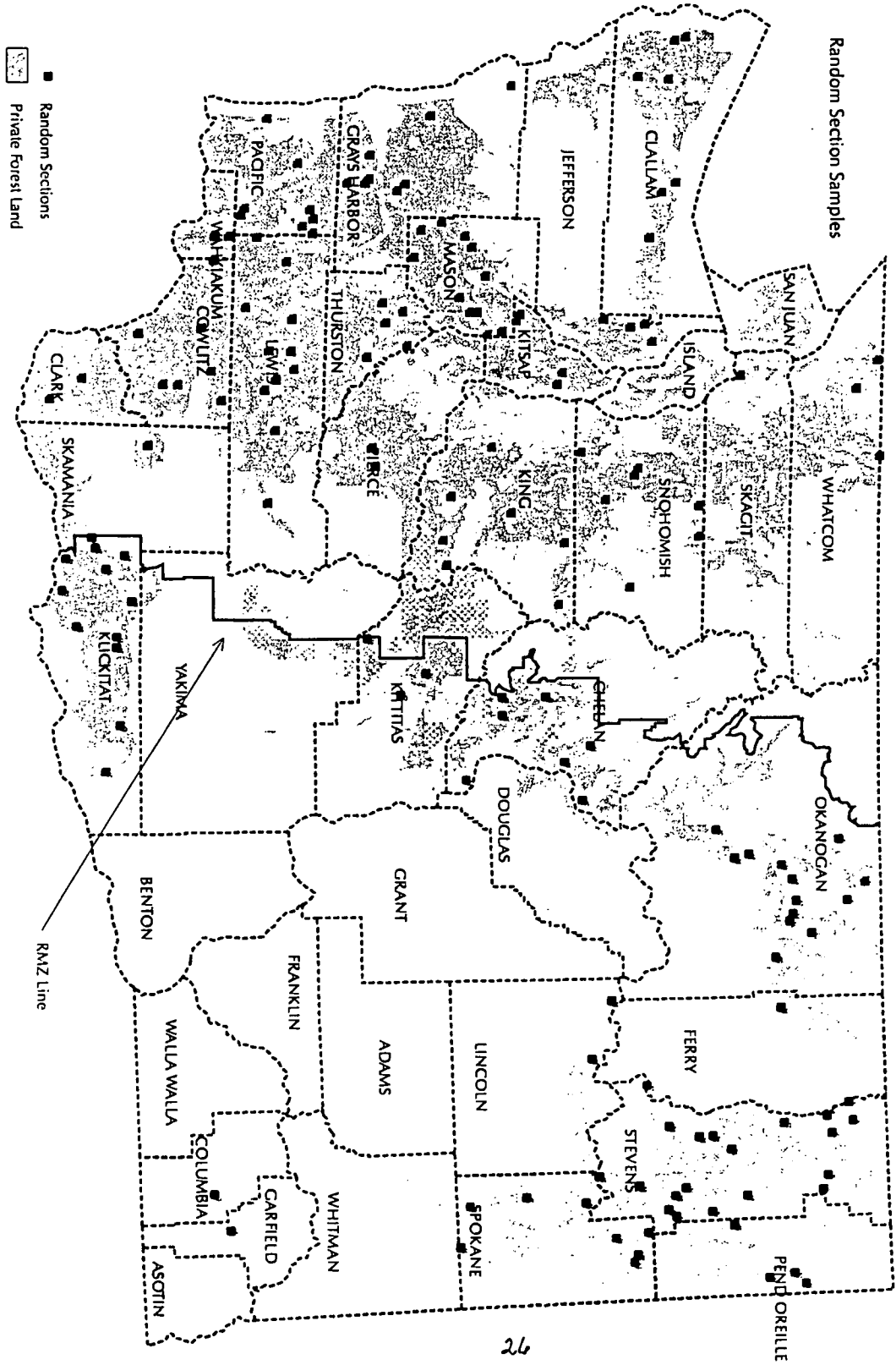
<sup>26</sup> Bolsinger et al, 1997. Washington's Public and Private Forests. U.S. Forest Service. PNW-RB-218.

We have

$$A_s = 0.73 \text{ and } A_L = 0.27$$

The sample size is estimated to be seventy-three for eastern Washington. In other words, seventy-three one square mile sections were selected from private forest lands in eastern Washington based on the random sampling procedure. Exhibit A3-1 shows the geographic locations of randomized samples.

Exhibit A3-1: Locations of Randomized Samples



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3. Summary of Samples

Exhibit A3-2 provides a summary of samples related to the population.

Exhibit A3-2: Summary of the samples\*.

Each sample element contain 1 square mile or 640 acres of forest lands	Samples	Sampled Private Forest Lands (acres)	
		Industrial Businesses	All Small Businesses
Eastern Washington	73	7,279	19,680
Western Washington	94	28,763	14,452
All Washington State	167	36,042	34,132
Percent of Sample in Population	0.75%		
*The acreage numbers reflect the 94 samples of private forestlands in western Washington and 73 samples in eastern Washington. Nonforest land is excluded. The designed confidence level is 95%. Nonforestlands are excluded from the samples.			

Appendix 4: Estimating Impacted Small Businesses

The population to which the samples apply includes all private forest lands. Since some businesses will not be affected by the proposed rules because no streams run through their lands, we need to exclude the acres owned by these businesses. The best way to do this is to identify ownerships of each individual parcel in the samples and exclude those parcels with no streams. Since it is impossible to obtain the ownership information before the anticipated filing of the proposed rules, the following procedure is used in Phase 1 to estimate the total acreage of small forestry businesses who are not impacted by the proposed rules.<sup>27</sup>

<sup>27</sup> The total acreage of small businesses who are not impacted by the proposed rules will be determined based on county tax records and interpretation of GIS samples in Phase 2 of this SBEIS.

Assume that there is not skewed distribution of streams across all land ownerships and the higher percentage of acres in buffers for impacted small forestry businesses is due to ownership boundaries. Suppose *x* acres are owned by businesses who are not impacted by the rules. We have

$$[B_{NIPF}/(A_{NIPF} - X)]/[B_{IND}/A_{IND}] = P_{NIPF}/P_{IND} = R$$

Where:

- B<sub>NIPF</sub> = Total acres in buffers of small businesses who are impacted by the rules
- A<sub>NIPF</sub> = Total acres of small businesses
- B<sub>IND</sub> = Total acres in buffers of industrial businesses
- A<sub>IND</sub> = Total acres of industrial businesses
- P<sub>NIPF</sub> = Percentage of lands in buffers of impacted small businesses

P<sub>IND</sub> = Percentage of lands in buffers of industrial businesses

R = Ratio of relative impact—Impacted small businesses versus industrial businesses

Data about acres in buffers and total acres by ownership groups have been obtained from the GIS samples for the proposed rules. The ratio of relative impact between ownership groups was derived from the data of the SBEIS on the water type rules. The percentage of acres in buffers for those impacted small businesses is 1.11 times of the percentage of those industrial businesses. This indicates the ratio of relative impact of impacted small businesses versus industrial businesses is 1.11 or 111%.

The total acreage of lands owned by the small businesses who are impacted under the proposed rules is estimated to be 19,736 acres or 57% of total NIPF lands. The total acreage of NIPF businesses who are not impacted by the rules is estimated as 16,485 acres or 43% of NIPF lands. The total NIPF lands are 34,132 acres.

Appendix 5: Estimating Impacts of Acres in Buffers

One of the major impacts of the proposed rules is the requirements for buffers. Exhibit A5-1 lists the requirements of buffers for private forest lands in both western Washington and eastern Washington. Since the requirements are different between the two geographically distinguished regions, sampling procedures were performed separately and the results are summarized by regions (Appendix 2).

We have used the following procedure to estimate the acres in buffers by ownership group. The data is obtained from GIS sampling. The total forest acres of impacted small businesses have been adjusted by excluding the acres of small businesses who are not impacted by the proposed rules.

$$P_i = B_i/A_i$$

Where:

- P<sub>i</sub> = Estimated percentage of acres in buffers for ownership group *i* resulting from the forestry module rules
- B<sub>i</sub> = Acres in buffers for ownership group *i* resulting from the forestry module rules
- A<sub>i</sub> = Total forest acres of businesses in group *i* who are impacted by the forestry module rules
- i* = IND or NIPF representing industrial forestland owners and nonindustrial private businesses respectively.

Exhibit B1 shows the data used and the estimated results from the GIS samples. The total acres in buffer for small businesses due to the proposed rules is estimated as 3,546 acres or about 18% of impacted NIPF forest lands in the samples. The total acres in buffer due to the forestry module rules for industrial businesses in the samples is estimated as 5,834 acres or about 16% of the forest lands under industrial ownership in the samples.

Exhibit A5-1: Impacts of the Proposed Rule: Acres in buffers.

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Regions	Buffer Requirements	Acres in Buffers	
		10% Largest Industrial Businesses*	Impacted Small Businesses
Eastern Washington	100 FT. Buffers	43.4	1,353
	50 FT. Buffers	5.6	174
	30 FT. Buffers	3.6	114
	Total	52.6	1,641
Western Washington	170 FT. Buffers	390.7	1,849
	50 FT. Buffers	29.8	29
	30 FT. Buffers	30.7	27
	Total	451.2	1,905
All Washington State	Total Acres in Buffers	503.8	3,546
	Total Forest Acres	3,604.2	19,736
	Percent of Land in Buffer	13.98%	17.97%

\*Adjusted for 10% largest business. The adjusting factors are 1.14 for eastern Washington and 0.84 for western Washington. The adjusting factor = (percent of acres in buffers of 10% of the largest industrial owners/percent of acres in buffers of the group of industrial businesses). The adjusting factors are derived from information of SBEIS of the Water Type Rules.

**Appendix 6: Estimating Impacts of Lack of Accessibility**

Economically inaccessible acres are calculated by GIS analysis and by identifying ownership of individual parcels on county tax records.<sup>28</sup> To get a reasonable estimate of the number of economically inaccessible acres in Phase 1, we have made an inference from the data collected from the SBEIS on the Water Type Rules. The population to which the samples applied in the Water Type Rules SBEIS included all private forest lands with Type 4 and 5 waters in Washington. The population of the sample of the forestry module proposed rules includes all private forest lands which have water

types 1, 2, 3, 4, or 5. As more water types are included, stream density under the regulation increases. The increase in stream density raises the probability of cutting a parcel into pieces which may become economically inaccessible. We have used the following procedure to estimate the economically inaccessible acres by ownership group.

<sup>28</sup> Inaccessible acres will be determined based on county tax records and interpretation of GIS samples in Phase 2 of this SBEIS.

$$E_i = \beta_i * A_i \text{ and,}$$

$$\beta_i = F_i * [M_i / N_i]$$

Where:

$E_i$  = Estimated economically inaccessible forest acres of ownership group  $i$  resulting from the forestry module rules

$\beta_i$  = Estimation factor of inaccessible acres under the proposed forestry module rules

$A_i$  = Total sample acres of ownership group  $i$

$F_i$  = Percent of economically inaccessible portion per acre of ownership group  $i$  resulting from water type rules

$M_i$  = Stream feet per acre of the private forest lands of ownership group  $i$  under the proposed forestry module rule

$N_i$  = Stream feet per acre of the private forest lands of ownership group  $i$  under the water type rules

$i$  = 10% largest industrial owner or nonindustrial private businesses respectively.

Exhibit A6-1 shows the data that we used and the estimated results. The total inaccessible acres of small businesses due to the proposed rules is 591 acres or about 2.99% of the total lands of impacted small businesses in sample. The total inaccessible acres due to the proposed rules for 10% largest industrial businesses is twenty-six acres or 0.72% of the total forest lands in the sample.

**Exhibit A6-1: Impacts of the Proposed Rule: Economically inaccessible acres<sup>29</sup>.**

Regions	10% Largest Industrial Businesses		Impacted Small Business Owners	
	Estimation factor of inaccessible acres ( $\beta_i$ )	Economically Inaccessible Acres	Estimation factor of inaccessible acres ( $\beta_i$ )	Economically Inaccessible Acres
Eastern Washington	0.00%	0	2.94%	335
Western Washington	0.91%	26	3.06%	256
All Washington State	Total Inaccessible Acres	26	Total Inaccessible Acres	591
	Total Forest Acres	3,604	Total Forest Acres	19,736
	Percent of Inaccessible Acres	0.72%	Percent of Inaccessible Acres	2.99%

<sup>29</sup>If the value of economic inaccessible acres is less than the stream crossing cost, the total value of the inaccessible acres is the loss. If the value of cut-off acres is higher than the estimated maximum stream crossing cost of \$32,000 (Water Type Rules SBEIS, 1997), the crossing cost is treated as the loss which is further converted back to acreage based on the timber value per acre.

<sup>29</sup> Estimated based data from Water Type Rules SBEIS (Carruthers, 1997), US FIA data about ownerships of forest lands in eastern Washington, DNR GIS samples, and the assumption of linear relation with stream miles.

**Appendix 7: Distributional Impacts Among Small Businesses**

The objectives of land use for small forestry businesses are very different. While some of them use land for recreation primarily, some of them use land for commodities such as timber. Also some others use lands as an asset class for investment. Due to multiple functions of forestland, many businesses have multiple and dynamic objectives for their lands. The objectives are sometimes correlated to sizes of landholdings and affect management decisions. Whether or when a small business is impacted by the proposed rules is dependent upon their decisions on land use and the size of their landholdings.

While the average impact of the proposed rules on small businesses is that about 21% of their lands will be constrained for business activities such as timber harvest, the distribution of the regulatory impact is different among groups of small businesses of different sizes of landholdings and land use objectives.

1. Distribution of Impacts by Owner Size: The distribution of regulatory impacts among small businesses is different from largest industrial businesses. Although in general small businesses have a larger percentage of their lands under regulatory constraints, the wide-spread standard deviation indicates the impact is far from homogeneity which characterizes their large industrial counterparts. Exhibit A7-1 illustrates such distribution using the data from the SBEIS for the water type rules. A similar distribution chart will be provided in Phase 2 of this SBEIS for the proposed forestry module rules.

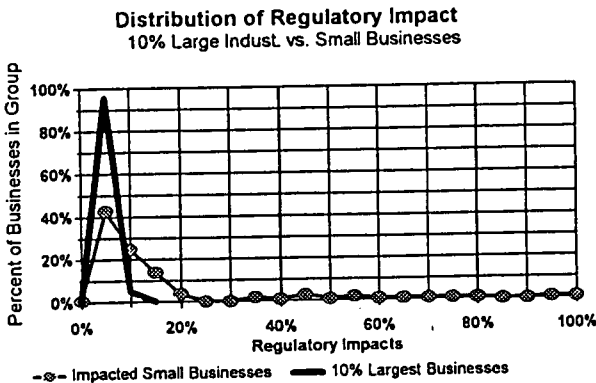


Exhibit A7-1: Distribution of regulatory impacts by owner size (Water Type Rules)

2. Estimated Regulatory Impacts by Size of Landholding of Small Businesses: The smaller the size of the landholding, the larger the percentage of acres in buffers as long as there is a stream crossing the parcel. We have used the following procedure to estimate the regulatory impacts on groups of businesses with different sizes of landholding.

$$H_i = \gamma * G_i \text{ and,}$$

$$\gamma = W/V$$

Where:

$H_i$  = Estimated impact of the proposed rules on small businesses with landholding of size  $i$ , expressed as percentage

$\gamma_i$  = Adjusting factor

$G_i$  = Estimated impact of water type rules on small businesses with landholdings of size  $i$ , expressed as percentage

$W$  = Estimated impact of the proposed forestry module rules on small businesses, expressed as percentage

$V$  = Estimated impact of the water type rules on small businesses, expressed as percentage

The estimated results are listed in Exhibit 7 of the main text. In Phase 2, these numbers will be reestimated using empirical data after the individual businesses are identified on county tax records.

3. Estimate the Probabilities of Being Impacted

The procedure used to estimate the probabilities of being impacted by size of landholding is adopted from Lippke and Bare.<sup>30</sup> The regulatory impacts we estimated have been used instead of the assumption of 20% regulation constraints.

<sup>30</sup> See Lippke, B. And B. Bare. 1998. Supplementary Comments on the "Viability of the Non-industrial Private Forestry Sector in Washington State" Under Regulatory Uncertainty.

We assume that five acres are necessary for economic harvest potential. We can use the following procedure to calculate the probability that a business will be impacted if it decides to harvest mature forest in a given period. In other words, we can estimate the likelihood that the business will be impacted in that period.

$$P_i = [1 - (H_i)^M]$$

Where:

$P_i$  = Estimated probability of small businesses (with landholding of size  $i$ ) who will be impacted by the proposed rules in a given period

$H_i$  = Estimated impact of the proposed rules on small businesses with landholding of size  $i$  (expressed as percentage)

$M$  = Mature timberland expressed as numbers of economic harvestable plots (each plot has 5 acres).

We have estimated the probability of being impacted for five groups of small businesses for the periods of ten years and fifty years. The estimated results are provided in Exhibit 8 in the main text.

A copy of the statement may be obtained by writing to 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, e-mail forestpractices.board@wadnr.gov, fax (360) 902-1784.

Section 201, chapter 403, Laws of 1995, applies to this rule adoption. Considered to be a significant legislative rule.

Hearing Location: Natural Resources Building, Room 172, 1111 Washington Street S.E., Olympia, WA, on May 19, 1999, at 3:00 p.m.

Assistance for Persons with Disabilities: Contact Forest Practices Board Secretary by May 1, 1999, TDD (360) 902-1125.

Submit Written Comments to: Doug Rushton, Water Quality Program, P.O. Box 47600, Olympia, WA 98504-7600, fax (360) 407-6426, by May 21, 1999.

PROPOSED

Date of Intended Adoption: May 28, 1999.  
 October 21, 1998  
 Daniel J. Silver  
 Deputy Director

**AMENDATORY SECTION** (Amending Order 97-46, filed 3/30/98, effective 4/30/98)

**WAC 173-202-020 Certain WAC sections adopted by reference.** The following sections of the Washington Administrative Code existing on ~~((March 13))~~ October 12, 1998, 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))~~ rules.

WAC 222-10-020—SEPA policies for certain forest practices within 200 feet of a Type S Water.

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.

WAC 222-16-050 (1)(a), (1)(d), (1)(e), (1)(h), (1)(i), (1)(j), (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), (5)(o)—Classes of forest practices.

WAC 222-16-070—Pesticide uses with the potential for a substantial impact on the environment.

WAC 222-20-015—Multiyear permits.

WAC 222-20-020(6)—Application time limits.

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), (5), (6), (8), (13)—Road location and design.

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))~~ (6), (7)(a), (7)(e), (7)(f), ~~((8))~~—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.

**WSR 98-23-085**  
**PROPOSED RULES**  
**DEPARTMENT OF**  
**LABOR AND INDUSTRIES**  
 [Filed November 17, 1998, 4:16 p.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 98-08-104.

Title of Rule: Respiratory protection and methylene chloride.

Purpose: Proposed changes improve worker protection and make the rules as effective as OSHA by adding new OSHA requirements, improving clarity and consistency, eliminating redundancy, and correcting errors.

Statutory Authority for Adoption: RCW 49.17.040.

Statute Being Implemented: RCW 49.17.010, 49.17.050, and 49.17.060.

Summary:

Respiratory Protection

**BACKGROUND**

**What are respiratory protection rules?**

The general respiratory protection requirements are located in chapter 296-62 WAC, Part E, Respiratory protection. They were first adopted in July 1981 and have been

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revised several times. The respiratory protection rules describe an employer's responsibilities for protecting employees from occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, vapors, or aerosols.

Numerous other standards, such as lead and asbestos, include additional respiratory protection requirements related to the particular chemical or substance. These substance specific requirements provide a higher level of protection to workers using these substances. The following chapters contain respiratory protection requirements or refer the user to chapter 296-62 WAC, Part E:

- Chapter 296-62 WAC, General occupational health standards.
- Chapter 296-24 WAC, General safety and health standards.
- Chapter 296-56 WAC, Safety standards for long-shore, stevedore and related waterfront operations.
- Chapter 296-78 WAC, Safety standards for sawmills and woodworking operations.
- Chapter 296-79 WAC, Safety standards for pulp, paper, paperboard mills, finishing and converters.
- Chapter 296-155 WAC, Safety standards for construction work.
- Chapter 296-304 WAC, Safety standards for ship repairing, shipbuilding and shipbreaking.
- Chapter 296-305 WAC, Safety standards for fire fighters.
- Chapter 296-307 WAC, Safety standards for agriculture.

#### Why is WISHA reviewing and proposing changes [to] the respiratory protection rules?

On January 8, 1998, the Occupational Safety and Health Administration (OSHA) published comprehensive changes to the federal respiratory protection rules (Federal Register Vol. 63, No. 5, pp. 1152 - 1300) found in 29 CFR 1910 and 29 CFR 1926. OSHA published additional changes [to] 29 CFR 1910 and 29 CFR 1926 on April 23, 1998 (Federal Register Vol. 63, No. 78) making additional changes to 29 CFR 1910 and 29 CFR 1926. OSHA recently finalized a compliance policy explaining many of the new requirements. The federal registers and compliance policies are available on OSHA Internet home page located at [www.osha.gov](http://www.osha.gov).

Based on the OSHA changes, WISHA began a thorough review of its rules to determine what changes are needed to be as effective as OSHA and to provide for safe and healthful work places throughout the state of Washington.

#### STAKEHOLDERING

**Flyer Requesting Input.** WISHA sent a flyer to chapter 296-62 WAC, General occupational health standards manual holders asking for input related to respiratory protection. The flyer asked about keeping and updating assigned protection factors, keeping the information currently in Tables I-IV in WAC 296-62-07113 How often medical evaluations are needed, and the minimum number of standby employees needed in IDLH situations other than structural fire fighting.

**Results of Flyer.** One hundred four people responded to the flyer providing valuable insight into each of the issues. The most valuable input came from narrative answers people included explaining their answers.

**Question 1: Assigned Protection Factors.** Seventy-five people suggested that the assigned protection factors be updated in some fashion. Nineteen people suggested no change in the assigned protection factors, and four people suggested that the department delete them to be like OSHA. This supports the department's proposal, which keeps assigned protection factors and updates them to the most current 1992 ANSI Z88.2 standard (see proposed wording in WAC 296-62-07131).

**Question 2: Information in Tables I-IV.** Eighty-four people suggested WISHA keep the information currently in Tables I-IV in WAC 296-62-07113. Eight people suggested that it not be included - usually because they found it confusing. Three people recommended that it be provided as guidance or in a nonmandatory appendix. A number of people suggested that the information in the tables was helpful, but the format was confusing and needed to be improved. The proposal moves the information currently in these tables to a nonmandatory appendix and converts the table format into question and answer text. The proposal also organizes the information by type of respirator, adds new information about filters, cartridges and canisters, and updates the information to be current and accurate (see proposed wording in WAC 296-62-07260 through 296-62-07295).

**Question 3: Frequency of Medical Evaluations.** Fifty-two people suggested that WISHA modify the respiratory protection rules to be like OSHA. Thirty-two indicated that an annual requirement would be better. Thirteen people provided other options. Based on this input, the proposal includes the same requirements as OSHA (see proposed wording in WAC 296-62-07152 and 296-62-07156).

**Question 4: Standby Employees for IDLH.** Forty-five people recommended WISHA maintain the current requirement of two standby employees for IDLH situations. Thirty-four people recommended using OSHA's new requirement. Seventeen people provided other suggestions. Based on a thorough review of the issues, stakeholder input and lengthy discussions with the Advisory Committee, the proposal reduces the current state requirements to allow one standby employee. However, WISHA's proposal clarifies the OSHA requirements by describing the employer's responsibility when deciding the appropriate number of standby employees needed outside an IDLH situation, making it easier to comply with the requirements (see proposed wording WAC 296-62-07172).

**Advisory Committee.** The Respiratory Protection Advisory Committee consisted of representatives from labor, business, and the department. The committee met three times in June, July, and August of 1998 to have more in-depth discussions about the major issues and wording to the general respiratory protection standard in chapter 296-62 WAC, Part E. Many changes were made to the draft proposal based on requests and discussion in the advisory committee. Some of these new features include:

- Adding an exemption to medical evaluations for certain types of escape-only respirators (see WAC 296-62-07150(3)).
- Adding language describing how an employer can use a previous employer's medical evaluations if

done within the last year (see WAC 296-62-07150(2)).

- Adding a new form in WAC 296-62-07257, Appendix D: Health Care Provider Respirator Recommendation Form to make it easier to use a previous employer's medical evaluation and to comply with the written opinion requirements in WAC 296-62-07155.
- Adding clarity to the scope of the standard in WAC 296-62-07103(1) to specify that respirators are required for any exposures in excess of the permissible exposure limit.

Other improvements from the advisory committee include:

- Maintaining Table 3 - Color Coding of Respirator Filters, Cartridges and Canisters to help employers select the appropriate respirators.
- Adding complete definitions for the terms particulate, dust, fog, fume, mist, smoke, and spray in WAC 296-62-07105 to help employers understand these terms and their use when selecting the appropriate respirator.
- Adding more information describing filters, canisters, cartridges, and disposable respirators in WAC 296-62-07269 and 296-62-07279 to help employers select the appropriate air-purifying respirator.
- Adding WAC references to each of the written respiratory protection program requirements in WAC 296-62-07111 to make it easier for users to find the specific requirements related to each of the general categories required in the written program.
- Improving the wording in WAC 296-62-07172 related to standby procedures in IDLH situations.
- Correcting errors and making housekeeping and structural changes to make the rules easier to understand and use.

#### **SUMMARY OF PROPOSED CHANGES TO RESPIRATORY PROTECTION RULES**

After a thorough review, WISHA concluded that changes were needed in the following chapters.

- Chapter 296-62 WAC, General occupational health standards.
- Chapter 296-24 WAC, General safety and health standards.
- Chapter 296-56 WAC, Safety standards for longshore, stevedore and related waterfront operations.
- Chapter 296-78 WAC, Safety standards for sawmills and woodworking operations.
- Chapter 296-155 WAC, Safety standards for construction work.
- Chapter 296-304 WAC, Safety standards for ship repairing, shipbuilding and shipbreaking.
- Chapter 296-305 WAC, Safety standards for fire fighters.

No changes are needed in chapter 296-79 WAC. Only minor changes to WAC references are needed in chapter 296-307 WAC and they will be addressed in a separate WISHA standards project, which is currently in process. WISHA's printing of chapter 296-62 WAC, Part E, will include a table

of contents and index after adoption of final wording, to help users find and use the requirements.

WISHA's proposal includes the following:

- Updates to the Assigned Protection Factor Table in chapter 296-62 WAC, Part E, to the most current 1992 ANSI Z88.2 standard. The existing table is based on the 1980 ANSI Z88.2 standard.
- All of the new OSHA requirements in respiratory protection and methylene chloride rules in order to provide better worker protection from breathing hazards [hazardous] chemicals or substances.
- Retains some existing requirements that exceed the new OSHA requirement in order to provide appropriate worker protection.
- Comprehensive changes to chapter 296-62 WAC, Part E, general respiratory protection standard (for example, changing the order to parallel OSHA's new rule), clarifying requirements so that it is easier to understand, use and comply with the standard.
- Eliminates redundant and inconsistent fit test procedures throughout all of the chapters, which significantly reduces the number of pages in WISHA's rules.
- Deletes many of the old effective dates and startup dates to eliminate unnecessary wording.
- Changes WAC references, corrects errors, and makes other housekeeping changes to make the rules easier for users to find, understand, and comply with the provisions.

#### **Methylene Chloride**

##### **What are the methylene chloride rules?**

Methylene chloride rules are located in WAC 296-62-07470, 296-62-07473, 296-62-07475, and 296-62-07477. The rules describe an employer's responsibilities to protect workers from occupational diseases caused by breathing methylene chloride.

##### **Why is WISHA proposing changes to the methylene chloride rule?**

OSHA published changes to the methylene chloride standard in 29 CFR 1910.1052 on September 22, 1998 (Federal Register Vol. 63, No. 183, pp. 50712-50732). OSHA added new provisions for temporary medical removal protecting employee benefits. These provisions provide additional protection to employees who are removed or transferred to another job because of a medical determination that exposure to methylene chloride may aggravate or contribute to the employee's existing skin, heart, liver, or neurological disease. OSHA also extended the start-up dates for certain situations and changed Table 1 - Initial Determination Exposure Scenarios and Their Associated Monitoring Frequencies under periodic monitoring in the exposure monitoring section. WISHA's proposal would make the same changes to provide better worker protection and to remain as effective as OSHA's rules.

#### **RATIONALE BEHIND SPECIFIC PROPOSED CHANGES**

**1. Assigned Protection Factor Table.** WISHA is updating the current values in the assigned protection factor

(APF) table to the more recent 1992 ANSI Z88.2 standard (see proposed wording in WAC 296-62-07131). The existing APF table is based on the 1980 ANSI Z88.2 Standard. OSHA reserved a section in its standard for APFs. WISHA is keeping an APF table in order to provide employers an important tool when selecting the appropriate respirator. This decision is supported by the input received from the flyer mailed to chapter 296-62 WAC, Part E manual holders and discussions of the advisory committee. WISHA considered whether to leave in the current values or update to the more current values. Since the more current values are based on more recent and complete scientific data and because we received considerable input suggesting we update the table in some fashion, WISHA determined that updating the table was the best solution. When OSHA adopts APFs, this table will need to be reviewed and may need to be changed. Updating the table is exempt from the significant rule criteria in RCW 35.05.328 [34.05.328] because WISHA is incorporating a national consensus code generally accepted by industry.

**2. Standbys for IDLH.** Why did WISHA propose language that is different than OSHA related to standbys for IDLH situations other than structural fires (see proposed wording in WAC 296-62-07172 (1), (2) and (3))? Currently, WISHA requires two standby employees for IDLH situations in WAC 296-62-07115 (1)(b). The proposed language relaxes the current requirement to allow more flexibility to employers by allowing for one standby employee in certain situations. WISHA's proposal provides a more complete description of the standby requirements to help users comply with the changes in the requirements.

The new language is taken from OSHA's preamble in the January 8, 1998, Federal Register on page 1243 in the 3rd column. "In most fixed workplaces, the atmosphere is known, i.e., has been well characterized either through analysis of monitoring results or through a process hazard analysis... In such situations, effective communication systems and rescue capabilities have been established. In addition, in many industrial IDLH situations, only one respirator user is exposed in the IDLH atmosphere at a time, which means that a single standby person can easily monitor that employee's status. Even in situations where more than one respirator user is inside an IDLH atmosphere, a single person can often provide adequate communication and support."

WISHA's proposal is consistent with OSHA's intent described in the preamble. It provides more clarity and certainty, making it easier for employers to comply with the new requirement.

**3. Why is WISHA covering agriculture and tuberculosis?** OSHA's new general respiratory protection standard in 29 CFR 1910.134 does not cover agriculture or tuberculosis (TB). WISHA's proposal applies the same requirements to these situations that it applies to others requiring respiratory protection (see proposed wording in WAC 296-62-07101).

**Agriculture:** Environmental Protection Agency regulations govern pesticide exposure, including some provisions on respirators. However, OSHA did not cover other airborne chemical exposures where respirators may be needed. The previous general OSHA respiratory protection standard did not apply to agricultural operations. OSHA received no

public comment requesting a change in coverage. Therefore, the issue was not addressed or seriously considered in the federal rule making. In contrast, the current WISHA standard covers agricultural workplaces, and worker protection from pesticide exposure is enforced by WISHA. The proposal maintains past WISHA practice of providing equivalent coverage to agriculture workers. This is consistent with WISHA's stated commitment to provide equal protection to all employees in the state of Washington.

**TB:** OSHA received a number of comments about whether biological hazards, such as the infectious agent that causes TB, are covered by the standard. In response, OSHA emphasized that this respiratory protection standard applies to biological hazards. However, in relation to respirator use specifically to protect employees from the risk of occupational exposure to TB, OSHA is deferring the issue until their proposed TB standard is finalized. For that reason, OSHA will continue to enforce its previous respirator standard in relation to TB exposure now in 29 CFR 1910.139. This means that the new requirements will not apply to those limited health care activities where there is no potential for exposure to other contaminants requiring respiratory protection.

WISHA proposes to cover TB to provide both consistent and appropriate protection and to avoid confusion caused by having two general respiratory protection standards that apply to health care activities and to workers. In addition, the difference between the proposed and the existing state standards is not as great as that between the two federal standards, minimizing the impact of the change as it applies to TB.

**4. Plain Language.** Chapter 296-62 WAC, Part E, has been restructured to more closely parallel the new federal rule. The text of the rule has been separated into distinct sections to make it easier for readers to locate the information they need. Section titles are written as questions, specific to the requirements in the section. The rules are written in second person. "You" and "your" refer to the employer, making the requirements easier to understand. A table of contents and index will be added in the final printing of chapter 296-62 WAC, Part E after final adoption. WISHA's proposal includes all of the new OSHA requirements, although several have been reworded to make them easier to understand.

**5. Fit Testing.** The proposed fit testing procedures would be standardized throughout all of the WISHA rules by eliminating redundant and often inconsistent requirements and by referencing chapter 296-62 WAC, Part E, Appendices A-1, A-2, and A-3. This will significantly reduce the number of pages in WISHA rules and make it easier for users to find and comply with the requirements. WISHA's proposed fit testing requirements are consistent with the new OSHA standard.

**6. Medical Evaluation Exception for Escape-Only Respirators.** The proposal adds a provision that makes an exception to medical evaluations for certain escape-only respirators. This issue was raised by the advisory committee and included in the proposal as a result of those discussions.

**7. Portability of Medical Evaluations.** The proposal includes provisions describing when employers can use medical evaluations by a previous employer (portability of medical evaluations) to avoid the cost of unnecessary repeat med-

ical evaluations. This issue was raised by the advisory committee and included in the proposal as a result of those discussions.

**8. Portability of Fit Tests.** The proposal includes provisions describing when employers can use fit tests by a previous employer (portability of fit testing) to avoid the cost of unnecessary fit tests.

**9. PLHCP Form.** The proposal includes a nonmandatory form that physicians and other licensed health care professionals (PLHCPs) can use to help employers meet the requirements for a written recommendation in WAC 296-62-07155(1). The form also will make it easier for employers to use medical evaluations completed by a previous employer (see proposed wording in WAC 296-62-07257). The form was suggested at an advisory committee meeting and developed to help employers and PLHCPs comply with the requirements of the standard.

**10. Appendix E: Additional Information Regarding Respirator Selection—Nonmandatory** (see proposed wording in WAC 296-62-07260 through 296-62-07295). The proposal moves the information currently in Tables I-IV in WAC 296-62-07113, which describes respiratory hazards, different types of respirators and limitations of respirators, to a nonmandatory appendix. The information in the existing Tables I-IV is from the 1980 ANSI Z88.2 standard. The proposal updates this information to be consistent with the most current 1992 ANSI Z88.2 standard, the new OSHA Respiratory Protection Standard in 29 CFR 1910.134, and current practices related to respiratory protection to provide the most current and accurate information.

The proposed format converts the information currently in the four tables to text. Section titles in the form of questions describe the information contained in each section helping users find and use the information when selecting an appropriate respirator. The proposal also organizes the information by type of respirator. In addition, the proposal includes new information about filters, cartridges, canisters, and disposable respirators based on a request from the advisory committee (see proposed wording in WAC 296-62-07269 and 296-62-07279). These changes make it easier for people unfamiliar with respirators to find additional information to help them select an appropriate respirator and clarify what provisions are provided as information only.

**11. Nonroutine and Rescue Situations.** WISHA's proposal maintains existing provisions regarding use of respirators in nonroutine and rescue situations to provide workers with appropriate protection in such situations. The proposal retains the following provisions:

- The definition of nonroutine respirator use.
- An existing provision in WAC 296-62-07115(1) on standard operating procedures for the issuance of respirators (see proposed wording in WAC 296-62-07111(5)).
- Respiratory protection program provisions currently in WAC 296-62-07115(1) for the use of respirators in nonroutine and rescue situations by adding "non-routine" and "rescue" (see proposed wording in WAC 296-62-07111 (4) and (8)).
- Current provisions in WAC 296-62-07115 [(1)(b)(i) and (ii)] related to hazard analysis and standard oper-

ating procedures for use of respirators in emergency and rescue situations (see proposed wording in WAC 296-62-07133). The proposal clarifies the current requirements with minor changes to the existing wording and use of bullet points to help employers understand and comply with the requirements.

- The existing provisions requiring employers to keep an adequate number of emergency respirators in the work area (see proposed wording in WAC 296-62-07176 (2)(d) and 296-62-07113(2)).

**12. Ensuring Use of Respirators.** The proposal retains the current provision in WAC 296-62-07107 (2)(a) requiring employers to make sure employees use respirators when respirators are required (see proposed wording in WAC 296-62-07103(3)). This requirement is needed to maintain a safe and healthful workplace. **13. Training.** The proposal retains the current provision in WAC 296-62-07115(2) requiring employers to keep training records (see proposed wording in WAC 296-62-07194(1)). Training records document that an employer has complied with the training requirements of the standard. The proposal also retains the current provisions in WAC 296-62-07115(2) requiring employers to:

- Provide effective training to supervisors, persons issuing respirators, and employees required to use respirators;
- Train employees in a manner they understand; and
- Provide training using a qualified person.

The existing requirements are rewritten to help employers understand and comply with the training requirements (see proposed wording in WAC 296-62-07186). It is important to keep these requirements to make sure that employees are properly trained and that a qualified person provides the training.

**14. Periodic Inspections by Supervisors.** The proposal maintains the current provision in WAC 296-62-07109(11) for supervisors to conduct periodic inspections to make sure respirators are worn properly (see proposed wording in WAC 296-62-07192(2)). This requirement relates to the current provision in WAC 296-62-07107 (2)(a) requiring employers to make sure employees use respirators when respirators are required (see #11 above). These requirements will help protect workers from breathing hazardous chemicals by making sure supervisors monitor respirator use and correct situations when respirators are not worn properly.

**15. Costs Related to Respirator Use.** The proposal clarifies the employer's responsibility for costs related to voluntary use of respirators as opposed to required use of respirators (see proposed wording in WAC 296-62-07115 and 296-62-07117(3)). Questions were raised at the advisory committee about costs related to the new OSHA requirements. WISHA's proposal references fit testing and expenses such as wages and travel in WAC 296-62-07115 to clarify the employer's responsibility for costs related to required respirator use. WISHA's proposal adds wording in WAC 296-62-07117(3) to indicate that the employer must pay for the respirator program elements that are required when employees use respirators voluntarily.

**16. Substance-Specific Standards.** The proposal changes substance-specific standards in chapters 296-24,

296-62, and 296-155 WAC to make substantially similar changes to the respirator protection rules OSHA adopted in the January 8, 1998, and April 23, 1998, federal registers. The substance specific-standards are reorganized to parallel OSHA's rules. The proposal also shortens these rules, eliminating redundant or inconsistent requirements in the general respiratory protection standard in chapter 296-62 WAC, Part E and 29 CFR 1910.134. The proposal makes all of WISHA's respiratory protection rules consistent and clarifies the requirements, making them easier to use and understand. The proposal eliminates fit test procedures in substance-specific standard and references chapter 296-62 WAC, Part E, making them consistent and reducing the number of pages in WISHA's rules.

#### What are the anticipated effects of these changes?

New OSHA requirements added to the methylene chloride standard will provide additional protection for employees who are removed or transferred to another job because of a medical determination. Proposed changes to the methylene chloride standard make WISHA's standard nearly identical to OSHA's standard. New OSHA requirements proposed to the respiratory protection rules will provide more effective protection of workers. Other proposed changes make the rules much easier to understand and use, clarify the requirements, eliminate redundancy, and provide consistent requirements for use of respirators in all work situations. In addition, the order of most state requirements will be changed to closely parallel the federal requirements, making it easier for employers - particularly those operating to other states - to understand and comply with WISHA's rules.

#### DESCRIPTION OF PROPOSED CHANGES

**WAC 296-24-07501 General requirements in Part A-2, Personal protective equipment.** The proposal makes a WISHA change correcting the reference to chapter 296-62 WAC, Part E, which makes the WISHA's rules consistent.

**WAC 296-24-51005 Definitions in Part F-2, Storage and handling of anhydrous ammonia.** The proposal makes a WISHA change eliminating the reference to ANSI Z88.2 and Appendix C, which makes the WISHA rules consistent.

**WAC 296-24-51009 Basic rule in Part F-2, Storage and handling of anhydrous ammonia.** The proposal changes subsection (10)(c) to be like the federal rule in 29 CFR 1910.111 (b)(10). The proposal makes WISHA changes clarifying the requirements by eliminating the notes and moving the information in the notes next to the appropriate provisions.

**WAC 296-24-58513 Protective clothing in Part G-2, Fire protection.** The proposal makes a WISHA change correcting the reference to chapter 296-62 WAC, Part E, which makes the WISHA's rules consistent.

**WAC 296-24-58515 Respiratory protection devices in Part G-2, Fire protection.** The proposal changes subsection (1)(a) to be like the federal rule in 29 CFR 1910.156 (f)(1)(i); subsection (1)(b) changes to be like 29 CFR 1910.134 (g)(4)(iii); and subsection (1)(e) changes to be like 29 CFR 1910.156 (f)(1)(v). The proposal also deletes a sentence in subsection (2)(c) because fit test procedures will be located in WAC 296-62-07201 through 296-62-07248.

**WAC 296-24-58516 Procedures for interior structural fire fighting in Part G-2, Fire protection.** This is a new section. Proposed wording is identical to the federal wording in 29 CFR 1910.134 (g)(4)(i) and (ii), including notes 1 and 2. The proposal puts these new OSHA provisions that relate to fire brigade activities, found in OSHA's general respiratory protection standard, into chapter 296-24 WAC, Part G-2. This will keep the fire brigade provisions in one place and make it easier for employers to find and comply with the requirements.

**WAC 296-24-58517 Appendix A—Fire brigades.** The proposal eliminates redundant provisions that are covered in chapter 296-62 WAC, Part E of the proposal, reducing the number of pages and making the state's respiratory protection rules consistent.

**WAC 296-24-67507 Definitions in Part H-2, Abrasive blasting.** The proposal changes the definition for abrasive-blasting respirator to be like the federal definition in 29 CFR 1926.57 (f)(1)(ii) and deletes "or a fume" from the definition for particulate-filter respirator.

**WAC 296-24-67515 Personal protective equipment in Part H-2, Abrasive blasting.** The proposal changes subsection (1) to be like the federal rule in 29 CFR 1926.57 (f)(5)(i), updates the references in subsections (2), (3)(d) and (4), and changes subsection (3)(a) and (c) to be like 29 CFR 1926.56 (f)(5)(iii).

**WAC 296-24-67517 Air supply and air compressors in Part H-2, Abrasive blasting.** The proposal changes the existing wording to be like the federal rule in 29 CFR 1926.57 (f)(6).

**WAC 296-24-71507 Ventilation in confined spaces in Part I, Welding, cutting and brazing.** The proposal changes subsection (2) to be like the federal rule in 29 CFR 1910.252 (c)(4)(ii) and subsection (3) to be like 29 CFR 1926.252 (c)(4)(iii).

**WAC 296-24-71513 Lead in Part I, Welding, cutting and brazing.** The proposal changes subsection (3) to be like the federal rule in 29 CFR 1910.252 (c)(7)(iii).

**WAC 296-24-71517 Cadmium in Part I, Welding, cutting and brazing.** The proposal changes subsection (1) to be like the federal rule in 29 CFR 1910.252 (c)(9)(i).

**WAC 296-24-71519 Mercury in Part I, Welding, cutting and brazing.** The proposal changes the existing wording to be like the federal rule in 29 CFR 1910.252 (c)(10).

**WAC 296-56-60053 Hazardous atmospheres and substances and 296-56-60235 Welding, cutting and heating (hot work).** The proposal makes a WISHA change correcting the reference to chapter 296-62 WAC, Part E, and eliminates redundant provisions covered in chapter 296-62 WAC, Part E.

**General respiratory protection standard (chapter 296-62 WAC, Part E):** In the proposal, chapter 296-62 WAC, Part E includes WAC 296-62-071 through 296-62-07295. The proposal changes the organization of the standard so that it parallels the OSHA's new standard in 29 CFR 1910.134.

- In the proposal, the body of the standard includes WAC 296-62-071 through 296-62-07194. OSHA's standard has information at the beginning of each

paragraph. This wording is not included in WISHA's proposal in order to avoid confusion between requirements and information. It will also reduce the number of pages in the standard.

- Fit testing procedures are located in WAC 296-62-07201 through 296-62-07248, Appendix A-1, A-2 and A-3 and will be mandatory appendices.
- Other mandatory appendices will include WAC 296-62-07251 Appendix B-1: User seal check procedures, 296-62-07253 Appendix B-2: Respirator cleaning procedures, and 296-62-07255 Appendix C: WISHA Respirator Medical Evaluation Questionnaire.
- Nonmandatory appendices D and E are in WAC 296-62-07257 through 296-62-07295 and include a health care provider respirator recommendation form and additional information regarding respirator selection.

**WAC 296-62-071 Respiratory protection.** The proposal deletes the existing text, making this section simply the title of the general respiratory protection standard (WAC 296-62-071 through 296-62-07295).

**WAC 296-62-07101 Scope.** The proposal changes the title of this section to "To whom does chapter 296-62 WAC, Part E apply?" Proposed wording simplifies the existing wording, clarifies to whom the standard applies, and makes it similar to the OSHA's new respiratory protection standard (see the first sentence in 29 CFR 1910.134).

**WAC 296-62-07102 When are you allowed to rely on respirators to protect employees from breathing contaminated air?** The proposal changes the title of this section to "When are you allowed to rely on respirators to protect employees from breathing contaminated air?." Proposed wording replaces the existing text with the new OSHA provisions in 29 CFR 1910.134 (a)(1). WISHA changes will add the words "fogs" and "aerosols" to the list of air contaminants and make other minor wording changes to help employers understand and comply with the requirements.

**WAC 296-62-07103 Purpose.** The proposal changes the title of this section to "What are your responsibilities as an employer?." Proposed wording replaces the existing text with the new OSHA provisions in 29 CFR 1910.134 (a)(2). In subsection (1), a WISHA change adds the phrase "including any exposures in excess of the permissible exposure limit" to make it easier for employers unfamiliar with regulations to understand and comply with the provisions.

**WAC 296-62-07105 Definitions.** The proposal adds all of the new OSHA definitions and retains some of the existing WISHA definitions to help users understand key terms used in the standard.

**WAC 296-62-07107 Permissible practice.** The proposal changes the title of this section to "When is a respiratory protection program required?" and replaces existing wording with the new OSHA provisions in 29 CFR 1910.134 (c)(1). The proposal includes OSHA's note found in the first paragraph of 29 CFR 1910.134(c) describing OSHA's Small Entity Compliance Guide. The proposal retains an existing provision that requires employers to provide the director's representative with a copy of their written respiratory protec-

tion program upon request (currently found in WAC 296-62-07109(1)).

**WAC 296-62-07109 Minimal acceptable respirator program.** The proposal changes the title of this section to "When must you update your written respiratory protection program?" and replaces the existing wording with the new OSHA provisions in 29 CFR 1910.134 (c)(1).

**WAC 296-62-07111 Respirable air and oxygen for self-contained breathing apparatus and supplied air respirators.** The proposal changes the title of this section to "What must be included in your written respiratory protection program?" and replaces the existing wording with the new OSHA provisions in 29 CFR 1910.134 (c)(1)(i) through (ix). WISHA's proposal adds references for each of the general program requirements to help employers find more specific requirements and comply with these provisions. The proposal retains an existing provision currently in WAC 296-62-07115(1) requiring procedures for issuing the proper type of respirator based on the respiratory hazards (see proposed wording in subsection (5)).

**WAC 296-62-07113 Selection of respirators.** The proposal changes the title of this section to "What are the requirements for a program administrator?" and replaces existing wording with the new OSHA requirements in 29 CFR 1910.134 (c)(3). The requirements are listed to make them easier to understand.

**WAC 296-62-07115 Use of respirators.** The proposal changes the title of this section to "Who pays for the respirators, training, and medical evaluations?" and replaces the existing wording with the new OSHA requirements in 29 CFR 1910.134 (c)(4). The proposal makes a WISHA change adding the words "fit testing" and "(including expenses such as wages and travel)," which clarifies the employer's responsibility for costs related to required respirator use.

**WAC 296-62-07117 Maintenance of respirators.** The proposal changes the title of this section to "What must you do when employees choose to wear respirators when respirators are not required?" and replaces the existing wording with the new OSHA provisions in 29 CFR 1910.134 (c)(2) on voluntary use of respirators. The proposal makes a WISHA change moving the new OSHA provisions in 29 CFR 1910.134 Appendix D: Information for Employees Using Respirators When Not Required Under the Standard into this section as Figure 1. This will make it easier for employers to locate the required information. In subsection (2), a WISHA change adds the wording "and pay for," clarifying that the employer must pay for those respirator program elements that are required when employees use respirators voluntarily.

**WAC 296-62-07119 Identification of air-purifying respirator canisters.** This section will be repealed.

**New sections added to chapter 296-62 WAC, Part E.** The proposal adds WAC 296-62-07130 through 296-62-07295 as new sections to the general respiratory protection standard in chapter 296-62 WAC, Part E.

**WAC 296-62-07130 What must be considered when selecting any respirator?** The proposal adds the new OSHA requirements in 29 CFR 1910.134 (d)(1), changing the sequence in the order that most employers need to follow when selecting appropriate respirators. Subsection (1)

matches OSHA's subsection (d)(1)(iii). Subsections (2) and (3) separate the provisions in OSHA's subsection (d)(1)(i). Subsection (4) matches OSHA's subsection (d)(1)(ii) and subsection (5) matches OSHA's subsection (d)(1)(iv).

**WAC 296-62-07131 What else must you consider when selecting a respirator for use in atmospheres that are not IDLH?** The proposal adds the new OSHA requirements in 29 CFR 1910.134 (d)(3). WISHA is retaining assigned protection factors currently in WAC 296-62-07113 Table V and updating them to the most current 1992 ANSI Z88.2 standard (see proposed wording in Table 1). The proposal does not reserve a section for maximum use concentration (MUC) like OSHA. MUC provisions can be added when OSHA changes its standard.

**WAC 296-62-07132 What else must you consider when selecting a respirator for use in IDLH atmospheres?** The proposal adds the new OSHA requirements in 29 CFR 1910.134 (d)(2). The proposal changes OSHA order slightly by moving IDLH provisions after non-IDLH provisions, ordering the provisions so that the more widely used and more general requirements appear before more specific requirements.

**WAC 296-62-07133 What else must you consider when selecting a respirator for emergency and rescue use?** The proposal retains existing provisions currently in WAC 296-62-07115 (1)(b)(i) and (ii). The proposal makes minor changes and uses bullet points, clarifying the current provisions to help employers understand and comply with the requirements.

**WAC 296-62-07150 What are the general requirements for medical evaluations?** The proposal adds the new OSHA requirements in 29 CFR 1910.134 (e)(1). A WISHA change adds two new features to the standard to help employers. Subsection (2) describes when employers can use medical evaluations by a previous employer (portability of medical evaluations). Subsection (3) makes an exception to medical evaluations for certain escape-only respirators to avoid the cost of unnecessary repeat medical evaluations.

**WAC 296-62-07151 What are the procedures for determining if your employee is able to use a respirator?** The proposal adds the new OSHA requirements in 29 CFR 1910.134 (e)(2). The first sentence in the proposal comes from 29 CFR 1910.134 (e)(1). The proposal changes the wording in subsection (1) to provide greater clarity.

**WAC 296-62-07153 How must the medical questionnaire and examinations be administered?** The proposal adds the new OSHA requirements in 29 CFR 1910.134 (e)(4).

**WAC 296-62-07154 What information must you provide to the PLHCP in addition to the questionnaire?** The proposal adds the new OSHA requirements in 29 CFR 1910.134 (e)(5).

**WAC 296-62-07155 What medical determinations are required when establishing your employee's ability to use a respirator?** The proposal adds the new OSHA requirements in 29 CFR 1910.134 (e)(6).

**WAC 296-62-07156 When are additional medical evaluations required?** The proposal adds the new OSHA requirements in 29 CFR 1910.134 (e)(7). In subsection (2),

the proposal adds the second sentence from 29 CFR 1910.134 (e)(1) to this section, keeping all of the requirements about additional medical evaluations in one place.

**WAC 296-62-07160 When is fit testing required?** The proposal adds the new OSHA requirements in 29 CFR 1910.134 (f)(1), (2) and (3). WISHA is adding new provisions in subsection (5) describing when employers can use fit tests by a previous employer (portability of fit testing).

**WAC 296-62-07161 What is required when an employee finds the respirator's fit unacceptable?** The proposal adds the new OSHA requirements in 29 CFR 1910.134 (f)(4), listing them to make it easier to understand and comply with the requirements.

**WAC 296-62-07162 How must fit testing be done?** The proposal adds the new OSHA requirements in 29 CFR 1910.134 (f)(5) through (8).

**WAC 296-62-07170 How must you prevent problems with the seal on tight-fitting facepieces?** The proposal adds the new OSHA requirements in 29 CFR 1910.134 (g)(1).

**WAC 296-62-07171 How do you monitor continuing effectiveness of your employees' respirators?** The proposal adds the new OSHA requirements in 29 CFR 1910.134 (g)(2). The proposal separates OSHA requirements in 29 CFR 1910.134 (g)(2)(i) into subsections (1) and (2). The proposal retains existing provisions currently in WAC 296-62-07115 (9)(e) and (f), maintaining an appropriate level of protection for workers (see proposed wording in subsections (3)(d) and (3)(e)).

**WAC 296-62-07172 What are the standby procedures when using respirators in IDLH atmospheres?** The proposal adds the new OSHA provisions in 29 CFR 1910.134 (g)(3). WISHA's proposal is different than the OSHA language for standby employees in IDLH situations other than structural fire fighting (see proposed wording in subsections (1), (2) and (3)). WISHA's proposal makes it easier for employers to know how many standby workers are required in a particular IDLH situation. Much of the WISHA language was taken directly from the OSHA preamble without changing the standard's intent. Currently WISHA requires two standby employees for IDLH situations, in WAC 296-62-07115 (1)(b). The proposed language relaxes the current requirement to allow more flexibility for employers by allowing one standby employee in certain situations. WISHA's proposal provides a more complete description of the standby requirements to help users comply with the changes in the requirements.

**WAC 296-62-07175 How must respirators be cleaned and disinfected?** The proposal adds the new OSHA provisions in 29 CFR 1910.134 (h)(1), listing the provisions to make it easier to understand and comply with the requirements.

**WAC 296-62-07176 How must respirators be stored?** The proposal adds the new OSHA requirements in 29 CFR 1910.134 (h)(2). In subsection (2)(d), the proposal retains an existing requirement currently in WAC 296-62-07115 (1)(b)(ii) for employers to provide an adequate number of emergency respirators for each work area.



**WAC 296-62-07177 When must respirators be inspected?** The proposal adds the new OSHA requirements in 29 CFR 1910.134 (h)(3)(i).

**WAC 296-62-07178 How must respirators be inspected?** The proposal adds the new OSHA requirements in 29 CFR 1910.134 (h)(3)(ii), (iii) and (iv).

**WAC 296-62-07179 How must respirators be repaired and adjusted?** The proposal adds the new OSHA requirements in 29 CFR 1910.134 (h)(4).

**WAC 296-62-07182 What are the breathing gas requirements for atmosphere-supplying respirators?** The proposal adds the new OSHA requirements in 29 CFR 1910.134(j).

**WAC 296-62-07184 How must filters, cartridges and canisters be labeled?** The proposal adds the new OSHA requirements in 29 CFR 1910.134(j). WISHA retains a table describing color coding of respirator filters, cartridges, and canisters currently in WAC 296-62-07119 Table I. The proposal changes the title of the table.

**WAC 296-62-07186 What are the general training requirements?** The proposal retains existing WISHA requirements currently in WAC 296-62-07115(2). The existing requirements are rewritten to help employers understand and comply with the training requirements. It is important to keep these requirements to make sure that employees are properly trained and that a qualified person provides the training.

**WAC 296-62-07188 How do you know if you adequately trained your employees?** The proposal includes new OSHA requirements in 29 CFR 1910.134 (k)(1).

**WAC 296-62-07190 When must your employees be trained?** The proposal includes new OSHA requirements in 29 CFR 1910.134 (k)(2) through (5). OSHA's requirements in CFR 1910.134 (k)(6) are not included in this section because it duplicates what is required in 29 CFR 1910.134 (c)(2)(i) and in the proposed wording in WAC 296-62-07117(2).

**WAC 296-62-07192 How must you evaluate the effectiveness of your respiratory protection program?** The proposal includes new OSHA requirements in 29 CFR 1910.134(l). In subsection (2), the proposal maintains the current provisions in WAC 296-62-07109(11) for supervisors to conduct periodic inspections to make sure respirators are worn properly.

**WAC 296-62-07194 What are the recordkeeping requirements?** The proposal includes new OSHA requirements in 29 CFR 1910.134(m). In subsections (1) and (4), the proposal retains existing provisions currently in WAC 296-62-07115(2), which are written to be more easily understood.

**Appendices A-1, A-2 and A-3 to the general respiratory protection standard (chapter 296-62 WAC, Part E).** WAC 296-62-07201 through 296-62-07248 will contain the same fit testing provisions as OSHA's new standard in 29 CFR 1910.134 Appendix A. The proposal places the general requirements in Appendix A-1, the qualitative fit testing protocol in Appendix A-2, and the quantitative fit testing protocol in Appendix A-3. The proposal separates the provisions into different sections and adds titles closely matching the

provisions included [in] the section. This will make it easier to find procedures for a specific test. For example, WAC 296-62-07236, "How are fit factors calculated (QNFT)?" contains specific guidance regarding fit factor calculation. In the federal standard, this information is somewhat more difficult to locate.

**WAC 296-62-07201 Appendix A-1: General fit testing requirements for respiratory protection—Mandatory.** Appendix A-1 includes the following sections:

- WAC 296-62-07202 What are the general requirements for fit testing?
- WAC 296-62-07203 What are the fit test exercise requirements?

**WAC 296-62-07205 Appendix A-2: Qualitative fit testing (QLFT) protocols for respiratory protection—Mandatory.** Appendix A-2 includes the following sections:

- WAC 296-62-07206 What are the general qualitative fit testing (QLFT) protocols?
- WAC 296-62-07208 Isoamyl acetate protocol (QLFT).
- WAC 296-62-07209 What are the odor threshold screening procedures for isoamyl acetate (QLFT)?
- WAC 296-62-07210 What are the isoamyl acetate fit testing procedures (QLFT)?
- WAC 296-62-07212 Saccharin solution aerosol protocol (QLFT).
- WAC 296-62-07213 What are the taste threshold screening procedures for saccharin (QLFT)?
- WAC 296-62-07214 What is the saccharin solution aerosol fit testing procedure (QLFT)?
- WAC 296-62-07217 Bitrex™ (denatonium benzoate) solution aerosol qualitative fit testing (QLFT) protocol.
- WAC 296-62-07218 What is the taste threshold screening procedure for Bitrex™ (QLFT)?
- WAC 296-62-07219 What is the Bitrex™ solution aerosol fit testing procedure (QLFT)?
- WAC 296-62-07222 Irritant smoke (stannic chloride) protocol (QLFT).
- WAC 296-62-07223 What are the general requirements and precautions for irritant smoke fit testing (QLFT)?
- WAC 296-62-07224 What is the sensitivity screening check protocol for irritant smoke (QLFT)?
- WAC 296-62-07225 What is the irritant smoke fit testing procedure (QLFT)?

**WAC 296-62-07230 Appendix A-3 Quantitative fit testing (QNFT) protocols for respiratory protection—Mandatory.** Appendix A-3 includes the following sections:

- WAC 296-62-07231 What are the general requirements for quantitative fit testing (QNFT)?
- WAC 296-62-07233 Generated aerosol quantitative fit testing protocol (QNFT).
- WAC 296-62-07234 What equipment is required for generated aerosol fit testing (QNFT)?
- WAC 296-62-07235 What are the procedures for generated aerosol quantitative fit testing (QNFT)?
- WAC 296-62-07236 How are fit factors calculated (QNFT)?



- WAC 296-62-07238 Ambient aerosol condensation nuclei counter (CNC) quantitative fit testing protocol.
- WAC 296-62-07239 General information about ambient aerosol condensation nuclei counter (CNC) protocol (QNFT).
- WAC 296-62-07240 What are the general requirements for ambient aerosol condensation nuclei counter (CNC) protocol (QNFT)?
- WAC 296-62-07242 What are the portacount fit testing procedures?
- WAC 296-62-07243 How is the portacount test instrument used?
- WAC 296-62-07245 Controlled negative pressure (CNP) quantitative fit testing protocol (QNFT).
- WAC 296-62-07246 How does controlled negative pressure (CNP) fit testing work (QNFT)?
- WAC 296-62-07247 What are the controlled negative pressure (CNP) fit testing requirements and procedures (QNFT)?
- WAC 296-62-07248 What test exercises are required for controlled negative pressure (CNP) fit testing (QNFT)?

**WAC 296-62-07251 Appendix B-1: User seal check procedures—Mandatory.** The proposal includes the new OSHA requirements in CFR 1910.134 Appendix B-1, making minor changes to improve the clarity of requirements.

**WAC 296-62-07253 Appendix B-2: Respirator cleaning procedures—Mandatory.** The proposal includes the new OSHA requirements in CFR 1910.134 Appendix B-2, making minor changes to improve the clarity of requirements.

**WAC 296-62-07255 Appendix C: WISHA respirator medical evaluation questionnaire—Mandatory.** The proposal adds the new OSHA requirements in CFR 1910.134 Appendix C, making no changes to the OSHA questionnaire.

**WAC 296-62-07257 Appendix D: Health care provider respirator recommendation form—Nonmandatory.** The proposal adds a new WISHA feature in this section. A nonmandatory form that physicians and other licensed health care professionals (PLHCPs) can use that will help employers meet the requirements for a written recommendation in WAC 296-62-07155(1). The form also will make it easier for employers to use medical evaluations completed by a previous employer (see proposed wording in WAC 296-62-07257). The form was developed to help both employers and physicians and other licensed health care professionals comply with the requirements of the standard.

**WAC 296-62-07260 Appendix E: Additional information regarding respirator selection—Nonmandatory.** The proposal moves the information currently in Tables I-IV in WAC 296-62-07113 into WAC 296-62-07261 through 296-62-07295. The proposal updates this information to be consistent with the most current 1992 ANSI Z88.2 standard, the new OSHA respiratory protection standard in 29 CFR 1910.134, and current practices related to respiratory protection to provide the most current and accurate information. The proposed format converts the information currently in the four tables to text. The proposal also organizes the information by type of respirator. In addition, the proposal

includes new information about filters, cartridges, canisters, and disposable respirators based on a request from the advisory committee (see proposed wording in WAC 296-62-07269 and 296-62-07279). These changes make it easier for people unfamiliar with respirators to find additional information to help them select an appropriate respirator and clarify what provisions are provided as information only. Appendix E includes the following sections.

- WAC 296-62-07261 How do you classify respiratory hazards?
- WAC 296-62-07263 What are oxygen deficient respiratory hazards?
- WAC 296-62-07265 What needs to be considered when combination of gas, vapor, and particulate contaminants occur in the workplace?
- WAC 296-62-07267 What are the two major types of respirators?
- WAC 296-62-07269 What are air-purifying respirators (APRs)? The proposal includes new information on disposable respirators requested by the advisory committee.
- WAC 296-62-07271 What are the general limitations for air-purifying respirators (APRs)?
- WAC 296-62-07273 What are particulate-removing respirators?
- WAC 296-62-07275 What are vapor- and gas-removing respirators?
- WAC 296-62-07277 What are combination particulate- and vapor- and gas-removing respirators?
- WAC 296-62-07279 What types of filters, canisters, and cartridges are available for air-purifying respirators (APRs)? The proposal includes new information describing filters, canisters, and cartridges requested by the advisory committee.
- WAC 296-62-07281 How do atmosphere-supplying respirators work?
- WAC 296-62-07283 What are capabilities and limitations of atmosphere-supplying respirators?
- WAC 296-62-07285 What is a supplied-air respirator?
- WAC 296-62-07287 What are the general capabilities and limitations of supplied-air respirators?
- WAC 296-62-07289 What are combination supplied-air and air-purifying respirators?
- WAC 296-62-07291 What are combination supplied-air respirators with auxiliary self-contained air supply?
- WAC 296-62-07293 What is a self-contained breathing apparatus respirator (SCBA)?
- WAC 296-62-07295 What are the limitations for self-contained breathing apparatus respirators (SCBA)?

**Substance-Specific Sections.** The proposal changes the following substance-specific sections to make them like the corresponding federal rules in 29 CFR 1910 and 29 CFR 1926. The proposal standardizes the order of these requirements, eliminates redundant language, leaves substance-specific requirements, and makes the respiratory protection rules consistent. No new state requirements are added.

- WAC 296-62-07306 Requirements for areas containing carcinogens listed in WAC 296-62-07302.
  - WAC 296-62-07308 General regulated area requirements.
  - WAC 296-62-07329 Vinyl chloride.
  - WAC 296-62-07336 Acrylonitrile.
  - WAC 296-62-07337 Appendix A—Substance safety data sheet for acrylonitrile.
  - WAC 296-62-07342 1,2-dibromo-3-chloropropane.
  - WAC 296-62-07343 Appendix A—Substance safety data sheet for DBCP. The proposal makes changes that are similar to those made in WAC 296-62-07337, making respiratory protection rules consistent.
  - WAC 296-62-07347 Inorganic arsenic.
  - WAC 296-62-07367 Respiratory protection and personal protective equipment in ethylene oxide standard.
  - WAC 296-62-07369 Emergency situations in ethylene oxide standard. The proposal moves Table 1—Minimum requirements for respiratory protection for airborne EtO to WAC 296-62-07367.
  - WAC 296-62-07383 Appendix A—Substance safety data sheet for ethylene oxide (nonmandatory).
  - WAC 296-62-07413 Respirator protection in the cadmium standard.
  - WAC 296-62-07425 Communication of cadmium hazards to employees. The proposal adds a reference to chapter 296-62 WAC, Part E, making the respiratory protection rules consistent.
  - WAC 296-62-07441 Appendix A—Substance safety data sheet—Cadmium.
  - WAC 296-62-07460 Butadiene.
  - WAC 296-62-07470 Methylene chloride. The proposal includes new OSHA changes to respiratory protection provision, periodic exposure monitoring, medical surveillance and startup dates. Proposed changes incorporate new OSHA changes published in the January 8, 1998, April 23, 1998, and September 22, 1998, federal registers. The proposal includes only those startup dates that are after September 1, 1999, which is the tentative effective date for these proposed changes.
  - WAC 296-62-07521 Lead.
  - WAC 296-62-07523 Benzene.
  - WAC 296-62-07540 Formaldehyde.
  - WAC 296-62-07615 Respiratory protection in the MDA standard.
  - WAC 296-62-07715 Respiratory protection in the asbestos standard.
  - WAC 296-62-07722 Employee information and training in the asbestos standard. The proposal separates the training requirements for respiratory protection and includes a reference to chapter 296-62 WAC, Part E, making the respiratory protection rules consistent.
  - WAC 296-62-07733 Appendices. Proposal makes minor WISHA changes removing the reference to Appendix C—Qualitative and quantitative fit testing procedures in WAC 296-62-07739 because this section will be repealed.
  - WAC 296-62-11019 Spray-finishing operations.
  - WAC 296-62-11021 Open surface tanks.
  - WAC 296-62-14533 Cotton dust.
  - WAC 296-62-20011 Respiratory protection in the coke oven emissions standard.
  - WAC 296-62-20019 Employee information and training. The proposal includes a reference to chapter 296-62 WAC, Part E, making the respiratory protection rules consistent.
  - WAC 296-62-20027 Appendix A—Coke oven emissions substance information sheet. The proposal eliminates out-of-date provisions, making the respiratory protection rules consistent.
- WAC 296-78-655 Sanding machines and 296-78-71019 Exhaust systems.** The proposal includes WISHA changes updating references to chapter 296-62 WAC, Part E.
- WAC 296-155-17317 Respiratory protection for MDA in Part B-1, Occupational health and environmental control.** The proposal includes the new OSHA provisions in 29 CFR 1926.60, making the state requirements the same as the federal standard.
- WAC 296-155-17337 Appendices for MDA in Part B-1, Occupational health and environmental control.** The proposal makes a WISHA change, eliminating the last sentence about the fit testing protocols in WAC 296-155-17349, which makes WISHA's rules consistent.
- WAC 296-155-17341 Appendix A to WAC 296-155-173—Substance data sheet, for 4-4'-methylenedianiline in Part B-1.** The proposal makes a WISHA change, replacing wording about the joint Mine Safety and Health Administration with wording indicating that respirators must be certified by NIOSH. This change is consistent with similar language in many of the other substance-specific standards, making WISHA's rules consistent.
- WAC 296-155-174 Cadmium in Part B-1.** The proposal updates the respiratory protection provisions in subsection (7) to parallel federal changes made to CFR 1926.1127. The proposal makes a WISHA change, eliminating the effective date and startup dates in subsection (16). In subsection (17), the proposal makes another WISHA change, updating the reference for fit testing protocols to chapter 296-62 WAC, Part E, making WISHA's rules consistent.
- WAC 296-155-17613 Respiratory protection for lead in Part B-1.** The proposal updates the respiratory protection provisions to parallel federal changes made to CFR 1926.62.
- WAC 296-155-17625 Employee information and training for lead in Part B-1.** The proposal makes a WISHA change correcting the reference to chapter 296-62 WAC, Part E, which makes the WISHA's rules consistent.
- WAC 296-155-17652 Appendix B to WAC 296-155-176—Employee standard summary.** The proposal changes the wording to be like the federal standard in 29 CFR 1926.62.
- WAC 296-155-220 Respiratory protection in Part C PPE and life saving equipment.** The proposal includes new OSHA language in 29 CFR 1926.103, but eliminates the word "note" from the federal language to avoid confusion about this provision.

**WAC 296-155-367 Masonry saws in Part G.** The proposal makes a WISHA change correcting the reference to chapter 296-62 WAC, Part E, which makes the WISHA's rules consistent.

**WAC 296-155-655 General protection requirements in Part N, Excavation, trenching and shoring.** The proposal makes a WISHA change correcting the reference to chapter 296-62 WAC, Part E, which makes the WISHA's rules consistent.

**WAC 296-155-730 Tunnels and shafts in Part Q, Underground construction.** The proposal includes new OSHA changes in 29 CFR 1926.800 (g)(2) to subsection (7). The proposal also includes a WISHA change, updating subsection (13)(f), making WISHA's rules consistent.

**WAC 296-304-03005 Mechanical paint removers.** The proposal updates a reference to chapter 296-62 WAC, Part E.

**WAC 296-305-02501 Emergency medical protection.** The proposal updates a reference to chapter 296-62 WAC, Part E.

**Repealed sections containing fit test protocols.** The proposal repeals the following sections, changes WISHA's rules to reflect the new OSHA changes to fit test protocols, and eliminates redundant and sometimes inconsistent fit test procedures. Proposed fit test procedures are located in the general respiratory protection standard in WAC 296-62-07201 through 296-62-07248.

- WAC 296-62-07445 Appendix C—Qualitative and quantitative fit testing procedures—(Fit test protocols).
- WAC 296-62-07550 Appendix E—Qualitative and quantitative fit testing procedures.
- WAC 296-62-07533 Appendix E Qualitative and quantitative fit testing procedures.
- WAC 296-62-07662 Appendix E to WAC 296-62-076—Qualitative and quantitative fit testing.
- WAC 296-62-07664 Appendix E-1—Qualitative fit test protocols.
- WAC 296-62-07666 Appendix E-1-a—Isoamyl acetate (banana oil) protocol.
- WAC 296-62-07668 Appendix E-1-b—Saccharin solution aerosol protocol.
- WAC 296-62-07670 Appendix E-1-c—Irritant fume protocol.
- WAC 296-62-07672 Appendix E-2—Quantitative fit test procedures.
- WAC 296-62-07739 Appendix C—Qualitative and quantitative fit testing procedures—Mandatory.

- WAC 296-155-17349 Appendix E to WAC 296-155-173—Methylenedianiline—Qualitative and quantitative fit testing procedures.
- WAC 296-155-17351 Appendix E-1—Qualitative protocols.
- WAC 296-155-17353 Appendix E-1-a—Isoamyl acetate (banana oil) protocol.
- WAC 296-155-17355 Appendix E-1-b—Saccharin solution and aerosol protocol.
- WAC 296-155-17357 Appendix E-1-c—Irritant fume protocol.
- WAC 296-155-17359 Appendix E-2—Quantitative fit test procedures.
- WAC 296-155-17656 Appendix D to WAC 296-155-176—Qualitative and quantitative fit test protocols.

**Sections repealed or amended containing effective or startup dates.** The proposal includes WISHA changes that repeal or amend the following sections, eliminating effective dates and startup dates that have passed and are no longer needed. These changes will reduce the number of pages in WISHA's rules.

- WAC 296-62-07121 Effective date, repealed.
- WAC 296-62-07329 Vinyl chloride, amended.
- WAC 296-62-07336 Acrylonitrile, amended.
- WAC 296-62-07347 Inorganic arsenic, amended.
- WAC 296-62-07379 Dates, repealed.
- WAC 296-62-07431 Dates, repealed.
- WAC 296-62-07521 Lead, amended.
- WAC 296-62-07523 Benzene, amended.
- WAC 296-62-07635 Effective dates, repealed.
- WAC 296-62-07639 Startup dates, repealed.
- WAC 296-62-14533 Cotton dust, amended.
- WAC 296-155-17335 Effective dates for MDA in Part B-1, Occupational health and environmental control, repealed.
- WAC 296-155-17635 Startup dates, repealed.

Reasons Supporting Proposal: See Summary above.

Name of Agency Personnel Responsible for Drafting: Tracy Spencer, Tumwater, (360) 902-5530; Implementation and Enforcement: Michael A. Silverstein, Tumwater, (360) 902-5495.

Name of Proponent: Department of Labor and Industries, governmental.

Rule is necessary because of federal law, the following table shows the federal rules revised by OSHA, corresponding state rules included in this proposal, and the subject of the revised rules.

29 CFRs amended by OSHA	Corresponding state rules included in the proposal - WAC	Subject
1910.94	296-62-11019, 296-62-11021, 296-24-67507, 296-24-65515, 296-24-67517	Ventilation/abrasive blasting
1910.111	296-24-51005, 296-24-51009	Anhydrous ammonia
1910.134	296-62-071 through 296-62-07295, 296-24-58516	Respiratory protection
1910.156	296-24-58513, 296-24-58515, 296-24-58517	Fire brigades

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29 CFRs amended by OSHA	Corresponding state rules included in the proposal - WAC	Subject
1910.252	296-24-71507, 296-24-71513, 296-24-71517, 296-24-71519	General requirements/ ventilation in confined spaces/lead/cadmium/mercury
1910.1001	296-62-07715, 296-62-07722, 296-62-07733, 296-62-07739	Asbestos
1910.1003	296-62-07306, 296-62-07308	13 Specific Carcinogens
1910.1017	296-62-07329	Vinyl chloride
1910.1018	296-62-07347	Inorganic arsenic
1910.1025	296-62-07521	Lead
1910.1027	296-62-07413, 296-62-07425, 296-62-07441, 296-62-07445	Cadmium
1910.1028	296-62-07523, 296-62-07533	Benzene
1910.1029	296-62-20011, 296-62-20019, 296-62-20027	Coke oven emissions
1910.1043	296-62-14533	Cotton dust
1910.1044	296-62-07342, 296-62-07343	1,2-Dibromo3-chloropropane
1910.1045	296-62-07336, 296-62-07337	Acrylonitrile
1910.1047	296-62-07367, 296-62-07369, 296-62-07383	Ethylene oxide
1910.1048	296-62-07540, 296-62-07550	Formaldehyde
1910.1050	296-62-07615, 296-62-07662, 296-62-07664, 296-62-07666, 296-62-07668, 296-62-07670, 296-62-07672	Methylenedianiline
1910.1051	296-62-07460	1,2-butadiene
1910.1052	296-62-07470	Methylene chloride
1926.57	296-24-67507, 296-24-67515, 296-24-67517, 296-62-11019, 296-62-11021	Ventilation/abrasive blasting
1926.60	296-155-17317, 296-155-17341, 296-155-17349 through 296-155-17359	Methylenedianiline (MDA)
1926.62	296-155-17613, 296-155-17652, 296-155-17656	Lead
1926.103	296-155-220	Respiratory protection in construction
1926.800	296-155-730	Underground construction
1926.1101	296-62-07715, 296-62-07722, 296-62-07733, 296-62-07739	Asbestos
1926.1127	296-155-174	Cadmium

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

Proposal Changes the Following Existing Rules: See Summary above.

No small business economic impact statement has been prepared under chapter 19.85 RCW. The department conducted several surveys and found that a small business economic impact statement is not required because no more than a minor economic impact exists for the affected businesses.

RCW 34.05.328 applies to this rule adoption.

- The OSHA new requirements included in this proposal are exempted from the significant rule-making criteria in RCW 34.05.328 (5)(b)(iii) and (iv) for most industries because WISHA will be adopting federal regulations without material change. WISHA must adopt new OSHA requirements to be as effective as the federal rules.
- RCW 34.05.328 does not apply to the current requirements, which WISHA is maintaining in this proposal. Many are reworded for clarity.

- Updating the current assigned protection factors to the more recent 1992 ANSI Z88.2 standard is exempted from the significant rule-making criteria in RCW 34.05.328 (5)(b)(iii) and (iv) because WISHA is incorporating a national consensus code that generally establishes industry standards.
- The significant rule-making criteria applies to new OSHA requirements that exceed existing WISHA requirements for work activities related to agriculture and tuberculosis, which are not covered by OSHA's new rules.

Hearing Location: Department of Labor and Industries Building, Auditorium, 7273 Linderson Way S.W., Tumwater, WA, on January 5, 1999, at 9:30 a.m.; at Cavanaugh's Fourth Avenue Glacier Room, 110 East 4th, Spokane, WA, on January 6, 1999, at 9:30 a.m.; and at Cavanaugh's, 607 East Yakima Avenue, Yakima, WA, on January 7, 1999, at 9:30 a.m.

Assistance for Persons with Disabilities: Contact Christy Wood by December 22, 1998, at (360) 902-5524.

Submit Written Comments to: By mail to: Tracy Spencer, Standards Manager, WISHA Services Division, P.O. Box 44620, Olympia, WA 98507-4620.

By fax: (360) 902-5529 (comments submitted by fax must be ten pages or less).

By electronic mail to: Christy Wood, WISHA Standards Project Manager, woch235@lni.wa.gov.

Comments must be received no later than January 14, 1999.

Date of Intended Adoption: May 4, 1999.

November 16, 1998

Gary Moore

Director

**AMENDATORY SECTION** (Amending Order 94-16, filed 9/30/94, effective 11/20/94)

**WAC 296-24-07501 General requirements.** (1) Application.

(a) Protective equipment, including personal protective equipment for eyes, face, head, and extremities, protective clothing, respiratory devices, and protective shields and barriers, shall be provided, used, and maintained in a sanitary and reliable condition wherever it is necessary by reason of hazards of processes or environment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact.

(b) Employee owned equipment. Where employees provide their own protective equipment, the employer shall be responsible to assure its adequacy, including proper maintenance, and sanitation of such equipment.

(c) Design. All personal protective equipment shall be of safe design and construction for the work to be performed. Protectors shall be durable, fit snugly and shall not unduly interfere with the movements of the wearer.

(2) Hazard assessment and equipment selection. This subsection does not apply to WAC 296-24-092, Electrical protective devices, and (~~WAC 296-62-071 through 296-62-07424~~) chapter 296-62 WAC, Part E, Respiratory protection.

(a) The employer shall assess the workplace to determine if hazards are present, or are likely to be present, which necessitate the use of personal protective equipment (PPE). If such hazards are present, or likely to be present, the employer shall:

(i) Select, and have each affected employee use, the types of PPE that will protect the affected employee from the hazards identified in the hazard assessment;

(ii) Communicate selection decisions to each affected employee; and

(iii) Select PPE that properly fits each affected employee.

Note: Nonmandatory Appendix B contains an example of procedures that would comply with the requirement for a hazard assessment.

(b) The employer shall verify that the required workplace hazard assessment has been performed through a writ-

ten certification that identifies the workplace evaluated; the person certifying that the evaluation has been performed; the date(s) of the hazard assessment; and, which identifies the document as a certification of hazard assessment.

(3) Defective and damaged equipment. Defective or damaged personal protective equipment shall not be used.

(4) Training. This subsection does not apply to WAC 296-24-092, Electrical protective devices, and WAC 296-62-071 through 296-62-07121, Part E, Respiratory protection.

(a) The employer shall provide training to each employee who is required by this section to use PPE. Each such employee shall be trained to know at least the following:

(i) When PPE is necessary;

(ii) What PPE is necessary;

(iii) How to properly don, doff, adjust, and wear PPE;

(iv) The limitations of the PPE; and

(v) The proper care, maintenance, useful life and disposal of the PPE.

(b) Each affected employee shall demonstrate an understanding of the training specified in (a) of this subsection, and the ability to use PPE properly, before being allowed to perform work requiring the use of PPE.

(c) When the employer has reason to believe that any affected employee who has already been trained does not have the understanding and skill required by (b) of this subsection, the employer shall retrain each such employee. Circumstances where retraining is required include, but are not limited to, situations where:

(i) Changes in the workplace render previous training obsolete; or

(ii) Changes in the types of PPE to be used render previous training obsolete; or

(iii) Inadequacies in an affected employee's knowledge or use of assigned PPE indicate that the employee has not retained the requisite understanding or skill.

(d) The employer shall verify that each affected employee has received and understood the required training through a written certification that contains the name of each employee trained, the date(s) of training, and that identifies the subject of the certification.

**AMENDATORY SECTION** (Amending Order 94-07, filed 7/20/94, effective 9/20/94)

**WAC 296-24-51005 Definitions.** The following definitions are applicable to all sections of this chapter which include WAC 296-24-510 in the section number and shall be construed to have the meanings below.

(1) "Approved" as used in these standards means:

(a) Listed by a recognized testing laboratory, or

(b) Recommended by the manufacturer as suitable for use with anhydrous ammonia and so marked, or

(c) Accepted by the authority having jurisdiction.

(2) "Appurtenance" refers to all devices such as pumps, compressors, safety relief devices, liquid-level gaging devices, valves and pressure gages.

(3) "Capacity" refers to the total volume of the container measured in U.S. gallons, unless otherwise specified.

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(4) "Cylinder" means a container of 1000 pounds water capacity or less constructed in accordance with United States Department of Transportation Specifications.

(5) The "code" refers to the Unfired Pressure Vessel Code of the American Society of Mechanical Engineers (Section VIII of the ASME Boiler Construction Code), 1952, 1956, 1959, 1962, 1965, 1968 and 1971 editions, the joint code of the American Petroleum Institute and the American Society of Mechanical Engineers (API-ASME Code) 1951 edition, and subsequent amendments to or later editions of the same, as adopted.

(6) "Container" includes all vessels, tanks, cylinders or spheres used for transportation, storage or application of anhydrous ammonia.

(7) "Design pressure" is identical to the term "maximum allowable working pressure" used in the code.

(8) An "implement of husbandry" is a farm wagon-type tank vehicle of not over 3000 gallons capacity, used as a field storage "nurse tank" supplying the fertilizer to a field applicator and moved on highways only for bringing the fertilizer from a local source of supply to farms or fields or from one farm or field to another.

(9) "Filling density" means the per cent ratio of the weight of the gas in a container to the weight of water at 60°F that the container will hold. One lb. H<sub>2</sub>O = 27.737 cu. in. at 60°F. For determining the weight capacity of the tank in pounds, the weight of a gallon (231 cubic inches) of water at 60°F in air shall be 8.32828 pounds.

(10) "Gas" refers to anhydrous ammonia in either the gaseous or liquefied state.

(11) "Gas mask" refers to gas masks approved by the Mine Safety and Health Administration (MSHA) and the National Institute for Occupational Safety and Health (NIOSH). ~~((See American National Standards Institute for Respiratory Protection, Z88.2. (See Appendix C for availability.)))~~

(12) "DOT regulations" refer to hazardous materials regulations of the department of transportation (Title 49—Transportation, Code of Federal Regulations, Parts 171 to 190), including Specifications for Shipping Containers.

(13) "Systems" as used in these standards refers to an assembly of equipment consisting essentially of the container or containers, appurtenances, pumps, compressors, and interconnecting piping.

(14) The abbreviations "psig" and "psia" refer to pounds per square inch gage and pounds per square inch absolute, respectively.

(15) The terms "charging" and "filling" are used interchangeably and have the same meaning.

(16) "Trailer" as used in these standards refers to every vehicle designed for carrying property and for being drawn by a motor vehicle and so constructed that no part of its weight except the towing device rests upon the towing vehicle.

(17) "Tank motor vehicle" means any motor vehicle designed or used for the transportation of anhydrous ammonia in any tank designed to be permanently attached to any motor vehicle or any container not permanently attached to any motor vehicle which by reason of its size, construction or

attachment to any motor vehicle must be loaded and/or unloaded without being removed from the motor vehicle.

(18) "Semitrailer" refers to every vehicle designed for carrying property and for being drawn by a motor vehicle and so constructed that some part of its weight and that of its load rests upon or is carried by another vehicle.

(19) "Safety relief valve" refers to an automatic spring loaded or equivalent type pressure activated device for gas or vapor service characterized by pop action upon opening, sometimes referred to as a pop valve. (Refer to American National Standards Institute, Terminology for Pressure Relief Devices, B95.1.)

(20) "Hydrostatic relief valve" refers to an automatic pressure activated valve for liquid service characterized by throttle or slow weep opening (nonpop action). (Refer to American National Standards Institute, Terminology for Pressure Relief Devices, B95.1.)

**AMENDATORY SECTION** (Amending Order 91-07, filed 11/22/91, effective 12/24/91)

**WAC 296-24-51009 Basic rules.** This section applies to all sections of this chapter which include WAC 296-24-510 in the section number unless otherwise noted.

(1) Approval of equipment and systems. Each appurtenance shall be approved in accordance with (a), (b), (c), and (d) of this subsection.

(a) It was installed before February 8, 1973 and was approved and tested, and installed in accordance with either the provisions of the American National Standard for the Storage and Handling of Anhydrous Ammonia, K61.1, or the Fertilizer Institute Standards for the Storage and Handling of Agricultural Anhydrous Ammonia, M-1, in effect at the time of installation; or

(b) It is accepted, or certified, or listed, or labeled, or otherwise determined to be safe by a nationally recognized testing laboratory; or

(c) It is a type which no nationally recognized testing laboratory does, or will undertake to accept, certify, list, label, or determine to be safe; and such equipment is inspected or tested by any federal, state, municipal, or other local authority responsible for enforcing occupational safety provisions of a federal, state, municipal or other local law, code, or regulation pertaining to the storage, handling, transport, and use of anhydrous ammonia, and found to be in compliance with either the provisions of the American National Standard for the Storage and Handling of Anhydrous Ammonia, K61.1, or the Fertilizer Institute Standards for the Storage and Handling of Agricultural Anhydrous Ammonia, M-1, in effect at the time of installation; or

(d) It is a custom-designed and custom-built unit, which no nationally recognized testing laboratory, or federal, state, municipal or local authority responsible for the enforcement of a federal, state, municipal, or local law, code or regulation pertaining to the storage, transportation and use of anhydrous ammonia is willing to undertake to accept, certify, list, label or determine to be safe, and the employer has on file a document attesting to its safe condition following the conduct of appropriate tests. The document shall be signed by a registered professional engineer or other person having special

training or experience sufficient to permit him/her to form an opinion as to safety of the unit involved. The document shall set forth the test bases, test data and results, and also the qualifications of the certifying person.

(e) For the purposes of this section the word "listed" means that equipment is of a kind mentioned in a list which is published by a nationally recognized laboratory which makes periodic inspection of the production of such equipment, and states such equipment meets nationally recognized standards or has been tested and found safe for use in a specified manner. "Labeled" means there is attached to it a label, symbol, or other identifying mark of a nationally recognized testing laboratory which makes periodic inspections of the production of such equipment, and whose labeling indicates compliance with nationally recognized standards or tests to determine safe use in a specified manner. "Certified" means it has been tested and found by a nationally recognized testing laboratory to meet nationally recognized standards or to be safe for use in a specified manner, or is of a kind whose production is periodically inspected by a nationally recognized testing laboratory, and it bears a label, tag, or other record of certification.

(f) For purposes of this section, refer to federal regulation 29 CFR 1910.7 for definition of nationally recognized testing laboratory.

(2) Requirements for construction, original test and requalification of not-refrigerated containers.

(a) Containers used with systems covered in WAC 296-24-51011 and 296-24-51017 through 296-24-51021 shall be constructed and tested in accordance with the code except that construction under Table UW - 12 at a basic joint efficiency of under eighty percent is not authorized.

Containers built according to the code do not have to comply with paragraphs UG-125 to UG-128, inclusive, and paragraphs UG-132 and UG-133 of the code.

(b) Containers exceeding thirty-six inches in diameter or two hundred fifty gallons water capacity shall be constructed to comply with one or more of the following:

(i) Containers shall be stress relieved after fabrication in accordance with the code, or

(ii) Cold-formed heads, when used, shall be stress relieved, or (c)

(iii) Hot-formed heads shall be used.

(c) Welding to the shell, head, or any other part of the container subject to internal pressure shall be done in compliance with WAC 296-24-51005(5). Other welding is permitted only on saddle plates, lugs, or brackets attached to the container by the container manufacturer.

(d) Containers used with systems covered by subsection (3)(b)(iv) of this section shall be constructed and tested in accordance with the DOT specifications.

(e) The provisions of (a) of this subsection shall not be construed as prohibiting the continued use or reinstallation of containers constructed and maintained in accordance with the 1949, 1950, 1952, 1956, 1959, 1962, 1965 and 1968 editions of the Unfired Pressure Vessel Code of the ASME or any revisions thereof in effect at the time of fabrication.

(3) Markings on nonrefrigerated containers and systems other than DOT containers.

(a) System nameplates, when required, shall be permanently attached to the system so as to be readily accessible for inspection and shall include markings as prescribed in (b) of this subsection.

(b) Each container or system covered in WAC 296-24-51011, 296-24-51017, 296-24-51019 and 296-24-51021 shall be marked as specified in the following:

(i) With a marking identifying compliance with the rules of the code under which the container is constructed.

(ii) With a notation on the container and system nameplate when the system is designed for underground installation.

(iii) With the name and address of the supplier of the container or the trade name of the container and with the date of fabrication.

(iv) With the water capacity of the container in pounds at 60°F or gallons, United States standard.

(v) With the design pressure in pounds per square inch gage.

(vi) With the wall thickness of the shell and heads.

(vii) With marking indicating the maximum level to which the container may be filled with liquid anhydrous ammonia at temperatures between 20°F and 100°F except on containers provided with fixed maximum level indicators, such as fixed length dip tubes, or containers that are filled by weight. Markings shall be in increments of not more than 20°F.

(viii) With the outside surface area in square feet.

(ix) With minimum temperature in Fahrenheit for which the container is designed.

(x) Marking specified on container shall be on the container itself or on a nameplate permanently affixed thereto.

(c) All main operating valves on permanently installed containers having a capacity of over three thousand water gallons shall be identified to show whether the valve is in liquid or vapor service. The recommended method of identification may be legend or color code as specified in (c)(i) and (ii) of this subsection:

(i) Legend: The legend **liquid** (or **liquid valve**), **vapor** (or **vapor valve**), as appropriate, shall be placed on or within twelve inches of the valve by means of a stencil tag, or decal.

(ii) Color code: Liquid valves shall be painted orange and vapor valves shall be painted yellow. The legend **orange-liquid**, **yellow-vapor** shall be displayed in one or more conspicuous places at each permanent storage location. The legend shall have letters at least two inches high and shall be placed against a contrasting background. This is in accordance with American National Standard A13.1 "Schemes for Identification of Piping Systems"—1956, Page 5.

(4) Marking refrigerated containers. (See WAC 296-24-51013(3). Marking refrigerated containers.)

(5) Location of containers.

(a) Consideration shall be given to the physiological effects of ammonia as well as to adjacent fire hazards in selecting the location for a storage container. Containers shall be located outside of buildings or in buildings or sections thereof especially approved for this purpose.

(b) Containers shall be located at least fifty feet from a dug well or other sources of potable water supply, unless the container is a part of a water treatment installation.

(c) The location of permanent storage containers shall be outside densely populated areas.

(d) Container locations shall comply with the following table:

Nominal Capacity of Container	Minimum Distances (feet) from Container to:		
	Line of Adjoining Property Which may be Built upon, Highways & Mainline of Railroad	Place of Public Assembly	Institution Occupancy
Over 500 to 2,000	25	150	250
Over 2,000 to 30,000	50	300	500
Over 30,000 to 100,000	50	450	750
Over 100,000	50	600	1,000

(e) Storage areas shall be kept free of readily ignitable materials such as waste, weeds and long dry grass.

(6) Container appurtenances.

(a) All appurtenances shall be designed for not less than the maximum working pressure of that portion of the system on which they are installed. All appurtenances shall be fabricated from materials proved suitable for anhydrous ammonia service.

(b) All connections to containers except safety relief devices, gaging devices, or those fitted with a No. 54 drill size orifice shall have shutoff valves located as close to the container as practicable.

(c) Excess flow valves where required by these standards shall close automatically at the rated flows of vapor or liquid as specified by the manufacturer. The connections and line including valves and fittings being protected by an excess flow valve shall have a greater capacity than the rated flow of the excess flow valve.

(d) Liquid level gaging devices that require bleeding of the product to the atmosphere and which are so constructed that outward flow will not exceed that passed by a No. 54 drill size opening need not be equipped with excess flow valves.

(e) Openings from container or through fittings attached directly on container to which pressure gage connections are made need not be equipped with excess flow valves if such openings are not larger than No. 54 drill size.

(f) Excess flow and back pressure check valves where required by these standards shall be located inside of the container or at a point outside as close as practicable to where the line enters the container. In the latter case, installation shall be made in such manner that any undue stress beyond the excess flow or back pressure check valve will not cause breakage between the container and the valve.

(g) Excess flow valves shall be designed with a bypass, not to exceed a No. 60 drill size opening to allow equalization of pressures.

(h) Shutoff valves provided with an excess flow valve shall be designed for proper installation in a container con-

nection so that the excess flow valve will close should the shutoff valve break.

(i) All excess flow valves shall be plainly and permanently marked with the name or trademark of the manufacturer, the catalog number, and the rated capacity.

(7) Piping, tubing and fittings.

(a) All piping, tubing and fittings shall be made of material suitable for anhydrous ammonia service.

(b) All piping, tubing and fittings shall be designed for a pressure not less than the maximum pressure to which they may be subjected in service.

(c) All piping shall be well supported and provision shall be made for expansion and contraction. All refrigeration system piping shall conform to the Refrigeration Piping Code (ANSI B31.5 1966 addenda B31.1a-1968), a section of the American Standard Code for Pressure Piping, as it applies to ammonia.

(d) Piping used on nonrefrigerated systems shall be at least ASTM A-53-1969 Grade B Electric Resistance Welded and Electric Flash Welded Pipe or equal. Such pipe shall be at least Schedule 40 when joints are welded, or welded and flanged. Such pipe shall be at least Schedule 80 when joints are threaded. Brass, copper, or galvanized steel pipe or tubing shall not be used.

(e) All metal flexible connections for permanent installations shall have a minimum working pressure of 250 p.s.i.g. (safety factor of 4). For temporary installations, hose meeting the requirement of subsection (8) of this section may be used.

(f) Cast iron fittings shall not be used but this shall not prohibit the use of fittings made specially for ammonia service of malleable or nodular iron such as Specification ASTM A47 or ASTM A395.

(g) Provisions shall be made for expansion, contraction, jarring, vibration, and for settling.

(h) Adequate provisions shall be made to protect all exposed piping from physical damage that might result from moving machinery, the presence of automobiles or trucks, or any other undue strain that may be placed upon the piping.

(i) Joint compounds shall be resistant to ammonia.

(j) After assembly, all piping and tubing shall be tested and proved to be free from leaks at a pressure not less than the normal operating pressure of the system.

(8) Hose specification.

(a) Hose used in ammonia service and subject to container pressure shall conform to the joint Rubber Manufacturers Association and the Fertilizer Institute "Hose Specifications for Anhydrous Ammonia" (see Appendix B).

(b) Hose subject to container pressure shall be designed for a minimum working pressure of 350 p.s.i.g. and a minimum burst pressure of 1750 p.s.i.g. Hose assemblies, when made up, shall be capable of withstanding a test pressure of 500 p.s.i.g.

(c) Hose and hose connections located on the low pressure side of flow control or pressure reducing valves on devices discharging to atmospheric pressure shall be designed for the maximum low side working pressure. All connections shall be designed, constructed, and installed so that there will be no leakage when connected.

(d) Where liquid transfer hose is not drained of liquid upon completion of transfer operations, such hose shall be

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equipped with an approved shutoff valve at the discharge end. Provision shall be made to prevent excessive hydrostatic pressure in the hose. (See subsection (9)(j) of this section.)

(e) On all hose one-half inch O.D. and larger, used for the transfer of anhydrous ammonia liquid or vapor, there shall be etched, cast, or impressed at five-foot intervals the following information:

"Anhydrous Ammonia"  
xxx p.s.i.g. (Maximum working pressure)  
Manufacturer's Name or Trademark  
Year of Manufacture

(9) Safety relief devices.

(a) Every container used in systems covered by WAC 296-24-51011, 296-24-51017, 296-24-51019 and 296-24-51021 shall be provided with one or more safety relief valves of the spring-loaded or equivalent type. The discharge from safety relief valves shall be vented away from the container, upward and unobstructed to the atmosphere. All safety relief valve discharge openings shall have suitable raincaps that will allow free discharge of the vapor and prevent the entrance of water. Provision shall be made for draining condensate which may accumulate. The rate of the discharge shall be in accordance with the provisions of Appendix A.

(b) Container safety relief valves shall be set to start-to-discharge as follows, with relations to the design pressure of the container.

Containers	Minimum	Maximum*
ASME U-68, U-69	110%	125%
ASME U-200, U-201	95%	100%
ASME 1952, 1956, 1959, 1962, 1965, 1968 or 1971	95%	100%
API-ASME	95%	100%
U.S. Coast Guard (As required by USCG regulations)		
DOT (As required by DOT regulations)		

\*Note: A relief valve manufacturer's tolerance of plus ten percent is permitted.

(c) Safety relief devices used in systems covered by WAC 296-24-51011, 296-24-51017, 296-24-51019 and 296-24-51021 shall be constructed to discharge at not less than the rates required in (a) of this subsection before the pressure is in excess of one hundred twenty percent (not including the ten percent tolerance referred to in (b) of this subsection) of the maximum permitted start-to-discharge pressure setting of the device.

(d) Safety relief valves shall be so arranged that the possibility of tampering will be minimized. If the pressure setting adjustment is external, the relief valves shall be provided with means for sealing the adjustment.

(e) Shutoff valves shall not be installed between the safety relief valves and the containers or systems described in WAC 296-24-51011, 296-24-51017, 296-24-51019 and 296-24-51021, except that a shutoff valve may be used where the arrangement of this valve is such as always to afford required capacity flow through the relief valves.

Note: The above exception is made to cover such cases as a three-way valve installed under two safety relief valves, each of which has the required rate of discharge and is so installed as to allow either of the safety relief valves to be closed off, but does not allow both safety valves to be closed off at the same time. Another exception to this may be where two separate relief valves are installed with individual shutoff valves. In this case, the two shutoff valve stems shall be mechanically interconnected in a manner which will allow full required flow of one safety relief valve at all times. Still another exception is a safety relief valve manifold which allows one valve of two, three, four or more to be closed off and the remaining valve or valves will provide not less than the rate of discharge shown on the manifold nameplate.

(f) Safety relief valves shall have direct communication with the vapor space of the container.

(g) Each safety relief valve used with systems described in WAC 296-24-51011, 296-24-51017, 296-24-51019 and 296-24-51021 shall be plainly and permanently marked as follows:

(i) With the letters "AA" or the symbol "NH3."

(ii) The pressure in pounds per square inch gage (p.s.i.g.) at which the valve is set to start-to-discharge.

(iii) The rate of discharge of the valve in cubic feet per minute of air at 60°F and atmospheric pressure (14.7 p.s.i.a.).

(iv) The manufacturer's name and catalog number.

For example, a safety relief valve marked AA-250-4200 (air) would mean that this valve is suitable for use on an anhydrous ammonia container; that it is set to start-to-discharge at 250 p.s.i.g.; and that its rate of discharge (see subsection (8)(a) through (c) of this section) is four thousand two hundred cubic feet per minute of air.

(h) The flow capacity of the safety relief valve shall not be restricted by any connection to it on either the upstream or downstream side.

(i) The manufacturer or supplier of a safety relief valve manifold shall publish complete data showing the flow rating through the combined assembly of the manifold with safety relief valves installed. The manifold flow rating shall be determined by testing the manifold with all but one valve discharging. If one or more openings have restrictions not present in the remaining openings, the restricted opening or openings or those having the lowest flow shall be used to establish the flow rate marked on the manifold nameplate. The marking shall be similar to that required in (g) of this subsection for individual valves.

(j) A hydrostatic relief valve shall be installed between each pair of valves in the liquid ammonia piping or hose where liquid may be trapped so as to relieve into the atmosphere at a safe location.

(k) Discharge from safety relief devices shall not terminate in or beneath any building.

(10) Safety. See CGA Pamphlet G-2, TFI Operational Safety Manual M-2 and MCA Safety Data Sheet SD-8 (see Appendix C for availability).

(a) Personnel required to handle ammonia shall be trained in safe operating practices and the proper action to take in the event of emergencies. Personnel shall be instructed to use the equipment listed in (c) of this subsection in the event of an emergency. (Rev. 1-22-76)

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(b) If a leak occurs in an ammonia system, the personnel trained for and designated to act in such emergencies shall:

- (i) See that persons not required to deal with an emergency are evacuated from the contaminated area.
- (ii) Put on a suitable gas mask.
- (iii) Wear gauntlet type plastic or rubber gloves and wear plastic or rubber suits in heavily contaminated atmospheres.
- (iv) Shut off the appropriate valves.

(c) All stationary storage ((systems)) installations shall have ~~((on hand, as a minimum, the following equipment for emergency and rescue purposes))~~ at least:

~~((\*)~~(i) ~~((One full face gas mask with anhydrous ammonia refill canisters.))~~ Two suitable gas masks in readily accessible locations. Full face masks with ammonia canisters as certified by NIOSH under 42 CFR Part 84, are suitable for emergency action for most leaks, particularly those that occur outdoors. For protection in concentrated ammonia atmospheres self-contained breathing apparatus is required.

~~((\*\*~~)(ii) One pair of protective gloves made of rubber or other material impervious to ammonia.

~~((\*\*~~)(iii) One pair of protective boots made of rubber or other material impervious to ammonia.

~~((\*\*~~)(iv) One protective slicker and/or protective pants and jacket made of rubber or other material impervious to ammonia.

(v) Easily accessible shower and/or at least fifty gallons of clean water in an open top container.

(vi) Tight fitting vented goggles or one full face shield.

~~((\* An ammonia canister is effective for short periods of time in light concentrations of ammonia vapor, generally fifteen minutes in concentrations of three percent and will not protect breathing in heavier concentrations. If ammonia vapors are detected when mask is applied the concentration is too high for safety. The life of a canister in service is controlled by the percentage of vapors to which it is exposed. Canisters must not be opened until ready for use and should be discarded after use. Unopened canisters may be guaranteed for as long as three years. All should be dated when received because of this limited life. In addition to this protection, an independently supplied air mask of the type used by fire departments may be used for severe emergencies.~~

~~\*\* Gloves, boots, slickers, jackets and pants shall be made of rubber or other material impervious to ammonia.))~~

(d) Where several persons are usually present, additional safety equipment may be desirable.

(e) Each tank motor vehicle transporting anhydrous ammonia, except farm applicator vehicles, shall carry a container of at least five gallons of water and shall be equipped with a full face gas mask, a pair of tight-fitting goggles or one full face shield. The driver shall be instructed in their use and the proper action to take to provide for his/her safety.

(f) If a leak occurs in transportation equipment and it is not practical to stop the leak, the driver should move the vehicle to an isolated location away from populated communities or heavily traveled highways.

(g) If liquid ammonia contacts the skin or eyes, the affected area should be promptly and thoroughly flushed with water. Do not use neutralizing solutions or ointments on affected areas. A physician shall treat all cases of eye exposure to liquid ammonia.

(11) Filling densities. (See WAC 296-24-51005(9).)

(a) The filling densities for nonrefrigerated containers shall not exceed the following:

	Aboveground	Underground
(i) Uninsulated	56%*	58%
(ii) Insulated	57%	
(iii) DOT containers shall be filled in accordance with DOT regulations.		

\*This corresponds to 82% by volume at -28°F, 85% by volume at 5°F, 87.5% by volume at 30°F, and 90.6% by volume at 60°F.

(b) The filling density for refrigerated storage tanks temperature corresponding to the vapor pressure at the start-to-discharge pressure setting of the safety relief valve.

(c) If containers are to be filled according to liquid level by any gaging method other than a fixed length dip tube gage, each container should have a thermometer well so that the internal liquid temperature can be easily determined and the amount of liquid and vapor in the container corrected to a 60°F basis.

(12) Transfer of liquids.

(a) Anhydrous ammonia shall always be at a temperature suitable for the material of construction and design of the receiving containers. Ordinary steels are not suitable for refrigerated ammonia. See Appendix R of API Standard 620 "Recommended Rules for Design and Construction of Large Welded Low-Pressure Storage Tanks" for materials for low temperature service.

(b) At least one attendant shall supervise the transfer of liquids from the time the connections are first made until they are finally disconnected.

(c) Flammable gases or gases which will react with ammonia (such as air) shall not be used to unload tank cars or transport trucks.

(d) Containers shall be charged or used only upon authorization of the owner.

(e) Containers shall be gaged and charged only in the open atmosphere or in buildings approved for that purpose.

(f) Pumps used for transferring ammonia shall be recommended and labeled for ammonia service by the manufacturer.

(i) Pumps shall be designed for at least 250 p.s.i.g. working pressure.

(ii) Positive displacement pumps shall have installed, off the discharge port, a constant differential relief valve discharging into the suction port of the pump through a line of sufficient size to carry the full capacity of the pump at relief valve setting, which setting and installation shall be according to pump manufacturer's recommendations.

(iii) On the discharge side of the pump, before the relief valve line, there shall be installed a pressure gage graduated from 0 to 400 p.s.i.g.

(iv) Plant piping shall contain shutoff valves located as close as practical to pump connections.

(g) Compressors used for transferring or refrigerating ammonia shall be recommended and labeled for ammonia service by the manufacturer.

(i) Compressors, except those used for refrigeration, shall be designed for at least 250 p.s.i.g. working pressure. Crank cases of compressors not designed to withstand system pressure shall be protected with a suitable safety relief valve.

(ii) Plant piping shall contain shutoff valves located as close as practical to compressor connections.

(iii) A safety relief valve large enough to discharge the full capacity of the compressor shall be connected to the discharge before any shutoff valve.

(iv) Compressors shall have pressure gages at suction and discharge graduated to at least one and one-half times the maximum pressure that can be developed.

(v) Adequate means, such as drainable liquid trap, may be provided on the compressor suction to minimize the entry of liquid into the compressor.

(vi) Where necessary to prevent contamination, an oil separator shall be provided on the discharge side of the compressor.

(h) Loading and unloading systems shall be protected by suitable devices to prevent emptying of the storage container or the container being loaded or unloaded in the event of severance of the hose. Backflow check valves or properly sized excess flow valves shall be installed where necessary to provide such protection. In the event that such valves are not practical, remotely operated shutoff valves may be installed.

(i) Meters used for the measurement of liquid anhydrous ammonia shall be recommended and labeled for ammonia service by the manufacturer.

(i) Liquid meters shall be designed for a minimum working pressure of 250 p.s.i.g.

(ii) The metering system shall incorporate devices that will prevent the inadvertent measurement of vapor.

(13) Tank car unloading points and operations.

(a) Provisions for unloading tank cars shall conform to the regulations of the department of transportation.

(b) Unloading operations shall be performed by reliable persons properly instructed and made responsible for careful compliance with all applicable procedures.

(c) Caution signs shall be so placed on the track or car as to give necessary warning to persons approaching car from open end or ends of siding and shall be left up until after car is unloaded and disconnected from discharge connections. Signs shall be of metal or other suitable material, at least twelve by fifteen inches in size and bear the words "STOP—Tank car connected" or "STOP—Men at work" the word "STOP," being in letters at least four inches high and the other words in letters at least two inches high. The letters shall be white on a blue background.

(d) The track of a tank car siding shall be substantially level.

(e) Brakes shall be set and wheels blocked on all cars being unloaded.

(f) Tank cars of anhydrous ammonia shall be unloaded only at approved locations meeting the requirements of subsections (9)(c) and (12)(h) of this section.

(14) Liquid level gaging device.

(a) Each container except those filled by weight shall be equipped with an approved liquid level gaging device.

(b) All gaging devices shall be arranged so that the maximum liquid level to which the container is filled is readily determined. (See subsection (4)(b)(vii) of this section.)

(c) Gaging devices that require bleeding of the product to the atmosphere such as the rotary tube, fixed tube, and slip tube devices, shall be designed so that the maximum opening

of the bleed valve is not larger than No. 54 drill size unless provided with an excess flow valve. (This requirement does not apply to farm vehicles used for the application of ammonia as covered in WAC 296-24-51021.)

(d) Gaging devices shall have a design pressure equal to or greater than the design pressure of the container on which they are installed.

(e) Fixed liquid level gages shall be so designed that the maximum volume of the container filled by liquid shall not exceed eighty-five percent of its water capacity. The coupling into which the fixed liquid level gage is threaded must be placed at the eighty-five percent level of the container. If located elsewhere, the dip tube of this gage must be installed in such a manner that it cannot be readily removed.

Note: This does not apply to refrigerated storage.

(f) Gage glasses of the columnar type shall be restricted to stationary storage installation. They shall be equipped with shutoff valves having metallic handwheels, with excess-flow valves, and with extra heavy glass adequately protected with a metal housing applied by the gage manufacturer. They shall be shielded against the direct rays of the sun.

(15) Painting of containers. Aboveground uninsulated containers should have a reflective surface maintained in good condition. White is recommended for painted surfaces, but other light reflecting colors are acceptable.

(16) Electrical equipment and wiring.

(a) Electrical equipment and wiring for use in ammonia installations shall be general purpose or weather resistant as appropriate.

(b) Where concentrations of ammonia in air in excess of sixteen percent by volume are likely to be encountered, electrical equipment and wiring shall be of a type specified by and be installed according to chapter 296-24 WAC Part L, for Class I, Group D locations.

AMENDATORY SECTION (Amending Order 94-07, filed 7/20/94, effective 9/20/94)

**WAC 296-24-58513 Protective clothing.** The following requirements apply to those employees who perform interior structural fire fighting. The requirements do not apply to employees who use fire extinguishers or standpipe systems to control or extinguish fires only in the incipient stage.

(1) General.

(a) The employer shall provide at no cost to the employee and assure the use of protective clothing which complies with the requirements of this section. The employer shall assure that protective clothing ordered or purchased after January 1, 1982, meets the requirements contained in this section. As the new equipment is provided, the employer shall assure that all fire brigade members wear the equipment when performing interior structural fire fighting. After July 1, 1985, the employer shall assure that all fire brigade members wear protective clothing meeting the requirements of this section when performing interior structural fire fighting.

(b) The employer shall assure that protective clothing protects the head, body, and extremities, and consists of at least the following components: Foot and leg protection;

hand protection; body protection; eye, face and head protection.

(2) Foot and leg protection.

(a) Foot and leg protection shall meet the requirements of (b) and (c) of this subsection, and may be achieved by either of the following methods:

(i) Fully extended boots which provide protection for the legs; or

(ii) Protective shoes or boots worn in combination with protective trousers that meet the requirements of subsection (3) of this section.

(b) Protective footwear shall meet the requirements of WAC 296-24-088 for Class 75 footwear. In addition, protective footwear shall be water-resistant for at least five inches (12.7 cm) above the bottom of the heel and shall be equipped with slip-resistant outer soles.

(c) Protective footwear shall be tested in accordance with WAC 296-24-63599(1) Appendix E, and shall provide protection against penetration of the midsole by a size 8D common nail when at least 300 pounds (1330 N) of static force is applied to the nail.

(3) Body protection.

(a) Body protection shall be coordinated with foot and leg protection to ensure full body protection for the wearer. This shall be achieved by one of the following methods:

(i) Wearing of a fire-resistive coat meeting the requirements of (b) of this subsection, in combination with fully extended boots meeting the requirements of subsection (2)(b) and (c) of this section; or

(ii) Wearing of fire-resistive coat in combination with protective trousers both of which meet the requirements of (b) of this subsection.

(b) The performance, construction, and testing of fire-resistive coats and protective trousers shall be at least equivalent to the requirements of the National Fire Protection Association (NFPA) standard NFPA No. 1971-1975, "Protective Clothing for Structural Fire Fighting," (see WAC 296-24-63499, Appendix D) with the following permissible variations from those requirements:

(i) Tearing strength of the outer shell shall be a minimum of eight pounds (35.6 N) in any direction when tested in accordance with WAC 296-24-63599(2), Appendix E; and

(ii) The outer shell may discolor but shall not separate or melt when placed in a forced air laboratory oven at a temperature of 500°F (260°C) for a period of five minutes. After cooling to ambient temperature and using the test method specified in WAC 296-24-63599(3) Appendix E, char length shall not exceed 4.0 inches (10.2 cm) and after-flame shall not exceed 2.0 seconds.

(4) Hand protection.

(a) Hand protection shall consist of protective gloves or glove system which will provide protection against cut, puncture, and heat penetration. Gloves or glove system shall be tested in accordance with the test methods contained in the National Institute for Occupational Safety and Health (NIOSH) 1976 publication, "The Development of Criteria for Fire Fighter's Gloves; Vol. II, Part II: Test Methods," (see WAC 296-24-63499, Appendix D—Availability of publications incorporated by references in WAC 296-24-58505—

Fire brigades) and shall meet the following criteria for cut, puncture, and heat penetration:

(i) Materials used for gloves shall resist surface cut by a blade with an edge having a 60 degree included angle and a .001 inch (.0025 cm.) radius, under an applied force of 16 lbf (72N) and at a slicing velocity of greater or equal to 60 in/min. (2.5 cm/sec);

(ii) Materials used for the palm and palm side of the fingers shall resist puncture by a penetrometer (simulating a 4d lath nail), under an applied force of 13.2 lbf (60N) and at a velocity greater or equal to 20 in/min. (.85 cm/sec); and

(iii) The temperature inside the palm and gripping surface of the fingers of gloves shall not exceed 135°F (57°C) when gloves or glove system are exposed to 932°F (500°C) for five seconds at 4 psi (28 kPa) pressure.

(b) Exterior materials of gloves shall be flame resistant and shall be tested in accordance with WAC 296-24-63599(3) Appendix E. Maximum allowable after-flame shall be 2.0 seconds, and the maximum char length shall be 4.0 inches (10.2 cm).

(c) When design of the fire-resistive coat does not otherwise provide protection for the wrists, protective gloves shall have wristlets of at least 4.0 inches (10.2 cm) in length to protect the wrist area when the arms are extended upward and outward from the body.

(5) Head, eye and face protection.

(a) Head protection shall consist of a protective head device with ear flaps and chin strap which meet the performance, construction, and testing requirements of the National Fire Safety and Research Office of the National Fire Prevention and Control Administration, United States Department of Commerce (now known as the United States Fire Administration), which are contained in, "Model Performance Criteria for Structural Fire Fighters' Helmets," (August 1977) (see WAC 296-24-63499, Appendix D).

(b) Protective eye and face devices which comply with WAC 296-24-078 shall be used by fire brigade members when performing operations where the hazards of flying or falling materials which may cause eye and face injuries are present. Protective eye and face devices provided as accessories to protective head devices (face shields) are permitted when such devices meet the requirements of WAC 296-24-078.

(c) Full facepieces, helmets, or hoods of breathing apparatus which meet the requirements of ((WAC 296-62-071)) chapter 296-62 WAC, Part E and 296-24-58515, shall be acceptable as meeting the eye and face protection requirements of (b) of this subsection.

AMENDATORY SECTION (Amending Order 94-07, filed 7/20/94, effective 9/20/94)

**WAC 296-24-58515 Respiratory protection devices.**

(1) General requirements.

(a) The employer shall ~~((provide at no cost to the employee and assure the use of respirators which comply with the requirements of this section. The employer shall assure that respiratory protective devices worn by brigade members meet the requirements contained in WAC 296-62-071, and the requirements contained in this section, and are~~

~~certified under 30 CFR Part II) ensure that respirators are provided to, and used by, fire brigade members, and that the respirators meet the requirements of chapter 296-62 WAC, Part E and this section.~~

~~(b) (Approved self-contained breathing apparatus with full facepiece, or with approved helmet or hood configuration, shall be provided to and worn by fire brigade members while working inside buildings or confined spaces where toxic products of combustion or an oxygen deficiency may be present. Such apparatus shall also be worn during emergency situations involving toxic substances.)~~ The employer must ensure that all employees engaged in interior structural fire fighting use self-contained breathing apparatus (SCBAs).

(c) Approved self-contained breathing apparatus may be equipped with either a "buddy-breathing" device or a quick disconnect valve, even if these devices are not certified by NIOSH. If these accessories are used, they shall not cause damage to the apparatus, or restrict the air flow of the apparatus, or obstruct the normal operation of the apparatus.

(d) Approved self-contained compressed air breathing apparatus may be used with approved cylinders from other approved self-contained compressed air breathing apparatus provided that such cylinders are of the same capacity and pressure rating. All compressed air cylinders used with self-contained breathing apparatus shall meet DOT and NIOSH criteria.

(e) Self-contained breathing apparatus shall have a minimum service life rating of ~~((thirty)) 30~~ minutes in accordance with the methods and requirements ~~((of the mine safety and health administration (MSHA) and))~~ specified by NIOSH under 42 CFR part 84, except for escape self-contained breathing apparatus (ESCBAs) used only for emergency escape purposes.

(f) Self-contained breathing apparatus shall be provided with an indicator which automatically sounds an audible alarm when the remaining service life of the apparatus is reduced to within a range of twenty to twenty-five percent of its rated service time.

(2) Positive-pressure breathing apparatus.

(a) The employer shall assure that self-contained breathing apparatus ordered or purchased after January 1, 1982, for use by fire brigade members performing interior structural fire fighting operations, are of the pressure-demand or other positive-pressure type. Effective July 1, 1983, only pressure-demand or other positive-pressure self-contained breathing apparatus shall be worn by fire brigade members performing interior structural fire fighting.

(b) This section does not prohibit the use of a self-contained breathing apparatus where the apparatus can be switched from a demand to a positive-pressure mode. However, such apparatus shall be in the positive-pressure mode when fire brigade members are performing interior structural fire fighting operations.

(c) Negative-pressure self-contained breathing apparatus with a rated service life of more than two hours and which have a minimum protection factor of 5,000, as determined by an acceptable quantitative fit test performed on each individual, is acceptable for use only during those interior structural fire fighting situations for which the employer demonstrates that long duration breathing apparatus is necessary. ~~((Quantitative fit test procedures shall be available for inspection by the director or authorized representative.))~~

~~Such negative-pressure breathing apparatus will continue to be acceptable for eighteen months after a positive-pressure breathing apparatus with the same or longer rated service life is certified by NIOSH. After this eighteen-month period, all self-contained breathing apparatus used for these long duration situations shall be of the positive-pressure type.~~

#### NEW SECTION

**WAC 296-24-58516 Procedures for interior structural fire fighting.** In addition to the requirements in WAC 296-62-07172, in interior structural fires, the employer must ensure that:

(1) At least two employees enter the IDLH atmosphere and remain in visual or voice contact with one another at all times; and

(2) At least two employees are located outside the IDLH atmosphere.

Note 1: One of the two individuals located outside the IDLH atmosphere may be assigned to an additional role, such as incident commander in charge of the emergency or safety officer, so long as this individual is able to perform assistance or rescue activities without jeopardizing the safety or health of any fire fighter working at the incident.

Note 2: Nothing in this section is meant to preclude fire fighters from performing emergency rescue activities before an entire team has assembled.

AMENDATORY SECTION (Amending Order 94-07, filed 7/20/94, effective 9/20/94)

**WAC 296-24-58517 Appendix A—Fire brigades.** (1) Scope. This section does not require an employer to organize a fire brigade. However, if an employer does decide to organize a fire brigade, the requirements of this section apply.

(2) Prefire planning. It is suggested that prefire planning be conducted by the local fire department and/or the workplace fire brigade in order for them to be familiar with the workplace and process hazards. Involvement with the local fire department or fire prevention bureau is encouraged to facilitate coordination and cooperation between members of the fire brigade and those who might be called upon for assistance during a fire emergency.

(3) Organizational statement. In addition to the information required in the organizational statement, WAC 296-24-58507(1), it is suggested that the organizational statement also contain the following information: A description of the duties that the fire brigade members are expected to perform; the line authority of each fire brigade officer; the number of the fire brigade officers and number of training instructors; and a list and description of the types of awards or recognition that brigade members may be eligible to receive.

(4) Physical capability. The physical capability requirement applies only to those fire brigade members who perform interior structural fire fighting. Employees who cannot meet the physical capability requirement may still be members of the fire brigade as long as such employees do not perform interior structural fire fighting. It is suggested that fire brigade members who are unable to perform interior structural

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fire fighting be assigned less stressful and physically demanding fire brigade duties, e.g., certain types of training, recordkeeping, fire prevention inspection and maintenance, and fire pump operations.

Physically capable can be defined as being able to perform those duties specified in the training requirements of WAC 296-24-58509. Physically capable can also be determined by physical performance tests or by a physical examination when the examining physician is aware of the duties that the fire brigade member is expected to perform.

It is also recommended that fire brigade members participate in a physical fitness program. There are many benefits which can be attributed to being physically fit. It is believed that physical fitness may help to reduce the number of sprain and strain injuries as well as contributing to the improvement of the cardiovascular system.

(5) Training and education. The section on training and education does not contain specific training and education requirements because the type, amount, and frequency of training and education will be as varied as are the purposes for which fire brigades are organized. However, the section does require that training and education be commensurate with those functions that the fire brigade is expected to perform; i.e., those functions specified in the organizational statement. Such a performance requirement provides the necessary flexibility to design a training program which meets the needs of individual fire brigades.

At a minimum, hands-on training is required to be conducted annually for all fire brigade members. However, for those fire brigade members who are expected to perform interior structural fire fighting, some type of training or education session must be provided at least quarterly.

In addition to the required hands-on training, it is strongly recommended that fire brigade members receive other types of training and education such as: Classroom instruction, review of emergency action procedures, prefire planning, review of special hazards in the workplace, and practice in the use of self-contained breathing apparatus.

It is not necessary for the employer to duplicate the same training or education that a fire brigade member receives as a member of a community volunteer fire department, rescue squad, or similar organization. However, such training or education must have been provided to the fire brigade member within the past year and it must be documented that the fire brigade member has received the training or education. For example: There is no need for a fire brigade member to receive another training class in the use of positive-pressure self-contained breathing apparatus if the fire brigade member has recently completed such training as a member of a community fire department. Instead, the fire brigade member should receive training or education covering other important equipment or duties of the fire brigade as they relate to the workplace hazards, facilities and processes.

It is generally recognized that the effectiveness of fire brigade training and education depends upon the expertise of those providing the training and education as well as the motivation of the fire brigade members. Fire brigade training instructors must receive a higher level of training and education than the fire brigade members they will be teaching. This includes being more knowledgeable about the functions to be

performed by the fire brigade and the hazards involved. The instructors should be qualified to train fire brigade members and demonstrate skills in communication, methods of teaching, and motivation. It is important for instructors and fire brigade members alike to be motivated toward the goal of the fire brigade and be aware of the importance of the service that they are providing for the protection of other employees and the workplace.

It is suggested that publications from the International Fire Service Training Association, the National Fire Protection Association (NFPA-1041), the International Society of Fire Service Instructors and other fire training sources be consulted for recommended qualifications of fire brigade training instructors.

In order to be effective, fire brigades must have competent leadership and supervision. It is important for those who supervise the fire brigade during emergency situations, e.g., fire brigade chiefs, leaders, etc., to receive the necessary training and education for supervising fire brigade activities during these hazardous and stressful situations. These fire brigade members with leadership responsibilities should demonstrate skills in strategy and tactics, fire suppression and prevention techniques, leadership principles, prefire planning, and safety practices. It is again suggested that fire service training sources be consulted for determining the kinds of training and education which are necessary for those with fire brigade leadership responsibilities.

It is further suggested that fire brigade leaders and fire brigade instructors receive more formalized training and education on a continuing basis by attending classes provided by such training sources as universities and university fire extension services.

The following recommendations should not be considered to be all of the necessary elements of a complete comprehensive training program, but the information may be helpful as a guide in developing a fire brigade training program.

All fire brigade members should be familiar with exit facilities and their location, emergency escape routes for handicapped workers, and the workplace "emergency action plan."

In addition, fire brigade members who are expected to control and extinguish fires in the incipient stage should, at a minimum, be trained in the use of fire extinguishers, standpipes, and other fire equipment they are assigned to use. They should also be aware of first aid medical procedures and procedures for dealing with special hazards to which they may be exposed. Training and education should include both classroom instruction and actual operation of the equipment under simulated emergency conditions. Hands-on type training must be conducted at least annually but some functions should be reviewed more often.

In addition to the above training, fire brigade members who are expected to perform emergency rescue and interior structural fire fighting should, at a minimum, be familiar with the proper techniques in rescue and fire suppression procedures. Training and education should include fire protection courses, classroom training, simulated fire situations including "wet drills" and, when feasible, extinguishment of actual mock fires. Frequency of training or education must be at

least quarterly, but some drills or classroom training should be conducted as often as monthly or even weekly to maintain the proficiency of fire brigade members.

There are many excellent sources of training and education that the employer may want to use in developing a training program for the workplace fire brigade. These sources include publications, seminars, and courses offered by universities.

There are also excellent fire school courses by such facilities as Texas A and M University, Delaware State Fire School, Lamar University, and Reno Fire School, that deal with those unique hazards which may be encountered by fire brigades in the oil and chemical industry. These schools, and others, also offer excellent training courses which would be beneficial to fire brigades in other types of industries. These courses should be a continuing part of the training program, and employers are strongly encouraged to take advantage of these excellent resources.

It is also important that fire brigade members be informed about special hazards to which they may be exposed during fire and other emergencies. Such hazards as storage and use areas of flammable liquids and gases, toxic chemicals, water-reactive substances, etc., can pose difficult problems. There must be written procedures developed that describe the actions to be taken in situations involving special hazards. Fire brigade members must be trained in handling these special hazards as well as keeping abreast of any changes that occur in relation to these special hazards.

(6) Fire fighting equipment. It is important that fire fighting equipment that is in damaged or unserviceable condition be removed from service and replaced. This will prevent fire brigade members from using unsafe equipment by mistake.

Fire fighting equipment, except portable fire extinguishers and respirators, must be inspected at least annually. Portable fire extinguishers and respirators are required to be inspected at least monthly.

(7) Protective clothing.

(a) General. WAC 296-24-58513 does not require all fire brigade members to wear protective clothing. It is not the intention of these standards to require employers to provide a full ensemble of protective clothing for every fire brigade member without consideration given to the types of hazardous environments to which the fire brigade member might be exposed. It is the intention of these standards to require adequate protection for those fire brigade members who might be exposed to fires in an advanced stage, smoke, toxic gases, and high temperatures. Therefore, the protective clothing requirements only apply to those fire brigade members who perform interior structural fire fighting operations.

Additionally, the protective clothing requirements do not apply to the protective clothing worn during outside fire fighting operations (brush and forest fires, crash crew operations) or other special fire fighting activities. It is important that the protective clothing to be worn during these types of fire fighting operations reflect the hazards which are expected to be encountered by fire brigade members.

(b) Foot and leg protection. WAC 296-24-58513 permits an option to achieve foot and leg protection.

The section recognizes the interdependence of protective clothing to cover one or more parts of the body. Therefore, an

option is given so that fire brigade members may meet the foot and leg requirements by either wearing long fire-resistant coats in combination with fully extended boots, or by wearing shorter fire-resistant coats in combination with protective trousers and protective shoes or shorter boots.

(c) Body protection. WAC 296-24-58513(3) provides an option for fire brigade members to achieve body protection. Fire brigade members may wear a fire-resistant coat in combination with fully extended boots, or they may wear a fire-resistant coat in combination with protective trousers.

Fire-resistant coats and protective trousers meeting all of the requirements contained in NFPA 1971-1975, "Protective Clothing for Structural Fire Fighters," are acceptable as meeting the requirements of this standard.

The lining is required to be permanently attached to the outer shell. However, it is permissible to attach the lining to the outer shell material by stitching in one area such as at the neck. Fastener tape or snap fasteners may be used to secure the rest of the lining to the outer shell to facilitate cleaning. Reference to permanent lining does not refer to a winter liner which is a detachable extra lining used to give added protection to the wearer against the effects of cold weather and wind.

(d) Hand protection. The requirements of WAC 296-24-58513(4) on hand protection may be met by protective gloves or a glove system. A glove system consists of a combination of different gloves. The usual components of a glove system consist of a pair of gloves, which provide thermal insulation to the hand, worn in combination with a second pair of gloves which provide protection against flame, cut and puncture.

It is suggested that protective gloves provide dexterity and a sense of feel for objects. Criteria and test methods for dexterity are contained in the NIOSH publications, "The Development of Criteria for Firefighters' Gloves; Vol. I: Glove Requirements," and "Vol. II: Glove Criteria and Test Methods." These NIOSH publications also contain a permissible modified version of Federal Test Method 191, Method 5903, (WAC 296-24-63599(3) Appendix E) for flame resistance when gloves, rather than glove material, are tested for flame resistance.

(e) Head, eye and face protection. Head protective devices which meet the requirements contained in NFPA No. 1972 are acceptable as meeting the requirements of this standard for head protection.

Head protective devices are required to be provided with ear flaps so that the ear flaps will be available if needed. It is recommended that ear protection always be used while fighting interior structural fires.

Many head protective devices are equipped with face shields to protect the eyes and face. These face shields are permissible as meeting the eye and face protection requirements of this section as long as such face shields meet the requirements of WAC 296-24-078 of the general safety and health standards.

Additionally, full facepieces, helmets or hoods of approved breathing apparatus which meet the requirements of WAC 296-62-071 and 296-24-58515 are also acceptable as meeting the eye and face protection requirements.

It is recommended that a flame resistant protective head covering such as a hood or snood, which will not adversely

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affect the seal of a respirator facepiece, be worn during interior structural fire fighting operations to protect the sides of the face and hair.

(8) Respiratory protective devices. Respiratory protection is required to be worn by fire brigade members while working inside buildings or confined spaces where toxic products of combustion or an oxygen deficiency is likely to be present; respirators are also to be worn during emergency situations involving toxic substances. When fire brigade members respond to emergency situations, they may be exposed to unknown contaminants in unknown concentrations. Therefore, it is imperative that fire brigade members wear proper respiratory protective devices during these situations. Additionally, there are many instances where toxic products of combustion are still present during mop-up and overhaul operations. Therefore, fire brigade members should continue to wear respirators during these types of operations.

Self-contained breathing apparatus are not required to be equipped with either buddy-breathing device or a quick disconnect valve. However, these accessories may be very useful and are acceptable as long as such accessories do not cause damage to the apparatus, restrict the air flow of the apparatus, or obstruct the normal operation of the apparatus.

Buddy-breathing devices are useful for emergency situations where a victim or another fire brigade member can share the same air supply with the wearer of the apparatus for emergency escape purposes.

The employer is encouraged to provide fire brigade members with an alternative means of respiratory protection to be used only for emergency escape purposes if the self-contained breathing apparatus becomes inoperative. Such alternative means of respiratory protection may be either a buddy-breathing device or an escape self-contained breathing apparatus (ESCB). The ESCBA is a short-duration respiratory protective device which is approved for only emergency escape purposes. It is suggested that if ESCBA units are used, that they be of at least five minutes service life.

Quick disconnect valves are devices which start the flow of air by insertion of the hose (which leads to the facepiece) into the regulator of self-contained breathing apparatus, and stop the flow of air by disconnecting the hose from the regulator. These devices are particularly useful for those positive-pressure self-contained breathing apparatus which do not have the capability of being switched from the demand to the positive-pressure mode.

The use of a self-contained breathing apparatus where the apparatus can be switched from a demand to a positive-pressure mode is acceptable as long as the apparatus is in the positive-pressure mode when performing interior structural fire fighting operations. Also acceptable are approved respiratory protective devices which have been converted to the positive-pressure type when such modification is accomplished by trained and experienced persons using kits or parts approved by NIOSH and provided by the manufacturer and by following the manufacturer's instructions.

There are situations which require the use of respirators which have a duration of two hours or more. Presently, there are no approved positive-pressure apparatus with a rated service life of more than two hours. Consequently, negative-pressure self-contained breathing apparatus with a rated ser-

vice life of more than two hours and which have a minimum protection factor of 5,000 as determined by an acceptable quantitative fit test performed on each individual, will be acceptable for use during situations which require long duration apparatus. Long duration apparatus may be needed in such instances as working in tunnels, subway systems, etc. Such negative-pressure breathing apparatus will continue to be acceptable for a maximum of eighteen months after a positive-pressure apparatus with the same or longer rated service life of more than two hours is certified by NIOSH/MSHA. After this eighteen-month phase-in period, all self-contained breathing apparatus used for these long duration situations will have to be of the positive-pressure type.

~~(Protection factor (sometimes called fit factor) is defined as the ratio of the contaminant concentrations outside of the respirator to the contaminant concentrations inside the facepiece of the respirator.~~

$$PF = \frac{\text{Concentration outside respirator}}{\text{Concentration inside facepiece}}$$

~~Protection factors are determined by quantitative fit tests. An acceptable quantitative fit test should include the following elements:~~

~~(a) A fire brigade member who is physically and medically capable of wearing respirators, and who is trained in the use of respirators, dons a self-contained breathing apparatus equipped with a device that will monitor the concentration of a contaminant inside the facepiece.~~

~~(b) The fire brigade member then performs a qualitative fit test to assure the best face-to-facepiece seal as possible. A qualitative fit test can consist of a negative pressure test, positive pressure test, isoamyl acetate vapor (banana oil) test, or an irritant smoke test. For more details on respirator fitting see the NIOSH booklet entitled, "A Guide to Industrial Respiratory Protection," June 1976, and HHS publication No. (NIOSH) 76-189.~~

~~(c) The wearer should then perform physical activity which reflects the level of work activity which would be expected during fire fighting activities. The physical activity should include simulated fire ground work activity or physical exercise such as running in place, a step test, etc.~~

~~(d) Without readjusting the apparatus, the wearer is placed in a test atmosphere containing a nontoxic contaminant with a known, constant concentration.~~

~~The protection factor is then determined by dividing the known concentration of the contaminant in the test atmosphere by the concentration of the contaminant inside the facepiece when the following exercises are performed:~~

~~(i) Normal breathing with head motionless for one minute;~~

~~(ii) Deep breathing with head motionless for thirty seconds;~~

~~(iii) Turning head slowly from side to side while breathing normally, pausing for at least two breaths before changing direction. Continue for at least one minute;~~

~~(iv) Moving head slowly up and down while breathing normally, pausing for at least two breaths before changing direction. Continue for at least two minutes;~~

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(v) Reading from a prepared text, slowly and clearly, and loudly enough to be heard and understood. Continue for one minute; and

(vi) Normal breathing with head motionless for at least one minute.

~~The protection factor which is determined must be at least 5,000. The quantitative fit test should be conducted at least three times. It is acceptable to conduct all three tests on the same day. However, there should be at least one hour between tests to reflect the protection afforded by the apparatus during different times of the day.~~

~~The above elements are not meant to be a comprehensive, technical description of a quantitative fit test protocol. However, quantitative fit test procedures which include these elements are acceptable for determining protection factors. Procedures for a quantitative fit test are required to be available for inspection by the director or authorized representative.~~

~~Organizations such as Los Alamos National Laboratory, Lawrence Livermore Laboratory, NIOSH, and American National Standards Institute (ANSI) are excellent sources for additional information concerning qualitative and quantitative fit testing.~~

AMENDATORY SECTION (Amending WSR 98-02-006, filed 12/26/97, effective 3/1/98)

**WAC 296-24-67507 Definitions.** (1) Abrasive. A solid granular substance used in an abrasive blasting operation.

(2) Abrasive blasting. The forcible application of an abrasive to a surface by pneumatic pressure, hydraulic pressure, or centrifugal force.

(3) Abrasive-blasting respirator. A ~~((continuous flow airline respirator or pressure demand supplied air))~~ respirator ~~((made))~~ constructed so that it ~~((will))~~ covers the wearer's head, neck, and shoulders ~~((and provide protection))~~ to protect the wearer from rebounding abrasive.

(4) Air-line respirator. A device consisting of a face-piece, helmet, or hood to which clean air is supplied to the wearer through a small-diameter hose from a compressed air source.

(5) Blast cleaning barrel. A complete enclosure which rotates on an axis, or which has an internal moving tread to tumble the parts, in order to expose various surfaces of the parts to the action of an automatic blast spray.

(6) Blast cleaning room. A complete enclosure in which blasting operations are performed and where the operator works inside of the room to operate the blasting nozzle and direct the flow of the abrasive material.

(7) Blasting cabinet. An enclosure where the operator stands outside and operates the blasting nozzle through an opening or openings in the enclosure.

(8) Clean air. Air of such purity that it will not cause harm or discomfort to an individual if it is inhaled for extended periods of time.

(9) Dust collector. A device or combination of devices for separating dust from the air handled by an exhaust ventilation system.

(10) Exhaust ventilation system. A system for removing contaminated air from a space, comprising two or more of the

following elements; (a) enclosure or hood, (b) duct work, (c) dust collecting equipment, (d) exhauster, and (e) discharge stack.

(11) Particulate-filter respirator. An air purifying respirator, commonly referred to as a dust ~~((or a fume))~~ respirator, which removes most of the dust or fume from the air passing through the device.

(12) Respirable dust. Airborne dust in sizes capable of passing through the upper respiratory system to reach the lower lung passages.

(13) Rotary blast cleaning table. An enclosure where the pieces to be cleaned are positioned on a rotating table and are passed automatically through a series of blast sprays.

AMENDATORY SECTION (Amending WSR 98-02-006, filed 12/26/97, effective 3/1/98)

**WAC 296-24-67515 Personal protective equipment.**

(1) ~~((Respiratory protective equipment approved by the National Institute for Occupational Safety and Health (NIOSH) must be used for protection of personnel against dusts produced during abrasive blasting operations.))~~ Employers must use only respirators certified by NIOSH under 42 CFR part 84 for protecting employees from dusts produced during abrasive-blasting operations.

(2) Abrasive-blasting respirators. Abrasive-blasting respirators must be worn by all abrasive-blasting operators in the following situations: (a) When working inside of blast cleaning rooms, or (b) when using silica sand in manual blasting operations except where the nozzle and blast are physically separated from the operator in an exhaust ventilated enclosure, or (c) where concentrations of toxic dusts dispersed by the abrasive blasting may exceed the limits set in ~~((WAC 296-62-075 through 296-62-07515))~~ chapter 296-62 WAC, Part E except where the nozzle and blast are physically separated from the operator in an exhaust-ventilated enclosure.

(3) Particulate-filter respirators.

(a) Properly fitted particulate ~~((or dust))~~-filter respirators, commonly referred to as dust-filter respirators, may be used for short, intermittent, or occasional dust exposures such as clean-up, dumping of dust collectors, or unloading shipments of sand at a receiving point~~((;))~~ when it is not feasible to control the dust by enclosure, exhaust ventilation, or other means.

(b) Dust-filter respirators may also be used to protect the operator of outside (outdoor) abrasive-blasting operations where nonsilica abrasives are used on materials having low toxicity.

Note: The selection of a dust-filter respirator depends on the amount of dust in the breathing zone of the user. See WAC 296-62-07113 - Table 5.

(c) Dust-filter respirators used must be certified by NIOSH~~((approved))~~ under 42 CFR part 84 for protection against the specific type of dust encountered.

(d) Dust-filter respirators must be properly fitted as required in ~~((WAC 296-62-071))~~ chapter 296-62 WAC, Part E.

(e) Dust-filter respirators must not be used for continuous protection where silica sand is used as the blasting abrasive, or when toxic materials are blasted.

(4) A respiratory protection program as required in ~~((WAC 296-62-071))~~ chapter 296-62 WAC, Part E must be established wherever it is necessary to use respirators.

(5) Personal protective clothing.

(a) Operators must be equipped with heavy canvas or leather gloves and aprons or equivalent protection to protect them from the impact of abrasives.

(b) Safety shoes must be worn where there is a hazard of foot injury.

(c) Equipment for protection of the eyes and face must be supplied to the operator and to other personnel working near abrasive blasting operations when the respirator design does not provide such protection.

(6) Personal protective clothing, equipment and their use must comply with WAC 296-24-075 (Part A2).

**AMENDATORY SECTION** (Amending WSR 98-02-006, filed 12/26/97, effective 3/1/98)

**WAC 296-24-67517 Air supply and air compressors.** ~~((4))~~ Clean air supply. The air for abrasive-blasting respirators must be free of harmful quantities of dusts, mists, or noxious gases, and ~~((shall))~~ must meet the requirements for ~~((air purity set forth in American National Standard Z 86.1-1973))~~ supplied-air quality and use as specified in chapter 296-62 WAC, Part E.

~~((Note: It is preferable to provide air for an abrasive-blasting respirator with low pressure blowers or compressors which need no internal organic lubricants and are used solely for that purpose, as long as they provide sufficient air flow to each user as specified in Table 3 of the respirator standard, WAC 296-62-071.~~

~~((2))~~ When air from the regular compressed air line of the plant is used for the abrasive-blasting respirator the following are required:

~~((a))~~ A trap and carbon filter must be installed and regularly maintained, to remove oil, water, scale, and odor;

~~((b))~~ A pressure-reducing diaphragm or valve must be installed to reduce the pressure down to requirements of the particular type of abrasive-blasting respirator;

~~((c))~~ An automatic control must be provided to either sound an alarm or shut down the compressor in case of overheating.

Note: See also WAC 296-62-07111.)

**AMENDATORY SECTION** (Amending Order 94-07, filed 7/20/94, effective 9/20/94)

**WAC 296-24-71507 Ventilation in confined spaces.**

(1) Air replacement. All welding and cutting operations carried on in confined spaces shall be adequately ventilated to prevent the accumulation of toxic materials or possible oxygen deficiency. This applies not only to the welder but also to helpers and other personnel in the immediate vicinity. All air replacing that withdrawn shall be clean and respirable.

(2) Airline respirators. In such circumstances where it is impossible to provide such ventilation, airline respirators or

~~hose masks approved ((by the Mine Safety and Health Administration (MSHA) and))~~ for this purpose by the National Institute for Occupational Safety and Health (NIOSH) ((for this purpose shall)) under 42 CFR part 84 must be used.

(3) Self-contained units. In areas immediately hazardous to life, ~~((hose masks with blowers or self-contained breathing equipment shall be used. The breathing equipment shall be approved by the Mine Safety and Health Administration (MSHA) and the National Institute for Occupational Safety and Health (NIOSH))~~ a full-facepiece, pressure-demand, self-contained breathing apparatus or a combination full-facepiece, pressure-demand supplied-air respirator with an auxiliary, self-contained air supply certified by NIOSH under 42 CFR part 84 must be used.

(4) Outside helper. Where welding operations are carried on in confined spaces and where welders and helpers are provided with hose masks, hose masks with blowers or self-contained breathing equipment approved by the Mine Safety and Health Administration (MSHA) and the National Institute for Occupational Safety and Health (NIOSH), a worker shall be stationed on the outside of such confined spaces to insure the safety of those working within.

(5) Oxygen for ventilation. Oxygen shall not be used for ventilation.

**AMENDATORY SECTION** (Amending Order 94-07, filed 7/20/94, effective 9/20/94)

**WAC 296-24-71513 Lead.** (1) Confined spaces. In confined spaces, welding involving lead-base metals (erroneously called lead-burning) shall be done in accordance with WAC 296-24-71507 (1) through (5).

(2) Indoors. Indoors, welding involving lead-base metals shall be done in accordance with WAC 296-24-71505 (1) and (2).

(3) Local ventilation. In confined spaces or indoors, welding or cutting operations involving metals containing lead, other than as an impurity, or involving metals coated with lead-bearing materials, including paint ~~((shall))~~ must be done using local exhaust ventilation or airline respirators. ~~((Outdoors such operations shall))~~ Such operations, when done outdoors, must be done using ((respiratory protective equipment approved by the Mine Safety and Health Administration (MSHA) and the National Institute for Occupational Safety and Health (NIOSH) for such purposes)) respirators, certified for this purpose by NIOSH under 42 CFR part 84. In all cases, workers in the immediate vicinity of the cutting operation ((shall)) must be protected as necessary by local exhaust ventilation or airline respirators.

Note: See chapter 296-62 WAC for additional requirements on lead.

**AMENDATORY SECTION** (Amending Order 94-07, filed 7/20/94, effective 9/20/94)

**WAC 296-24-71517 Cadmium.** (1) General. In confined spaces or indoors, welding or cutting ((indoors or in confined spaces)) operations involving cadmium-bearing or cadmium-coated base metals ((shall)) must be done using

local exhaust ventilation or airline respirators unless atmospheric tests under the most adverse conditions (~~((have established that the workers'))~~) show that employee exposure is within the acceptable concentrations ((defined)) specified by chapter 296-62 WAC. ((Outdoors)) Such operations ((shall)), when done outdoors, must be done using ((respiratory protective equipment)) respirators, such as fume respirators ((approved by the Mine Safety and Health Administration (MSHA) and the National Institute for Occupational Safety and Health (NIOSH) for such purposes)), certified for this purpose by NIOSH under 42 CFR part 84.

(2) Confined space. Welding (brazing) involving cadmium-bearing filler metals shall be done using ventilation as prescribed in WAC 296-24-71505 or 296-24-71507 if the work is to be done in a confined space.

Note: See chapter 296-62 WAC for additional requirements on cadmium.

**AMENDATORY SECTION** (Amending Order 94-07, filed 7/20/94, effective 9/20/94)

**WAC 296-24-71519 Mercury. In confined spaces or indoors, welding or cutting ((indoors or in a confined space)) operations involving metals coated with mercury-bearing materials, including paint, ((shall)) must be done using local exhaust ventilation or airline respirators unless atmospheric tests under the most adverse conditions ((have established that the workers')) show that employee exposure is within the acceptable concentrations ((defined)) specified by chapter 296-62 WAC. ((Outdoors)) Such operations ((shall)), when done outdoors, must be done using ((respiratory protective equipment approved by the Mine Safety and Health Administration (MSHA) and the National Institute for Occupational Safety and Health (NIOSH) for such purposes)) respirators certified for this purpose by NIOSH under 24 CFR part 84.**

**AMENDATORY SECTION** (Amending Order 92-06, filed 10/30/92, effective 12/8/92)

**WAC 296-56-60053 Hazardous atmospheres and substances.** (1) Purpose and scope. This section covers areas where a hazardous atmosphere or substance may exist, except where one or more of the following sections apply: WAC 296-56-60049 Hazardous cargo; WAC 296-56-60051 Handling explosives or hazardous materials; WAC 296-56-60055 Carbon monoxide; WAC 296-56-60057 Fumigants, pesticides, insecticides and hazardous preservatives; WAC 296-56-60107 Terminal facilities handling menhaden and similar species of fish; WAC 296-56-60235 Welding, cutting and heating (hot work); and WAC 296-56-60237 Spray painting.

(2) Determination of hazard.

(a) Whenever a room, building, vehicle, railcar or other space contains or has contained a hazardous atmosphere, a designated and appropriately equipped person shall test the atmosphere before entry to determine whether a hazardous atmosphere exists.

(b) Records of results of any tests required by this section shall be maintained for at least thirty days.

(3) Testing during ventilation. When mechanical ventilation is used to maintain a safe atmosphere, tests shall be made

by a designated person to ensure that the atmosphere is not hazardous.

(4) Entry into hazardous atmospheres. Only designated persons shall enter hazardous atmospheres. The following provisions shall apply:

(a) Persons entering a space containing a hazardous atmosphere shall be protected by respiratory and emergency protective equipment meeting the requirements of ((WAC 296-62-071 through 296-62-07121)) chapter 296-62 WAC, Part E;

(b) Persons entering a space containing a hazardous atmosphere shall be instructed in the nature of the hazard, precautions to be taken, and the use of protective and emergency equipment. Standby observers, similarly equipped and instructed, shall continuously monitor the activity of employees within such space; and

(c) Except for emergency or rescue operations, employees shall not enter into any atmosphere which has been identified as flammable or oxygen deficient (less than nineteen and one-half percent oxygen). Persons who may be required to enter flammable or oxygen deficient atmospheres in emergency operations shall be instructed in the dangers attendant to those atmospheres and instructed in the use of self-contained breathing apparatus, which shall be utilized.

(d) To prevent inadvertent employee entry into spaces that have been identified as having hazardous, flammable or oxygen deficient atmospheres, appropriate warning signs or equivalent means shall be posted at all means of access to those spaces.

(5) When the packaging of asbestos cargo leaks, spillage shall be cleaned up by designated employees protected from the harmful effects of asbestos as required by WAC 296-62-07517 and chapter 296-65 WAC.

**AMENDATORY SECTION** (Amending WSR 95-04-007, filed 1/18/95, effective 3/1/95)

**WAC 296-56-60235 Welding, cutting and heating (hot work).** (1) Definition. "Hot work" means riveting, welding, flame cutting or other fire or spark-producing operation.

(2) Hot work in confined spaces. Hot work shall not be performed in a confined space until all requirements of chapter 296-62 WAC, Part M, are met.

(3) Fire protection.

(a) To the extent possible, hot work shall be performed in designated locations that are free of fire hazards.

(b) When hot work must be performed in a location that is not free of fire hazards, all necessary precautions shall be taken to confine heat, sparks, and slag so that they cannot contact flammable or combustible material.

(c) Fire extinguishing equipment suitable for the location shall be immediately available and shall be maintained in readiness for use at all times.

(d) When the hot work operation is such that normal fire prevention precautions are not sufficient, additional personnel shall be assigned to guard against fire during hot work and for a sufficient time after completion of the work to ensure that no fire hazard remains. The employer shall instruct all employees involved in hot work operations as to potential fire hazards and the use of fire fighting equipment.

(e) Drums and containers which contain or have contained flammable or combustible liquids shall be kept closed. Empty containers shall be removed from the hot work area.

(f) When openings or cracks in flooring cannot be closed, precautions shall be taken to ensure that no employees or flammable or combustible materials are exposed to sparks dropping through the floor. Similar precautions shall be taken regarding cracks or holes in walls, open doorways and open or broken windows.

(g) Hot work shall not be performed:

(i) In flammable or potentially flammable atmospheres;

(ii) On or in equipment or tanks that have contained flammable gas or liquid or combustible liquid or dust-producing material, until a designated person has tested the atmosphere inside the equipment or tanks and determined that it is not hazardous; or

(iii) Near any area in which exposed readily ignitable materials such as bulk sulphur, baled paper or cotton are stored. Bulk sulphur is excluded from this prohibition if suitable precautions are followed, the person in charge is knowledgeable and the person performing the work has been instructed in preventing and extinguishing sulphur fires.

(h)(i) Drums, containers or hollow structures that have contained flammable or combustible substances shall either be filled with water or cleaned, and shall then be ventilated. A designated person shall test the atmosphere and determine that it is not hazardous before hot work is performed on or in such structures.

(ii) Before heat is applied to a drum, container or hollow structure, an opening to release built-up pressure during heat application shall be provided.

(4) Gas welding and cutting.

(a) Compressed gas cylinders:

(i) Shall have valve protection caps in place except when in use, hooked up or secured for movement. Oil shall not be used to lubricate caps;

(ii) Shall be hoisted only while secured, as on a cradle or pallet, and shall not be hoisted by magnet, choker sling or cylinder caps;

(iii) Shall be moved only by tilting or rolling on their bottom edges;

(iv) Shall be secured when moved by vehicle;

(v) Shall be secured while in use;

(vi) Shall have valves closed when cylinders are empty, being moved or stored;

(vii) Shall be secured upright except when hoisted or carried;

(viii) Shall not be freed when frozen by prying the valves or caps with bars or by hitting the valve with a tool;

(ix) Shall not be thawed by boiling water;

(x) Shall not be exposed to sparks, hot slag, or flame;

(xi) Shall not be permitted to become part of electrical circuits or have electrodes struck against them to strike arcs;

(xii) Shall not be used as rollers or supports;

(xiii) Shall not have contents used for purposes not authorized by the supplier;

(xiv) Shall not be used if damaged or defective;

(xv) Shall not have gases mixed within, except by gas suppliers;

(xvi) Shall be stored so that oxygen cylinders are separated from fuel gas cylinders and combustible materials by either a minimum distance of twenty feet (6 m) or a barrier having a fire-resistance rating of thirty minutes; and

(xvii) Shall not have objects that might either damage the safety device or obstruct the valve placed on top of the cylinder when in use.

(b) Use of fuel gas. Fuel gas shall be used only as follows:

(i) Before regulators are connected to cylinder valves, the valves shall be opened slightly (cracked) and closed immediately to clear away dust or dirt. Valves shall not be cracked if gas could reach possible sources of ignition;

(ii) Cylinder valves shall be opened slowly to prevent regulator damage and shall not be opened more than one and one-half turns. Any special wrench required for emergency closing shall be positioned on the valve stem during cylinder use. For manifolded or coupled cylinders, at least one wrench shall be immediately available. Nothing shall be placed on top of a cylinder or associated parts when the cylinder is in use;

(iii) Pressure-reducing regulators shall be attached to cylinder valves when cylinders are supplying torches or devices equipped with shut-off valves;

(iv) Cylinder valves shall be closed and gas released from the regulator or manifold before regulators are removed;

(v) Leaking fuel gas cylinder valves shall be closed and the gland nut tightened. If the leak continues, the cylinder shall be tagged, removed from service, and moved to a location where the leak will not be hazardous. If a regulator attached to a valve stops a leak, the cylinder need not be removed from the workplace but shall be tagged and may not be used again before it is repaired; and

(vi) If a plug or safety device leaks, the cylinder shall be tagged, removed from service, and moved to a location where the leak will not be hazardous.

(c) Hose.

(i) Fuel gas and oxygen hoses shall be easily distinguishable from each other by color or sense of touch. Oxygen and fuel hoses shall not be interchangeable. Hoses having more than one gas passage shall not be used.

(ii) When oxygen and fuel gas hoses are taped together, not more than four of each twelve inches (10.2 cm of each 30.5 cm) shall be taped.

(iii) Hose shall be inspected before use. Hose subjected to flashback or showing evidence of severe wear or damage shall be tested to twice the normal working pressure but not less than two hundred p.s.i. (1378.96 kPa) before re-use. Defective hose shall not be used.

(iv) Hose couplings shall not unlock or disconnect without rotary motion.

(v) Hose connections shall be clamped or securely fastened to withstand twice the normal working pressure but not less than three hundred p.s.i. (2068.44 kPa) without leaking.

(vi) Gas hose storage boxes shall be ventilated.

(d) Torches.

(i) Torch tip openings shall only be cleaned with devices designed for that purpose.

(ii) Torches shall be inspected before each use for leaking shut-off valves, hose couplings and tip connections. Torches shall be inspected before each use for leaking shut-off valves, hose couplings and tip connections. Torches with such defects shall not be used.

(iii) Torches shall not be lighted from matches, cigarette lighters, other flames or hot work.

(e) Pressure regulators. Pressure regulators, including associated gauges, shall be maintained in safe working order.

(f) Operational precaution. Gas welding equipment shall be maintained free of oil and grease.

(5) Arc welding and cutting.

(a) Manual electrode holders.

(i) The employer shall ensure that only manual electrode holders intended for arc welding and cutting and capable of handling the maximum current required for such welding or cutting shall be used.

(ii) Current-carrying parts passing through those portions of the holder gripped by the user and through the outer surfaces of the jaws of the holder shall be insulated against the maximum voltage to ground.

(b) Welding cables and connectors.

(i) Arc welding and cutting cables shall be insulated, flexible and capable of handling the maximum current required by the operation, taking into account the duty cycles.

(ii) Only cable free from repair or splice for ten feet (3 m) from the electrode holder shall be used unless insulated connectors or splices with insulating quality equal to that of the cable are provided.

(iii) When a cable other than the lead mentioned in (b)(ii) of this subsection wears and exposes bare conductors, the portion exposed shall not be used until it is protected by insulation equivalent in performance capacity to the original.

(iv) Insulated connectors of equivalent capacity shall be used for connecting or splicing cable. Cable lugs, where used as connectors, shall provide electrical contact. Exposed metal parts shall be insulated.

(c) Ground returns and machine grounding.

(i) Ground return cables shall have current-carrying capacity equal to or exceeding the total maximum output capacities of the welding or cutting units served.

(ii) Structures or pipelines, other than those containing gases or flammable liquids or conduits containing electrical circuits, may be used in the ground return circuit if their current-carrying capacity equals or exceeds the total maximum output capacities of the welding or cutting units served.

(iii) Structures or pipelines forming a temporary ground return circuit shall have electrical contact at all joints. Arcs, sparks or heat at any point in the circuit shall cause rejection as a ground circuit.

(iv) Structures or pipelines acting continuously as ground return circuits shall have joints bonded and maintained to ensure that no electrolysis or fire hazard exists.

(v) Arc welding and cutting machine frames shall be grounded, either through a third wire in the cable containing the circuit conductor or through a separate wire at the source of the current. Grounding circuits shall have resistance low enough to permit sufficient current to flow to cause the fuse or circuit breaker to interrupt the current.

(vi) Ground connections shall be mechanically and electrically adequate to carry the current.

(d) When electrode holders are left unattended, electrodes shall be removed and holders placed to prevent employee injury.

(e) Hot electrode holders shall not be dipped in water.

(f) The employer shall ensure that when arc welders or cutters leave or stop work or when machines are moved, the power supply switch is kept in the off position.

(g) Arc welding or cutting equipment having a functional defect shall not be used.

(h)(i) Arc welding and cutting operations shall be separated from other operations by shields, screens, or curtains to protect employees in the vicinity from the direct rays and sparks of the arc.

(ii) Employees in areas not protected from the arc by screening shall be protected by appropriate filter lenses in accordance with subsection (8) of this section. When welders are exposed to their own arc or to each other's arc, they shall wear filter lenses complying with the requirements of subsection (8) of this section.

(i) The control apparatus of arc welding machines shall be enclosed, except for operating wheels, levers, and handles.

(j) Input power terminals, top change devices and live metal parts connected to input circuits shall be enclosed and accessible only by means of insulated tools.

(k) When arc welding is performed in wet or high-humidity conditions, employees shall use additional protection, such as rubber pads or boots, against electric shock.

(6) Ventilation and employee protection in welding, cutting and heating.

(a) Mechanical ventilation requirements. The employer shall ensure that general mechanical ventilation or local exhaust systems shall meet the following requirements:

(i) General mechanical ventilation shall maintain vapors, fumes and smoke below a hazardous level;

(ii) Local exhaust ventilation shall consist of movable hoods positioned close to the work and shall be of such capacity and arrangement as to keep breathing zone concentrations below hazardous levels;

(iii) Exhausts from working spaces shall be discharged into the open air, clear of intake air sources;

(iv) Replacement air shall be clean and respirable; and

(v) Oxygen shall not be used for ventilation, cooling or cleaning clothing or work areas.

(b) Hot work in confined spaces. Except as specified in (c)(ii) and (iii) of this subsection, when hot work is performed in a confined space the employer shall, in addition to the requirements of chapter 296-62 WAC, Part M, ensure that:

(i) General mechanical or local exhaust ventilations shall be provided; or

(ii) Employees in the space shall wear ((supplied air)) respirators in accordance with ((WAC 296-62-071 et seq. and a standby observer on the outside shall maintain communication with employees inside the space and shall be equipped and prepared to provide emergency aid)) chapter 296-62 WAC, Part E.

(c) Welding, cutting or heating of toxic metals.

(i) In confined or enclosed spaces, hot work involving the following metals shall only be performed with general mechanical or local exhaust ventilation that ensures that employees are not exposed to hazardous levels of fumes:

- (A) Lead base metals;
- (B) Cadmium-bearing filler materials; and
- (C) Chromium-bearing metals or metals coated with chromium-bearing materials.

(ii) In confined or enclosed spaces, hot work involving the following metals shall only be performed with local exhaust ventilation meeting the requirements of this subsection or by employees wearing supplied air respirators in accordance with chapter 296-62 WAC, Part E;

- (A) Zinc-bearing base or filler metals or metals coated with zinc-bearing materials;
- (B) Metals containing lead other than as an impurity, or coated with lead-bearing materials;
- (C) Cadmium-bearing or cadmium-coated base metals; and
- (D) Metals coated with mercury-bearing materials.

(iii) Employees performing hot work in confined or enclosed spaces involving beryllium-containing base or filler metals shall be protected by local exhaust ventilation and wear supplied air respirators or self-contained breathing apparatus, in accordance with the requirements of chapter 296-62 WAC, Part E.

(iv) The employer shall ensure that employees performing hot work in the open air that involves any of the metals listed in (c)(i) and (ii) of this subsection shall be protected by respirators in accordance with the requirements of chapter 296-62 WAC, Part E and those working on beryllium-containing base or filler metals shall be protected by supplied air respirators, in accordance with the requirements of chapter 296-62 WAC, Part E.

(v) Any employee exposed to the same atmosphere as the welder or burner shall be protected by the same type of respiratory and other protective equipment as that worn by the welder or burner.

(d) Inert-gas metal-arc welding. Employees shall not engage in and shall not be exposed to the inert-gas metal-arc welding process unless the following precautions are taken:

(i) Chlorinated solvents shall not be used within two hundred feet (61 m) of the exposed arc. Surfaces prepared with chlorinated solvents shall be thoroughly dry before welding is performed on them.

(ii) Employees in areas not protected from the arc by screening shall be protected by appropriate filter lenses in accordance with the requirements of subsection (8) of this section. When welders are exposed to their own arc or to each other's arc, filter lenses complying with the requirements of subsection (8) of this section shall be worn to protect against flashes and radiant energy.

(iii) Employees exposed to radiation shall have their skin covered completely to prevent ultraviolet burns and damage. Helmets and hand shields shall not have leaks, openings or highly reflective surfaces.

(iv) Inert-gas metal-arc welding on stainless steel shall not be performed unless exposed employees are protected either by local exhaust ventilation or by wearing supplied air

respirators in accordance with the requirements of chapter 296-62 WAC, Part E.

(7) Welding, cutting and heating on preservative coatings.

(a) Before hot work is commenced on surfaces covered by a preservative coating of unknown flammability, a test shall be made by a designated person to determine the coating's flammability. Preservative coatings shall be considered highly flammable when scrapings burn with extreme rapidity.

(b) Appropriate precaution shall be taken to prevent ignition of highly flammable hardened preservative coatings. Highly flammable coatings shall be stripped from the area to be heated. An uncoiled fire hose with fog nozzle, under pressure, shall be immediately available in the hot work area.

(c) Surfaces covered with preservative coatings shall be stripped for at least four inches (10.2 cm) from the area of heat application or employees shall be protected by supplied air respirators in accordance with the requirements of chapter 296-62 WAC.

(8) Protection against radiant energy.

(a) Employees shall be protected from radiant energy eye hazards by spectacles, cup goggles, helmets, hand shields or face shields with filter lenses complying with the requirements of this subsection.

(b) Filter lenses shall have an appropriate shade number, as indicated in Table G-1, for the work performed. Variations of one or two shade numbers are permissible to suit individual preferences.

(c) If filter lenses are used in goggles worn under the helmet, the shade numbers of both lenses equals the value shown in Table G-1 for the operation.

Table G-1.—Filter Lenses for Protection Against Radiant Energy

Operation	Shade No.
Soldering . . . . .	2
Torch Brazing . . . . .	3 or 4
Light cutting, up to 1 inch . . . . .	3 or 4
Medium cutting, 1-6 inches . . . . .	4 or 5
Heavy cutting, over 6 inches . . . . .	5 or 6
Light gas welding, up to 1/8 inch . . . . .	4 or 5
Medium gas welding, 1/8-1/2 inch . . . . .	5 or 6
Heavy gas welding, over 1/2 inch . . . . .	6 or 8
Shielded Metal-Arc Welding 1/16 to 5/32-inch electrodes . . . . .	10
Inert gas Metal-Arc Welding (non-ferrous) 1/16 to 5/32-inch electrodes . . . . .	11
Shielded Metal-Arc Welding: 3/16 to 1/4-inch electrodes . . . . .	12
5/16 and 3/8-inch electrodes . . . . .	14

PROPOSED

**AMENDATORY SECTION** (Amending WSR 96-17-056, filed 8/20/96, effective 10/15/96)

**WAC 296-78-665 Sanding machines.** (1) Each belt sanding machine shall have both pulleys enclosed in such a manner as to guard the points where the belt runs onto the pulleys. The edges of the unused run of belt shall be enclosed or otherwise guarded from contact by employees.

(2) Each drum sanding machine shall be provided with a guard so arranged as to completely enclose the revolving drum except such portion required for the application of the material to be finished. Guards with hinges to facilitate the insertion of sandpaper may be installed. The exhaust hood may form part or all of this guard. When so used, the hood shall conform to the specifications as given under exhaust systems in WAC 296-78-710.

(3) All standard stationary sanding machines shall be provided with exhaust systems in conformity with the section of this code dealing with exhaust systems.

(4) All portable sanding machines shall be provided with means of removing excessive dust, or employees using equipment shall be provided with such necessary respiratory protective equipment as will conform to the requirements of the general occupational health standards, chapter 296-62 WAC, Part E.

(5) The requirements of WAC 296-24-16533, general safety and health standards, shall be applicable to sanding machines.

**AMENDATORY SECTION** (Amending Order 81-21, filed 8/27/81)

**WAC 296-78-71019 Exhaust systems.** (1) Air requirements in buildings, where persons are habitually employed, shall meet the requirements of the general occupational health standard, WAC 296-62-100 through 296-62-11013.

(2) Where the natural ventilation is not sufficient to remove dust, fumes or vapors that create or constitute a hazard, additional means of removal shall be provided.

(3) All mills containing one or more machines whose operations create dust, shavings, chips or slivers during a period of time equal to or greater than one-fourth of the working day or shift, shall be equipped with a collecting system either continuous or automatic in action and of sufficient strength and capacity to thoroughly remove such refuse from the points of operation of the machines and the work areas.

(4) Each woodworking machine that creates dust, shavings, chips, or slivers shall be equipped with an exhaust or conveyor system located and adjusted to remove the maximum amount of refuse from the point of operation and immediate vicinity.

(5) Blower, collecting and exhaust systems shall be designed, constructed and maintained in accordance with American National Standards Z33.1 - 1961 (for the installation of blower and exhaust systems for dust, stock and vapor removal or conveying) and Z12.2 - 1962 (R1969) (code for the prevention of dust explosions in woodworking and wood flour manufacturing plants).

(6) Fans used for ventilating shall be of ample capacity, as evidenced by the performance schedules of the manufac-

turers, and shall be guarded when exposed to contact. Hoods, dust conveyors, dust collectors and other accessory equipment shall be large enough to insure free intake and discharge.

(7) The outlet or discharge of all ventilating equipment shall be so arranged that at no time will the dust, vapors, gases or other air borne impurities discharged, create or constitute a hazard.

(8) Where a hood is used to form a part or all of the guard required on a given machine, it shall be constructed of not less than ten U.S. gauge sheet metal, or if of cast iron it shall be not less than three-sixteenths inches in thickness.

(9) All exhaust pipes shall be of such construction and internal dimensions as to minimize the possibility of clogging. They shall be readily accessible for cleaning.

(10) All exhaust pipes shall empty into settling or dust chambers which shall effectively prevent the dust or refuse from entering any work area. Such settling or dust chambers shall be so designed and operated as to reduce to a minimum the danger of fire or dust explosions.

(11) In lieu of a general ventilating system, exhaust or blower units may be installed on the dust or fume producing machine, provided the required protection is secured thereby.

(12) When proper ventilation is not provided, and temporary hazardous conditions are therefore encountered, the employer shall furnish approved respiratory and visual equipment: *Provided, however,* That the exposure to such hazard shall not be for more than two hours duration. Protective measures and equipment shall meet the requirements of the general occupational health standard, (~~WAC 296-62-070 through 296-62-09001~~) chapter 296-62 WAC, Part E and the requirements of the general safety and health standard, WAC 296-24-081 through 296-24-08113.

(13) Provisions for the daily removal of refuse shall be made in all operations not required to have an exhaust system, or having refuse too heavy, or bulky, or otherwise unsuitable to be handled by an exhaust system.

**AMENDATORY SECTION** (Amending Order 81-19, filed 7/27/81)

**WAC 296-62-071 Respiratory protection.** (~~This section contains the requirements to be followed when establishing a respiratory protection program.~~)

**AMENDATORY SECTION** (Amending Order 82-10, filed 3/30/82)

**WAC 296-62-07101 ((Scope)) To whom does chapter 296-62 WAC, Part E apply?** (~~This standard sets forth accepted practices when respiratory protection is used in controlling employee exposures to harmful air contaminants to comply with permissible exposure limits or to protect employees in oxygen deficient atmospheres, or when respirators are utilized for emergency or rescue use.~~) Chapter 296-62 WAC, Part E applies to all employers covered by WISHA.

PROPOSED



## PERMISSIBLE PRACTICE

## NEW SECTION

**WAC 296-62-07102** When are you allowed to rely on respirators to protect employees from breathing contaminated air? In the control of those occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, vapors, or aerosols the goal must be to prevent atmospheric contamination. You must use, if feasible, accepted engineering control measures (for example, enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials). When effective engineering controls are not feasible, or while they are being instituted, you must use respirators as required by chapter 296-62 WAC, Part E.

## EMPLOYER RESPONSIBILITIES

**AMENDATORY SECTION** (Amending Order 81-19, filed 7/27/81)

**WAC 296-62-07103** ((~~Purpose.~~) What are your responsibilities as an employer? ((~~The purpose of this standard is to provide minimum performance requirements for the selection and use of respirators and the implementation of a respirator program.~~)) (1) You must provide respirators, when necessary, to protect the health of your employees against recognized hazards including any exposures in excess of the permissible exposure limit.

(2) You must provide NIOSH-certified respirators that are applicable and suitable for the purpose intended.

(3) You must make sure your employees use respirators when required or when otherwise necessary.

(4) You must establish and maintain a respiratory protection program that includes the requirements outlined in WAC 296-62-07111.

## DEFINITIONS

**AMENDATORY SECTION** (Amending WSR 95-04-007, filed 1/18/95, effective 3/1/95)

**WAC 296-62-07105** Definitions. ((~~Abrasive blasting respirator. See "respirator." A respirator designed to protect the wearer against inhalation of abrasive material and against impact and abrasion from rebounding abrasive material.~~

~~Accepted. Reviewed and listed as satisfactory for a specified use by the director or his or her designee.~~

~~Aerodynamic diameter. The diameter of a unit density sphere having the same settling velocity as the particle in question of whatever shape and density.)~~ The following definitions are important terms used in this part.

~~Aerosol((A system consisting of particles, solid or liquid, suspended in air.~~

~~Air-line respirator. See "respirator.")~~ means a suspension of liquid or solid particles in air.

Air-purifying respirator((See "respirator."

~~Air-regulating valve. An adjustable valve used to regulate, but which cannot completely shut off the airflow to the facepiece, helmet, hood, or suit of an air-line respirator.~~

~~Air-supply device. A hand- or motor-operated blower for the hose mask, or a compressor or other source of respirable air for the air-line respirator.~~

~~Approved. Tested and listed as satisfactory by the Bureau of Mines (BM) of the U.S. Department of Interior, or jointly by the Mining Enforcement and Safety Administration (MESA) of the U.S. Department of Interior and the National Institute for Occupational Safety and Health (NIOSH) of the U.S. Department of Health and Human Services, or jointly by the Mine Safety and Health Administration (MSHA) of the U.S. Department of Labor and NIOSH under the provisions of Title 30, Code of Federal Regulations, Part 11.~~

~~Bioassay. A determination of the concentration of a substance in a human body by an analysis of urine, feces, blood, bone, or tissue.~~

~~Breathing tube. A tube through which air or oxygen flows to the facepiece, mouthpiece, helmet, hood, or suit))~~ means a respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.

Assigned protection factor (APF) is a measure of the degree of protection provided by a respirator to the wearer. It describes the ratio of the ambient concentration of an airborne substance to the concentration of the substance inside the respirator at the breathing zone of the wearer.

Atmosphere-supplying respirator means a respirator that supplies the respirator user with breathing air from an uncontaminated source, and includes supplied-air respirators (SARs) and self-contained breathing apparatus (SCBA) units.

Canister or cartridge (air-purifying)((:)) means a container with a filter, sorbent, or catalyst, or any combination ((thereof)) of these materials, which removes specific contaminants from the air drawn through it.

Canister (oxygen-generating)((:)) means a container filled with a chemical ((which)) that generates oxygen by chemical reaction.

~~((Carcinogen. A substance known to produce cancer in some individuals following a latent period (for example: Asbestos, Chromates, radioactive particulates).~~

~~Cartridge (air-purifying). A small canister.~~

~~Catalyst. In respirator use, a substance which converts a toxic gas (or vapor) into a less-toxic gas (or vapor).~~

~~Ceiling concentration. The concentration of an airborne substance that shall not be exceeded.~~

~~Chemical-cartridge respirator. See respirator.~~

~~Contaminant. A harmful, irritating, or nuisance material that is foreign to the normal atmosphere.~~

~~Corrective lens. A lens ground to the wearer's individual corrective prescription to permit normal visual acuity.~~

~~Demand. A type of self-contained breathing apparatus or type of air-line respirator which functions due to the negative pressure created by inhalation (i.e., air flow into the facepiece on "demand").~~

Detachable coupling. A device which permits the respirator-wearer, without using hand tools, to detach the air-sup-



~~ply line from that part of the respirator worn on the person.))~~  
**Demand respirator** means an atmosphere-supplying respirator that admits breathing air to the facepiece only when suction is created inside the facepiece by inhalation.

**Dust** means a solid, mechanically-produced particle with sizes varying from submicroscopic to visible. See WAC 296-62-07001(1).

~~((Emergency respirator use. Wearing a respirator when a hazardous atmosphere suddenly occurs that requires immediate use of a respirator either for escape from the hazardous atmosphere or for entry into the hazardous atmosphere.~~

**Exhalation valve**. A device that allows exhaled air to leave a respirator and prevents outside air from entering through the valve.

**Eye-piece**. A gas-tight, transparent window(s) in a full facepiece, helmet, hood, or suit, through which the wearer may see.

**Facepiece**. That portion of a respirator that covers the wearer's nose and mouth in quarter-mask (above the chin) or half-mask (under the chin) facepiece or that covers the nose, mouth, and eyes in a full facepiece. It is designed to make a gas-tight or particle-tight fit with the face and includes the headbands, exhalation valve(s), and connections for an air-purifying device or respirable gas source, or both.

**Face shield**. A device worn in front of the eyes and a portion of, or all of, the face, whose predominant function is protection of the eyes and the face.

**Fibrosis-producing dust**. Dust which, when inhaled, deposited, and retained in the lungs, may produce findings of fibrotic growth that may cause pulmonary disease.)) **Emergency situation** means any occurrence that may or does result in an uncontrolled significant release of an airborne contaminant. Causes of emergency situations include, but are not limited to, equipment failure, rupture of containers, or failure of control equipment.

**Employee exposure** means exposure to a concentration of an airborne contaminant that would occur if the employee were not using respiratory protection.

**End-of-service-life indicator (ESLI)** means a system that warns the respirator user of the approach of the end of adequate respiratory protection: For example, that the sorbent is approaching saturation or is no longer effective.

**Escape-only respirator** means a respirator intended to be used only for emergency exit.

**Filter**((-A media)) or air-purifying element means a component used in respirators to remove solid or liquid ((particles from the inspired air)) aerosols from the air when it is breathed.

~~((Filter respirator. See respirator.))~~ **Filtering facepiece (dust mask)** means a negative pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium.

**Fit factor** means a quantitative estimate of the fit of a particular respirator to a specific individual, and typically estimates the ratio between the measured concentration of a substance in ambient air to its concentration inside the respirator when worn.

**Fit test** means the use of an accepted protocol to qualitatively or quantitatively evaluate the fit of a respirator on an

individual (see also Qualitative fit test QLFT and Quantitative fit test QNFT).

**Fog**((-)) means a mist of sufficient concentration to perceptibly obscure vision.

**Full facepiece**((-See facepiece)) means a respirator that covers the wearer's nose, mouth, and eyes.

**Fume** means a solid condensation particle of extremely small particle size, generally less than one micrometer in diameter. See WAC 296-62-07001(2).

~~((Gas. An aeriform fluid which is in the gaseous state at ordinary temperature and pressure.~~

~~Gas mask. See respirator.~~

**Goggle**. A device, with contour-shaped eyecups with glass or plastic lenses, worn over eyes and held in place by a headband or other suitable means for the protection of the eyes and eye sockets.))

**Half**((-mask)) **facepiece**((-See facepiece)) means a respirator that covers the wearer's nose and mouth.

~~((Hazardous atmosphere. Any atmosphere, either immediately or not immediately dangerous to life or health, which is oxygen deficient or which contains a toxic or disease-producing contaminant.~~

~~Head harness. That part of a facepiece assembly which secures the facepiece to the wearer.))~~

**Helmet**((-That)) means the rigid portion of a respirator ((which shields the eyes, face, neck, and other parts of the head)) that also provides protection against impact or penetration.

**High-efficiency filter**((-)) means a filter ((which)) that removes from air 99.97% or more of monodisperse dioctyl phthalate (DOP) particles having a mean particle diameter of 0.3 micrometer.

**Hood**((-That)) means the portion of a respirator ((which)) that completely covers the head((-)) and neck((-and portions of the shoulders)); may also cover portions of the shoulders and torso.

~~((Hose mask. See respirator.))~~

Immediately dangerous to life or health (IDLH)((-Any)) means an atmosphere that poses an immediate ((hazard to life or produces immediate irreversible debilitating effects on health.

**Inhalation valve**. A device that allows respirable air to enter a respirator and prevents exhaled air from leaving the respirator through the valve.

~~Irrespirable. Unfit for breathing.~~

**Maximum use limit of filter, cartridge, or canister**. The maximum concentration of a contaminant for which an air-purifying filter, cartridge, or canister is approved for use)) threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.

**Loose-fitting facepiece** means a respiratory inlet covering that is designed to form a partial seal with the face.

**Mist** means a liquid condensation particle with sizes ranging from submicroscopic to visible. See WAC 296-62-07001(4).

~~((Mouthpiece. That portion of a respirator which is held in the wearer's mouth and is connected to an air-purifying~~

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device or respirable gas source, or both. It is designed to make a gas-tight or particle-tight fit with the mouth.

~~MPCa. Maximum permissible airborne concentration. These concentrations are set by the National Committee on Radiation Protection. They are recommended maximum average concentrations of radionuclides to which a worker may be exposed, assuming that he/she works 8 hours a day, 5 days a week, and 50 weeks a year.)~~

~~Negative pressure respirator((-A)) means a tight-fitting respirator in which the air pressure inside the ((respiratory-inlet covering is positive during exhalation in relation to the air pressure of the outside atmosphere and negative during inhalation in relation to the air pressure of the outside atmosphere)) facepiece is lower than the ambient air pressure outside the respirator during inhalation.~~

~~Nonroutine respirator use((-)) means wearing a respirator when carrying out a special task that occurs infrequently.~~

~~((Nose clamp. A device used with a respirator equipped with a mouthpiece that closes the nostrils of the wearer (sometimes called a nose clip).~~

~~Not immediately dangerous to life or health. Any hazardous atmosphere which may produce physical discomfort immediately, chronic poisoning after repeated exposure, or acute adverse physiological symptoms after prolonged exposure.)~~

~~Odor threshold limit((-)) means the lowest concentration of a contaminant in air that can be detected by ((the olfactory sense)) smell.~~

~~Oxygen ((deficiency—immediately dangerous to life or health. An atmosphere which causes an oxygen partial pressure of 95 millimeters of mercury column or less or has less than 12.5% by volume in the freshly inspired air in the upper portion of the lungs which is saturated with water vapor.~~

~~Oxygen deficiency—not immediately dangerous to life or health. An atmosphere having an oxygen concentration below the minimum legal requirement of 19.5% by volume or has a partial pressure of oxygen of 148 millimeters of mercury for respirable air at sea-level conditions, but above that which is immediately dangerous to life or health)) **deficient atmosphere** means an atmosphere with an oxygen content below 19.5% by volume.~~

~~Particulate ((matter. A suspension of fine)) means a solid or liquid ((particles in air;)) aerosol such as(): dust, fog, fume, mist, smoke, or spray. ((Particulate matter suspended in air is commonly known as an aerosol:))~~

~~Permissible exposure limit (PEL)((-)) means the legally established time-weighted average (TWA) concentration or ceiling concentration of a contaminant that ((shall)) **must** not be exceeded.~~

~~((Permit required confined space. See chapter 296-62 WAC, Part M.~~

~~Pneumoconiosis-producing dust. Dust which, when inhaled, deposited, and retained in the lungs, may produce signs, symptoms, and findings of pulmonary disease.)~~ **Physician or other licensed health care professional (PLHCP)** means an individual whose legally permitted scope of practice (for example, license, registration, or certification) allows him or her to independently provide, or be delegated

the responsibility to provide, some or all of the health care services required in WAC 296-62-07150 through 296-62-07156.

**Positive-pressure respirator((-))** means a respirator in which the air pressure inside the respiratory-inlet covering ((is positive in relation to the air pressure of the outside atmosphere during exhalation and inhalation)) exceeds the ambient air pressure outside the respirator.

**Powered air-purifying respirator((-See respirator)) (PAPR)** means an air-purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering.

**Pressure demand((-Similar to a demand-type respirator but so designed to maintain positive pressure in the facepiece at all times.**

**Protection factor.** The ratio of the ambient concentration of an airborne substance to the concentration of the substance inside the respirator at the breathing zone of the wearer. The protection factor is a measure of the degree of protection provided by a respirator to the wearer. As used herein, a protection factor is synonymous with the fit factor assigned to a respirator facepiece by the use of qualitative and quantitative fitting tests.

**Rescue respirator use.** Wearing a respirator for entry into a hazardous atmosphere to rescue a person(s) in the hazardous atmosphere.

**Resistance.** Opposition to the flow of air, as through a canister, cartridge, particulate filter, orifice, valve, or hose)) **respirator** means a positive pressure atmosphere-supplying respirator that admits breathing air to the facepiece when the positive pressure is reduced inside the facepiece by inhalation or leakage.

**Qualitative fit test (QLFT)** means a pass/fail fit test that relies on the individual's response to the test agent to assess the adequacy of respirator fit for an individual.

**Quantitative fit test (QNFT)** means an assessment of the adequacy of respirator fit for an individual by numerically measuring the amount of leakage into the respirator.

**Respirable((-))** means air that is suitable for breathing.

**Respirator((-))** means a device designed to protect the wearer from ((the inhalation of)) breathing harmful atmospheres.

**Respiratory-inlet covering((-))** means that portion of a respirator ((which connects the wearer's respiratory tract to an air-purifying device or respirable gas)) that forms the protective barrier between the user's respiratory tract and an air-purifying device or breathing air source, or both. It may be a facepiece, helmet, hood, suit, or mouthpiece((-)) respirator with nose clamp.

~~((Routine respirator use. Wearing a respirator as a normal procedure when carrying out a regular and frequently repeated task.~~

**Sanitization.** The removal of dirt and the inhibiting of the action of agents that cause infection or disease.))

**Self-contained breathing apparatus((-See respirator)) (SCBA)** means an atmosphere-supplying respirator for which the breathing air source is designed to be carried by the user.

## RESPIRATORY PROTECTION PROGRAM

**Service life(=)** means the period of time that a respirator, filter or sorbent, or other respiratory equipment provides adequate protection to the wearer(=). For example, the period of time that an air-purifying device is effective for removing a harmful substance from (inspired) air when it is breathed.

**Smoke(=)** means a system (which) that includes the products of combustion, pyrolysis, or chemical reaction of substances in the form of visible and invisible solid and liquid particles and gaseous products in air. Smoke is usually of sufficient concentration to perceptibly obscure vision.

**Sorbent(=A)** is the material (which is) contained in a cartridge or canister (and which) that removes toxic gases and vapors from the inhaled air.

**Spray(=)** means a liquid, mechanically-produced particle with sizes generally in the visible (or macroscopic range).

**Supplied-air respirator(=See respirator.**

**Supplied-air suit.** A suit that is impermeable to most particulate and gaseous contaminants and that is provided with an adequate supply of respirable air) (SAR) or airline respirator means an atmosphere-supplying respirator for which the source of breathing air is drawn from a separate, stationary system or an uncontaminated environment.

**Tight-fitting facepiece** means a respiratory inlet covering that forms a complete seal with the face.

**Time-weighted average (TWA)(=)** means the average concentration of a contaminant in air during a specific time period.

**User seal check** means an action conducted by the respirator user to determine if the respirator is properly seated to the face.

**Valve (air or oxygen)(=A device which)** means a device that controls the pressure, direction, or rate of flow of air or oxygen.

(Vapor. The gaseous state of a substance that is solid or liquid at ordinary temperature and pressure.

**Welding helmet.** A device designed to provide protection for the eyes and face against intense radiant energy and molten metal splatter encountered in the welding and cutting of metals.)

**Window indicator(=)** means a device on a cartridge or canister that visually denotes the service life of the cartridge or canister.

**You** means the employer or the employer's designee except in WAC 296-62-07117(2) "Important Information About Voluntary Use of Respirators" when you refers to the employee.

**Your** refers to the employer or the employer's designee except in WAC 296-62-07117(2) "Important Information About Voluntary Use of Respirators" when your refers to the employee.

**AMENDATORY SECTION** (Amending Order 90-01, filed 4/10/90, effective 5/25/90)

**WAC 296-62-07107 ((Permissible practice.)) When is a respiratory protection program required? ((1) In the control of those occupational diseases caused by breathing air contaminated with harmful dusts, fumes, sprays, mists, fogs, smokes, vapors, gases, or other airborne contaminants, the primary objective shall be to prevent atmospheric contamination. When effective administrative or engineering controls are not feasible, or while they are being instituted or evaluated, appropriate respirators shall be used pursuant to the following requirements:**

(2) Employer responsibility:

(a) Respirators shall be provided at no cost to an employee by the employer and the employer shall ensure the use of such equipment when such equipment is necessary to protect the health of the employee.

(b) The employer shall provide respirators which are applicable and suitable for the purpose intended.

(c) The employer shall be responsible for the establishment and maintenance of a respiratory protection program which shall minimally include the general requirements outlined in WAC 296-62-07109.

(3) Employee responsibility. The employee shall use the provided respiratory protection in accordance with instructions and training received. The employee shall notify a responsible person of any defect.) In any workplace where respirators are necessary to protect the health of the employee or whenever you require respirator use, you must develop and implement a written respiratory protection program with required worksite-specific procedures and specifications for required respirator use. Upon request, you must provide the director's representative a copy of your written respiratory protection program.

**Note:** OSHA's *Small Entity Compliance Guide* contains criteria for the selection of a program administrator and a sample program that meets the requirements of this paragraph. Copies of the *Small Entity Compliance Guide* will be available from the Occupational Safety and Health Administration's Office of Publications, Room N 3101, 200 Constitution Avenue, NW, Washington, DC, 20210 (202-219-4667).

**AMENDATORY SECTION** (Amending Order 82-22, filed 6/11/82)

**WAC 296-62-07109 ((Minimal acceptable respirator program.)) When must you update your written respiratory protection program? ((1) Standard operating procedures. Written standard operating procedures covering a complete respirator program shall be established and implemented in conformance with subsections (2) through (15) of this section. The employer shall, upon request, submit a copy of the written standard operating procedures to the director.**

(2) Program administration. Responsibility and authority for the respirator program shall be assigned to a single person. This program administrator shall have sufficient knowl-

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edge of respiratory protection to properly supervise the respirator program.

(3) Physiological and psychological limitations for respirator wearers. The respirator program administrator or his or her designee, using guidelines established by a physician, shall determine whether or not a person may be assigned to a task requiring the use of a respirator. Persons with physical disabilities such as, but not limited to, respiratory impairments, or claustrophobia when wearing a respirator, shall not be assigned to tasks requiring the use of respirators unless it has been determined by a qualified physician that they are physically able to perform the work and use the equipment. All respirator user's medical status should be reviewed annually.

(4) Approved or accepted respirators shall be used. Any modification of an approved respirator that is not authorized by the approving agencies voids the approval.

(5) Respirator selection. Respirators shall be selected on the basis of the hazards to which the worker is exposed. (See WAC 296-62-07113)

(6) Training. Each worker required to wear a respirator shall be given training such that he or she is knowledgeable and proficient with respect to the respirator to be worn. Refresher training shall be given at least annually.

(7) Respirator fit. Each respirator wearer shall be fitted in accordance with WAC 296-62-07113. Each wearer of a respirator equipped with a facepiece shall check the seal of the respirator by appropriate means. This may be done by using procedures recommended by the respirator manufacturer.

(8) Facial hair, contact lenses, and eye and face protective devices. A negative pressure respirator, any self contained breathing apparatus, or any respirator which is used in an atmosphere immediately dangerous to life or health (IDLH), equipped with a facepiece shall not be worn if facial hair comes between the sealing periphery of the facepiece and the face or if facial hair interferes with valve function. The wearer of a respirator shall not be allowed to wear contact lenses if the risk of eye damage is increased by their use. If a spectacle, goggle, face shield, or welding helmet must be worn with a facepiece, it shall be worn so as not to adversely affect the seal of the facepiece to the face. (See WAC 296-62-07115(3).)

(9) Issue of respirators. The proper type of respirator for each respiratory hazard shall be listed in the written standard operating procedures.

(10) Respirator inspection. The respirator shall be inspected by the wearer prior to each use to ensure that it is in proper working condition. Each respirator stored for emergency or rescue use shall be inspected at least once a month. (See WAC 296-62-07115 and 296-62-07117.)

(11) Monitoring respirator use. Supervisory personnel shall periodically monitor the use of respirators to ensure that they are worn properly. (See WAC 296-62-07115(7).)

(12) Evaluating respiratory hazard. Appropriate surveillance of work area conditions and degree of employee exposure or stress shall be maintained. (See WAC 296-62-07115(8).)

(13) Medical and bioassay surveillance. When appropriate, medical surveillance, including bioassay, shall be carried out to determine if respirator wearers are receiving adequate

respiratory protection. A physician shall determine the requirements of the surveillance program.

(14) Respirator maintenance. Respirator maintenance shall be performed regularly. Maintenance shall be carried out on a schedule which ensures that each respirator wearer is provided with a respirator that is clean and in good operating condition. Maintenance shall include: (a) Washing, sanitizing, rinsing, and drying, (b) inspection for defects, (c) replacement of worn or deteriorated parts, (d) repair if necessary, and (e) storage to protect against dust, sunlight, excessive heat, extreme cold, excessive moisture, damaging chemicals, and physical damage. (See WAC 296-62-07117.)

(15) Respirator program evaluation. An appraisal of the effectiveness of the respirator program shall be carried out at least annually. Action shall be taken to correct defects found in the program. The program must be updated as necessary to reflect those changes in workplace conditions that may affect respirator use.

#### AMENDATORY SECTION (Amending Order 81-19, filed 7/27/81)

**WAC 296-62-07111 ((Respirable air and oxygen for self-contained breathing apparatus and supplied air respirators.)) What must be included in your written respiratory protection program? ((Compressed gaseous air, compressed gaseous oxygen, liquid air, and liquid oxygen used for respiration shall be of high purity. Compressed gaseous or liquid oxygen shall meet the requirements of the United States Pharmacopeia for medical or breathing oxygen. Chemically generated oxygen shall meet the requirements of U.S. Department of Defense Military Specification MIL-E-83252 or Military Specification MIL-O-15633e. Compressed gaseous air shall meet at least the requirements of the specification for Type I Grade D breathing air, and liquid air shall meet at least the requirements for Type II Grade B breathing air as described in American National Standard Commodity Specification for Air, ANSI Z86.1-1973 (Compressed Gas Association Commodity Specification for Air, G-7.1, 1973).**

(1) Compressed gaseous air may contain low concentrations of oil. If high pressure oxygen passes through an oil or grease coated orifice, an explosion or fire may occur. Therefore, compressed gaseous oxygen shall not be used in supplied air respirators or in open circuit type self-contained breathing apparatus that have previously used compressed air.

(2) Breathing air may be supplied to respirators from cylinders or air compressors. Cylinders shall be tested and maintained in accordance with applicable department of transportation specifications for shipping containers (Title 49, Code of Federal Regulations, Part 173, General Requirements for Shipments and Packagings, and Part 178, Shipping Container Specifications). A compressor shall be constructed and situated so as to avoid entry of contaminated air into the air supply system and shall be equipped with a suitable in-line particulate filter followed by a bed of activated charcoal and, if necessary, a moisture adsorber to further assure breathing air quality. These filters should be placed before any receiver and after the discharge in the compressor. If an oil-lubricated compressor is used, it shall be equipped with a carbon mon-

oxide alarm or an equally as effective alternative if approved by the department.

(a) If a carbon monoxide alarm is used, it shall be calibrated to activate at or below 20 parts per million carbon monoxide at least once per month. A calibration and maintenance log shall be kept and shall be available for review and copying by the director or his or her designee. The log shall identify the test method, date, time of test, results, and the name of the person performing the test. The log shall be retained for at least one year from the date of the test.

(b) If the use of an alarm at the compressor will not effectively provide warning to the respirator wearer of a carbon monoxide problem, a remote alarm or other means of warning the wearer shall be used.

(3) Breathing air couplings shall be incompatible with outlets for nonrespirable plant air or other gas systems to prevent inadvertent servicing of air-line respirators with nonrespirable gases.

(4) Breathing gas containers shall be marked in accordance with American National Standard Method of Marking Portable Compressed Gas Containers to Identify the Material Contained, ANSI Z48.1-1954 (R1971); Federal Specification BB-A-1034a, June 21, 1968, Air, Compressed for Breathing Purposes; or Interim Federal Specification GG-B-675d, September 23, 1976, Breathing Apparatus, Self-Contained. Further details on sources of compressed air and its safe use will be found in Compressed Gas Association Pamphlet G-7, 1976, Compressed Air for Human Respiration.) Include the following provision in your written program, as applicable:

(1) Procedures for selecting respirators for use in the workplace and a list identifying the proper type of respirator based on the respiratory hazards for each employee (see WAC 296-62-07130 through 296-62-07133);

(2) Medical evaluations of employees required to use respirators (see WAC 296-62-07150 through 296-62-07156);

(3) Fit testing procedures for tight-fitting respirators (see WAC 296-62-07160 through 296-62-07162, and WAC 296-62-07201 through 296-62-07248, Appendices A-1, A-2, and A-3);

(4) Procedures for proper use of respirators in routine tasks, nonroutine tasks, reasonably foreseeable emergency and rescue situations (see WAC 296-62-07170 through 296-62-07172);

(5) Procedures for issuing the proper type of respirator based on the respiratory hazards for each employee (see WAC 296-62-07150 through 296-62-07156, WAC 296-62-07160 through 296-62-07162);

(6) Procedures and schedules for cleaning, disinfecting, storing, inspecting, repairing, discarding, and otherwise maintaining respirators (see WAC 296-62-07175 through 296-62-07179 and WAC 296-62-07253);

(7) Procedures to make sure adequate air quality, quantity, and flow of breathing air for atmosphere-supplying respirators (see WAC 296-62-07182);

(8) Training of employees in the respiratory hazards to which they are potentially exposed during routine, nonroutine, and unforeseeable emergency and rescue situations (see WAC 296-62-07117, 296-62-07172, and 296-62-07186 through 296-62-07190);

(9) Training of employees in the proper use of respirators, including putting on and removing them, any limitations on their use, and their maintenance (see WAC 296-62-07117, 296-62-07170 through 296-62-07179, WAC 296-62-07251, and 296-62-07253); and

(10) Procedures for regularly evaluating the effectiveness of the program (see WAC 296-62-07192).

AMENDATORY SECTION (Amending WSR 97-19-014, filed 9/5/97, effective 11/5/97)

WAC 296-62-07113 ((~~Selection of respirators~~))

What are the requirements for a program administrator?

((1) General considerations. Proper selection of respirators shall be made in accordance with the classification, capabilities, and limitations listed in tables I through IV of this section. Additional guidance may be obtained by referring to American National Standard Practices for Respiratory Protection Z88.2-1980.

(2) Respirator protection factor (PF). Respirators shall be selected according to the characteristics of the hazards involved, the capabilities and limitations of the respirators, and the ability of each respirator wearer to obtain a satisfactory fit with a respirator. Taking into account the capabilities and limitations of respirators and the results of respirator fitting tests, a table of respirator protection factors has been prepared (see Table V). A respirator protection factor is a measure of the degree of protection provided by a respirator to a wearer. Multiplying either (a) the permissible time-weighted average concentration or the permissible ceiling concentration, whichever is applicable, for a toxic substance, or (b) the maximum permissible airborne concentration for a radionuclide by a protection factor assigned to a respirator gives the maximum concentration of the hazardous substance in which the respirator can be used. Limitations of filters, cartridges, and canisters also shall be considered (see Table V).

(3) Respirator fitting tests. A qualitative or quantitative respirator fitting test shall be used to determine the ability of each individual respirator wearer to obtain a satisfactory fit with a negative-pressure respirator. The results of qualitative or quantitative respirator fitting tests shall be used to select specific types, makes, and models of negative-pressure respirators for use by individual respirator wearers. A respirator fitting test shall be carried out for each wearer of a negative-pressure respirator equipped with a facepiece. Respirator fitting tests shall not be required for positive-pressure respirators or for mouthpiece respirators.

(a) Qualitative respirator fitting test—A person wearing a respirator is exposed to an irritant smoke, an odorous vapor, or other suitable test agent. An air-purifying respirator must be equipped with an air-purifying element(s) which effectively removes the test agent from inspired air. If the respirator wearer is unable to detect penetration of the test agent into the respirator, the respirator wearer has achieved a satisfactory fit with the respirator.

(b) Quantitative respirator fitting test—A person wears a respirator in a test atmosphere containing a test agent in the form of an aerosol, vapor, or gas. Instrumentation, which samples the test atmosphere and the air inside the respiratory inlet covering of the respirator, is used to measure quantita-

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tively the penetration of the test agent into the respiratory inlet covering.

(c) When carrying out a qualitative or quantitative respirator fitting test, the respirator wearer shall carry out a series of exercises which simulate work movements.

(d) When carrying out respirator fitting tests, it shall be an acceptable procedure to make the following modifications to respirators provided that such modifications do not affect the seal of the respirators to wearers.

(i) When carrying out a qualitative or quantitative respirator fitting test which uses an aerosol as the test agent, it shall be acceptable procedure to equip an air-purifying respirator with a high efficiency filter.

(ii) When carrying out a qualitative or quantitative respirator fitting test which uses a vapor or gas as the test agent, it shall be acceptable procedure to equip an air-purifying respirator with an appropriate cartridge or canister which removes the vapor or gas from air.

(iii) When carrying out a quantitative respirator fitting test, it shall be acceptable procedure to attach a sampling probe to the respirator which is connected by flexible tubing to an instrument which measures the penetration of the test agent into the respirator.

(e) If a qualitative respirator fitting test has been used in respirator selection, a person shall be allowed to use only the specific make(s) and model(s) of respirator(s) for which the person obtained a satisfactory fit, and the respirator protection factor listed under "qualitative test" in Table V shall apply. Under no circumstances shall a person be allowed to use any respirator for which the results of the qualitative res-

pirator fitting test indicate that the person is unable to obtain a satisfactory fit.

(f) If a quantitative respirator fitting test has been used in selecting a respirator, the test results shall be used to assign a respirator protection factor to each person for each specific make and model of respirator tested. The assigned respirator protection factor shall be applied when the person wears the specific respirator in a hazardous atmosphere, but it shall not exceed the respirator protection factor listed under "quantitative test" in table V for the particular type of respirator.

(4) Respirator fitting test records. Records of respirator fitting tests shall be kept for at least the duration of employment. These records shall include the following information:

- (a) Type of respirator fitting test used;
- (b) Specific make and model of respirator tested;
- (c) Name of person tested;
- (d) Name of test operator;
- (e) Date of test;
- (f) Results of respirator fitting tests;
- (i) Success or failure of person to obtain satisfactory fit if a qualitative respirator fitting test was carried out.
- (ii) Respirator protection factor based upon test results if a quantitative respirator fitting test was carried out.

(5) Face dimensions and facepiece sizes. The wide range of face dimensions may require more than a single size of respirator facepiece to provide a proper fit to all respirator users. Therefore, respirator facepieces of more than one size should be available in any respirator selection program involving respirators equipped with facepieces.

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**Table 1**  
**Classification of Respiratory Hazards According to Their Biological Effect**

Oxygen Deficiency	Gas and Vapor Contaminants	Particulate Contaminants (Dust, fog, fume, mist, smoke, and spray)
Minimum legal requirements: 19.5% by volume for respirable air at sea level conditions. (See Note 1.)	Asphyxiants: Interfere with utilization of oxygen in the body.	Relatively inert: May cause discomfort and minor irritation, but generally without injury at reasonable concentrations (for example: marble, gypsum).
Occurrence: Confined or unventilated cellars, wells, mines, ship holds, tanks, burning buildings, and enclosures containing inert atmospheres.	Simple asphyxiants: Physiologically inert substances that dilute oxygen in the air (for example: nitrogen, hydrogen, helium, methane). See Oxygen Deficiency, Column 1.	Pulmonary fibrosis producing: produce nodulation and fibrosis in the lung, possibly leading to complications (for example: quartz, asbestos).
Atmospheric oxygen content (percent by volume) versus expected conditions:	Chemical asphyxiants: Low concentrations interfere with supply or utilization of oxygen in the body (for example: carbon monoxide, hydrogen cyanide, cyanogen, and nitriles).	Carcinogens: Produce cancer in some individuals after latent period (for example: asbestos, chromates, radioactive particulates).
20.9%: Oxygen content of normal air at sea level conditions.		Chemical irritants: Produce irritation, inflammation, and ulceration in the upper respiratory tract (for example: acidic mists, alkalies).

Oxygen Deficiency

Gas and Vapor Contaminants

Particulate Contaminants  
(Dust, fog, fume, mist, smoke, and spray)

**Oxygen Volume Percent at Sea Level**

**Physiological Effects**

16%–12%—  
Loss of peripheral vision, increased breathing volume, accelerated heartbeat, impaired attention and thinking, impaired coordination.

12%–10%—  
Very faulty judgment, very poor muscular coordination, muscular exertion causes fatigue that may cause permanent heart damage, intermittent respiration

10%–6%—  
Nausea, vomiting, inability to perform vigorous movement, unconsciousness followed by death.

Less than 6%—  
Spasmodic breathing, convulsive movements, death in minutes.

**Irritants:** Corrosive in action. May cause irritation and inflammation of parts of the respiratory system (also skin and eyes) and pulmonary edema (for example: ammonia hydrogen chloride, formaldehyde, sulfur dioxide, chlorine, ozone, nitrogen dioxide, phosgene, and arsenic trichloride).

**Anesthetics:** Causes loss of feeling and sensation with unconsciousness and death possible (for example: nitrous oxide, hydro carbons and others). Some anesthetics injure body organs (for example: carbon tetrachloride (liver and kidneys), chloroform (liver and heart), benzene (bone marrow), and carbon disulfide (nervous system)).

**Sensitizers:** Cause increased probability of physiological reactions (for example: isocyanates, epoxy resin systems).

**Systemic poisons:** Damage organs and systems in the body (for example: mercury (nervous system and various organs), phosphorus (bone), hydrogen sulfide (respiratory paralysis), and arsine (red blood cells and liver)).

**Carcinogens:** produce cancer in some individuals after a latent period (for example: vinyl chloride, benzene).

**Systemic poisons:** Produce pathologic reactions in various systems of the body (for example: lead, manganese, cadmium).

**Allergy producing:** Produce reactions such as itching, sneezing, and asthmas (for example: pollens, spices, and animal fur).

**Febrile reaction producing:** Produce chills followed by fever (for example: fumes of zinc and copper).

Combination of Gas, Vapor, and Particulate Contaminants

Combinations of contaminants may occur simultaneously in the atmosphere. Contaminants may be entirely different substances (dusts and gases from blasting) or the particulate and vapor forms of the same substance. Synergistic effects (joint action of two or more agents that results in an effect which is greater than the sum of their individual effects) may occur. Such effects may require extraordinary protective measures.

NOTE 1: See definition in WAC 296-62-07105 for "oxygen deficiency—not immediately dangerous to life or health" and "oxygen deficiency—immediately dangerous to life or health."

**Table 2**  
**Classification of Respiratory Hazards According to Their Properties Which Influence Respirator Selection**

Gas and Vapor Contaminants	Particulate Contaminants
<b>Inert:</b> Substances that do not react with other substances under most conditions, but create a respiratory hazard by displacing air and producing oxygen deficiency (for example: helium, neon, argon).	Particles are produced by mechanical means by disintegration processes such as grinding, crushing, blasting, and spraying; or by physio-chemical reactions such as combustion, vaporization, distillation, sublimation, calcination, and condensation. Particles are classified as follows:
<b>Acidic:</b> Substances that are acids or that react with water to produce an acid. In water, they produce positively charged hydrogen ions (H+1) and a pH of less than 7. They taste sour, and many are corrosive to tissues (for example: hydrogen chloride, sulfur dioxide, fluorine, nitrogen dioxide, acetic acid, carbon dioxide, hydrogen sulfide, and hydrogen cyanide).	<b>Dust:</b> A solid, mechanically produced particle with sizes varying from submicroscopic to visible or macroscopic. <b>Spray:</b> A liquid, mechanically produced particle with sizes generally in the visible or macroscopic range.

PROPOSED

Gas and Vapor Contaminants

Particulate Contaminants

**Alkaline:** Substances that are alkalis or that react with water to produce an alkali. In water, they result in the production of negatively charged hydroxyl ions (OH<sup>-</sup>) and a pH greater than 7. They taste bitter, and many are corrosive to tissues (for example: ammonia, amines, phosphine, arsine, and stibine).

**Organic:** The components of carbon. Examples are saturated hydrocarbons (methane, ethane, butane) unsaturated hydrocarbons (ethylene, acetylene) alcohols (methyl ether, ethyl ether) aldehydes (formaldehyde), ketones (methyl ketone), organic acids (formic acid, acetic acid), halides (chloroform, carbon tetrachloride), amides (formamide, acetamide), nitriles (acetonitrile), isocyanates (toluene diisocyanate), amines (methylamine), epoxies (epoxy-ethane, propylene oxide), and aromatics (benzene, toluene, xylene).

**Organometallic:** Compounds in which metals are chemically bonded to organic groups (for example: ethyl silicate, tetraethyl lead, and organic phosphate).

**Hydrides:** Compounds in which hydrogen is chemically bonded to metals and certain other elements (for example: diborane and tetraborane).

**Fume:** A solid condensation particle of extremely small particle size, generally less than one micrometer in diameter.

**Mist:** A liquid condensation particle with sizes ranging from submicroscopic to visible or macroscopic.

**Fog:** A mist of sufficient concentration to perceptibly obscure vision.

**Smoke:** A system which includes the products of combustion, pyrolysis, or chemical reaction of substances in the form of visible and invisible solid and liquid particles and gaseous products in air. Smoke is usually of sufficient concentration to perceptibly obscure vision.

PROPOSED

**Table 3**  
Classification and Description of Respirators by Mode of Operation

Atmosphere-Supplying Respirators		Air-Purifying	
<p>A respirable atmosphere independent of the ambient air is supplied to the wearer.</p> <p><b>Self-Contained Breathing Apparatus (SCBA)</b> A supply of air, oxygen, or oxygen-generated material is carried by the wearer. Normally equipped with full facepiece, but may be equipped with a quarter-mask facepiece, half-mask facepiece, helmet, hood or mouthpiece and nose clamp.</p>		<p>Ambient air, prior to being inhaled, is passed through a filter, cartridge, or canister which removes particles, vapors, gases, or a combination of these contaminants. The breathing action of the wearer operates the nonpowered type of respirator. The powered type contains a blower stationary or carried by the wearer which passes ambient air through an air-purifying component and then supplies purified air to the respirator inlet covering. The nonpowered type is equipped with a facepiece or mouth-piece and nose clamp. The powered type is equipped with a facepiece, helmet, hood, or suit.</p>	
<p><b>Supplied-Air Respirators</b> (1) <b>Hose Mask</b> Equipped with a facepiece, breathing tube, rugged safety harness, and large diameter heavy-duty non-kinking air supply hose. The breathing tube and air supply hose are securely attached to the harness. The facepiece is equipped with an exhalation valve. The harness has provision for attaching a safety line.</p>		<p><b>Vapor and Gas Removing Respirators</b> Equipped with cartridge(s) or canister(s) remove a single vapor or gas (for example: chlorine gas), a single class of vapors or gases (for example: organic vapors), or a combination of two or more classes of vapors or gases (for example: organic vapors and acidic gases) from air.</p>	
		<p><b>Particulate-Removing Respirators</b> Equipped with filter(s) to remove a single type of particulate matter (for example: dust) or a combination of two or more types of particulate matter (for example: dust and fume) from air. Filter may be a replaceable part or a permanent part of the respirator. Filter may be of the single use or the reusable type.</p>	



## Atmosphere Supplying Respirators

## Air Purifying

(1) Closed-Circuit SCBA (oxygen only, negative pressure<sup>a</sup> or positive pressure<sup>b</sup>).

(a) Compressed liquid oxygen type. Equipped with a facepiece or mouth piece and nose clamp. High pressure oxygen from a gas cylinder passes through a high pressure reducing valve, and in some designs, through a low pressure admission valve to a breathing bag or container. Liquid oxygen is converted to low pressure gaseous oxygen and delivered to the breathing bag. The wearer inhales from the bag through a corrugated tube connected to a mouthpiece or facepiece and a one-way check valve. Exhaled air passes through another check valve and tube into a container of carbon dioxide removing chemical and reenters the breathing bag. Make-up oxygen enters the bag continuously or as the bag deflates sufficiently to actuate an admission valve. A pressure relief system is provided, and a manual bypass and saliva trap may be provided depending upon the design.

(b) Oxygen generating type. Equipped with a facepiece or mouth piece and nose clamp. Water vapor in the exhaled breath reacts with chemical in the canister to release oxygen to the breathing bag. The wearer inhales from the bag through a corrugated tube and one-way check valve at the facepiece.

Exhaled air passes through a second check valve/breathing tube assembly into the canister. The oxygen release rate is governed by the volume of exhaled air. Carbon dioxide in the exhaled breath is removed by the canister fill.

(2) Open Circuit (SCBA) (compressed air, compressed oxygen, liquid air, liquid oxygen). A bypass system is provided in case of regulator failure except on escape type units.

(a) Hose mask with blower. Air is supplied by a motor driven or hand operated blower. The wearer can continue to inhale through the hose if the blower fails. Up to 300 feet (91 meters) of hose length is permissible.

(b) Hose mask without blower. The wearer provides motivating force to pull air through the hose. The hose inlet is anchored and fitted with a funnel or like object covered with a fine mesh screen to prevent entrance of coarse particulate matter. Up to 75 feet (23 meters) of hose length is permissible.

(2) Air Line Respirator Respirable air is supplied through a small diameter hose from a compressor or compressed air cylinder(s). The hose is attached to the wearer by a belt or other suitable means and can be detached rapidly in an emergency. A flow control valve or orifice is provided to govern the rate of air flow to the wearer. Exhaled air passes to the ambient atmosphere through a valve(s) or opening(s) in the enclosure (facepiece, helmet, hood, or suit). Up to 300 feet (91 meters) of hose length is permissible.

(a) Continuous flow class. Equipped with a facepiece, hood, helmet, or suit. At least 115 liters (four cubic feet) of air per minute to tight fitting facepieces and 170 liters (six cubic feet) of air per minute to loose fitting helmets, hoods and suits is required. Air is supplied to a suit through a system of internal tubes to the head, trunk and extremities through valves located in appropriate parts of the suit.

Combination Particulate and Vapor and Gas Removing Respirators Equipped with cartridge(s) or canister(s) to remove particulate matter, vapors and gases from air. The filter may be a permanent part or a replaceable part of a cartridge or canister.

PROPOSED

Atmosphere-Supplying Respirators

Air-Purifying

(a) Demand-type.<sup>e</sup>—Equipped with a facepiece or mouthpiece and nose clamp. The demand valve permits oxygen or air flow only during inhalation. Exhaled breath passes to ambient atmosphere through a valve(s) in the facepiece.

(b) Demand-type.<sup>e</sup>—Equipped with a facepiece only. The demand valve permits flow of air only during inhalation.

(b) Pressure-demand type.<sup>d</sup>. Equipped with a facepiece only. Positive pressure is maintained in the facepiece. The apparatus may have provision for the wearer to select the demand or pressure-demand mode of operation, in which case the demand mode should be used only when donning or removing the apparatus.

(c) Pressure-demand type.<sup>d</sup>. Equipped with a facepiece only. A positive pressure is maintained in the facepiece.

PROPOSED

Combination Air-Line Respirators with Auxiliary Self-Contained Air Supply

Includes an air-line respirator with an auxiliary self-contained air supply. To escape from a hazardous atmosphere in the event the primary air supply fails to operate, the wearer switches to the auxiliary self-contained air supply. Devices approved for both entry into and escape from dangerous atmospheres have a low-pressure warning alarm and contain at least a 15-minute self-contained air supply.

Combination Atmosphere-Supplying and Air-Purifying Respirators

Provide the wearer with the option of using either of two different modes of operation: (1) an atmosphere-supplying respirator with an auxiliary air-purifying attachment which provides protection in the event the air supply fails or (2) an air-purifying respirator with an auxiliary self-contained air supply which is used when the atmosphere may exceed safe conditions for use of an air-purifying respirator.

- a Device produces negative pressure in respiratory inlet covering during inhalation.
- b Device produces positive pressure in respiratory inlet covering during both inhalation and exhalation.
- c Equipped with a demand valve that is activated on initiation of inhalation and permits the flow of breathing atmosphere to the facepiece. On exhalation, pressure in the facepiece becomes positive and the demand valve is deactivated.
- d A positive pressure is maintained in the facepiece by a spring-loaded or balanced regulator and exhalation valve.

**Table 4**  
**Capabilities and Limitations of Respirators**

Atmosphere-Supplying Respirators	Air-Purifying Respirators
<p>(See WAC 296-62-07111 for specifications on respirable atmospheres.)</p> <p>Atmosphere-supplying respirators provide protection against oxygen deficiency and toxic atmospheres. The breathing atmosphere is independent of ambient atmospheric conditions.</p> <p>General limitations: Except for some air-line suits, no protection is provided against skin irritation by materials such as ammonia and hydrogen chloride, or against sorption of materials such as hydrogen cyanide, tritium, or organic phosphate pesticides through the skin. Facepieces present special problems to individuals required to wear prescription lenses. Use of atmosphere-supplying respirators in atmospheres immediately dangerous to life or health is limited to specific devices under specified conditions (see Table 5.)</p>	<p>General limitations: Air-purifying respirators do not protect against oxygen-deficient atmospheres nor against skin irritation by, or sorption through the skin of airborne contaminants.</p> <p>The maximum contaminant concentration against which an air-purifying respirator will protect is determined by the design efficiency and capacity of the cartridge, canister, or filter and the facepiece-to-face seal on the user. For gases and vapors, the maximum concentration for which the air-purifying element is designed is specified by the manufacturer or is listed on labels of cartridges and canisters.</p>

Atmosphere-Supplying Respirators

Air-Purifying Respirators

**Self-Contained Breathing Apparatus (SCBA)**

The wearer carries his own breathing atmosphere.

**Limitations:** The period over which the device will provide protection is limited by the amount of air or oxygen in the apparatus, the ambient atmospheric pressure (service life of open circuit devices is cut in half by a doubling of the atmospheric pressure), and the type of work being performed. Some SCBA devices have a short service life (less than 15 minutes) and are suitable only for escape (self-rescue) from an irreparable atmosphere.

Chief limitations of SCBA devices are their weight or bulk, or both, limited service life, and the training requirements for their maintenance and safe use.

**(1) Closed-Circuit SCBA:** The closed-circuit operation conserves oxygen and permits longer service life at reduced weight.

The negative pressure type produces a negative pressure in the respiratory inlet covering during inhalation, and this may permit inward leakage of contaminants; whereas the positive pressure type always maintains a positive pressure in the respiratory inlet covering and is less apt to permit inward leakage of contaminants.

**(2) Open-Circuit SCBA:**

The demand type produces a negative pressure in the respiratory inlet covering during inhalation, whereas the pressure-demand type maintains a positive pressure in the respiratory inlet covering during inhalation and is less apt to permit inward leakage of contaminants.

**—Supplied-Air Respirators**

The respirable air supply is not limited to the quantity the individual can carry, and the devices are lightweight and simple.

**Limitations:** Limited to use in atmospheres from which the wearer can escape unharmed without the aid of the respirator.

The wearer is restricted in movement by the hose and must return to a respirable atmosphere by retracing his route of entry. The hose is subject to being served or pinched off.

**(1) Hose Mask:**

The hose inlet or blower must be located and secured in a respirable atmosphere.

**(a) Hose mask with blower:** If the blower fails, the unit still provides protection, although a negative pressure exists in the facepiece during inhalation.

**(b) Hose mask without blower:** Maximum hose length may restrict application of device.

**(2) Air-Line Respirator (Continuous-Flow, Demand and Pressure-Demand Types):**

The demand type produces a negative pressure in the facepiece on inhalation, whereas continuous flow and pressure-demand types maintain a positive pressure in the respirator inlet covering and are less apt to permit inward leakage of contaminants.

Air-line suits may protect against atmospheres that irritate the skin or that may be absorbed through the unbroken skin.

**Limitations:** Air-line respirators provide no protection if the air supply fails. Some contaminants, such as tritium, may penetrate the material of an air-line suit and limit its effectiveness.

Nonpowered air-purifying respirators will not provide the maximum design protection specified unless the facepiece or mouthpiece/nose clamp is carefully fitted to the wearer's face to prevent inward leakage (WAC 296-62-07115(4)). The time period over which protection is provided is dependent on canister, cartridge, or filter type; concentration of contaminant; humidity levels in the ambient atmosphere; and the wearer's respiratory rate.

The proper type of canister, cartridge, or filter must be selected for the particular atmosphere and conditions. Nonpowered air-purifying respirators may cause discomfort due to a noticeable resistance to inhalation. This problem is minimized in powered respirators. Respirator facepieces present special problems to individuals required to wear prescription lenses. These devices do have the advantage of being small, light, and simple in operation.

Use of air-purifying respirators in atmospheres immediately dangerous to life or health is limited to specific devices under specified conditions (See Table 5).

**Vapor and Gas-Removing Respirators**

**Limitations:** No protection is provided against particulate contaminants. A rise in canister or cartridge temperature indicates that a gas or vapor is being removed from the inspired air.

An uncomfortably high temperature indicates a high concentration of gas or vapor and requires an immediate return to fresh air.

Use should be avoided in atmospheres where the contaminant(s) lack sufficient warning properties (that is, odor, taste, or irritation at a concentration in air at or above the permissible exposure limit). Vapor and gas-removing respirators are not approved for contaminants that lack adequate warning properties.

Not for use in atmospheres immediately dangerous to life or health unless the device is a powered-type respirator with escape provisions (see Table 5).

**(1) Full Facepiece Respirator:**

Provides protection against eye irritation in addition to respiratory protection.

**(2) Quarter-Mask and Half-Mask Facepiece Respirator:** A fabric covering (facelet) available from some manufacturers shall not be used.

**Particulate-Removing Respirators**

**Limitations:** Protection against non-volatile particles only. No protection against gases and vapors. Not for use in atmospheres immediately dangerous to life or health unless the device is a powered-type respirator with escape provisions (see Table 5).

**(1) Full Facepiece Respirator:**

Provides protection against eye irritation in addition to respiratory protection.

**(2) Quarter-Mask and Half-Mask Facepiece Respirator:** A fabric covering (facelet) available from some manufacturers shall not be used unless approved for use with respirator.

**(3) Mouthpiece Respirator:**

Shall be used only for escape applications. Mouth breathing prevents detection of contaminant by odor. Nose clamp must be securely in place to prevent nasal breathing.

A small, lightweight device that can be donned quickly.

PROPOSED

Atmosphere Supplying Respirators

Air Purifying Respirators

~~Other contaminants, such as fluorine, may react chemically with the material of an air line suit and damage it.~~

~~(2) Mouthpiece Respirator. Shall be used only for escape application. Mouth breathing prevents detection of contaminant by odor. Nose clamp must be securely in place to prevent nasal breathing.~~

Combination Airline Respirators with Auxiliary SCBA Air Supply

The auxiliary self-contained air supply on this type of device allows the wearer to escape from a dangerous atmosphere. This device with auxiliary self-contained air supply is approved for escape and may be used for entry when it contains at least 15-minute auxiliary self-contained air supply. (See Table 5).

A small lightweight device that can be donned quickly.

Combination Particulate and Vapor and Gas Removing Respirators

The advantages and disadvantages of the component sections of the combination respirator as described above apply.

Combination Atmosphere Supplying and Air Purifying Respirators

The advantages and disadvantages, expressed above, of the mode of operation being used will govern. The mode with the greater limitations (air-purifying mode) will mainly determine the overall capabilities and limitations of the respirator, since the wearer may for some reason fail to change the mode of operation even though conditions would require such a change.

**Table 5  
Respirator Protection Factors<sup>a</sup>**

Type of Respirator	Permitted for Use in Oxygen Deficient Atmosphere	Permitted for Use in Immediately Dangerous to Life or Health Atmosphere <sup>f</sup>	Qualitative Test	Quantitative Test
Particulate filter quarter mask or half mask facepiece <sup>b,c</sup>	No	No	—10	As measured on each person with maximum of 100.
Vapor or gas removing, quarter mask or half mask facepiece <sup>e</sup>	No	No	10, or maximum use limit of cartridge or canister for vapor or gas, whichever is less	As measured on each person with maximum of 100, or maximum use limit of cartridge or canister for vapor or gas <sup>g,h</sup> , whichever is less.
Combination particulate filter and vapor or gas removing, quarter mask or half mask facepiece <sup>b,e</sup>	No	No	10, or maximum use limit of cartridge or canister for vapor or gas, which ever is less	As measured on each person with maximum of 100, or maximum use limit of cartridge or canister for vapor or gas <sup>g,h</sup> , whichever is less.
Particulate filter, full facepiece <sup>b</sup>	No	No	—100	As measured on each person with maximum of 100 if dust, fume, or mist filter is used or maximum of 1,000 if high efficiency filter is used.
Vapor or gas removing, full facepiece	No	No	100, or maximum use limit of cartridge or canister for vapor or gas, which ever is less	As measured on each person with maximum of 1000, or maximum use limit of cartridge or canister for vapor or gas <sup>g,h</sup> , whichever is less.

PROPOSED

Type of Respirator	Permitted for Use in Oxygen-Deficient Atmosphere	Permitted for Use in Immediately Dangerous to Life or Health Atmosphere <sup>f</sup>	Qualitative Test	Quantitative Test
Combination particulate filter and vapor or gas removing, full face-piece <sup>b</sup>	No	No	100, or maximum use limit of cartridge or canister for vapor or gas, which ever is less	As measured on each person with maximum of 100 if dust, fume, or mist filter is used and maximum of 1,000 if high efficiency filter is used, or maximum use limit of cartridge or canister for vapor or gas <sup>h</sup> , which ever is less.
Powered particulate filter, any respiratory inlet covering <sup>b,e,d</sup>	No	No (yes, if escape provisions are provided <sup>d</sup> )	— NA No tests are required due to positive pressure operation of respirator. The maximum protection factor is 100 if dust, fume, or mist filter is used and 3,000 if high efficiency filter is used.	— NA
Powered vapor or gas removing, any respiratory inlet covering <sup>e,d</sup>	No	No (yes, if escape provisions are provided <sup>d</sup> )	— NA No tests are required due to positive pressure operation of respirator. The maximum protection factor is 3,000 or maximum use limit of cartridge or canister for vapor of gas <sup>h</sup> , whichever is less.	— NA
Powered combination particulate filter and vapor or gas removing, any respirator inlet covering <sup>b,e,d</sup>	No	No (yes, if escape provisions are provided <sup>d</sup> )	— NA No tests are required due to positive pressure operation of respirator. The maximum protection factor is 100 if dust, fume, or mist filter is used and 3,000 if high efficiency filter is used, or maximum use limit of cartridge or canister for vapor of gas <sup>h</sup> , whichever is less.	— NA
Air line, demand, quarter mask or half mask facepiece, with or without escape provisions <sup>e,e</sup>	Yes <sup>f</sup>	No	— 10	As measured on each person, but limited to the use of the respirator in concentrations of contaminants below the immediately dangerous to life or health (IDLH) values.
Air line, demand, full face piece, with or without escape provisions <sup>e</sup>	Yes <sup>f</sup>	No	— 100	As measured on each person but limited to the use of the respirators in concentrations of contaminants below the immediately dangerous to life or health (IDLH) values.
Air line, continuous flow or pressure demand type, any facepiece without escape provisions <sup>e</sup>	Yes <sup>f</sup>	No	— NA No tests are required due to positive pressure operation of respirator. The protection factor provided by the respirator is limited to the use of the respirator in concentrations of contaminants below the immediately dangerous to life or health (IDLH) values.	— NA
Air line, continuous flow or pressure demand type, any facepiece with escape provisions <sup>e,e</sup>	Yes <sup>f</sup>	Yes	— NA No tests are required due to positive pressure operation of respirator. The maximum protection factor is 10,000 plus.	— NA

PROPOSED

Type of Respirator	Permitted for Use in Oxygen-Deficient Atmosphere	Permitted for Use in Immediately Dangerous to Life or Health Atmosphere <sup>f</sup>	Qualitative Test	Quantitative Test
Air-line, continuous flow, helmet, hood, or suit, without escape provisions	Yes <sup>f</sup>	No	— NA	— NA No tests are required due to positive pressure operation of respirator. The protection factor provided by the respirator is limited to the use of the respirator in concentrations of contaminants below the immediately dangerous to life or health (IDLH) values.
Air-line, continuous flow, helmet, hood, or suit, with escape provisions <sup>g</sup>	Yes <sup>g</sup>	No	— NA	— NA No tests are required due to positive pressure operation of respirator. The maximum protection factor is 10,000 plus <sup>h</sup> .
Hose mask, with or without blower, full facepiece	Yes <sup>f</sup>	No	— 10	As measured on each person, but limited to the use of the respirators in concentrations of contaminants below the immediately dangerous to life or health (IDLH) values.
Self-contained breathing apparatus, demand-type open circuit, or negative pressure-type closed circuit quarter mask or half mask facepiece <sup>g</sup>	Yes <sup>f</sup>	No	— 10	As measured on each person, but limited to the use of the respirators in concentrations of contaminants below the immediately dangerous to life or health (IDLH) values.
Self-contained breathing apparatus, demand-type open circuit, or negative pressure-type closed circuit, full facepiece or mouth-piece/nose clamp <sup>g</sup>	Yes <sup>f</sup> (Yes <sup>g</sup> , if respirator is used for mine rescue and mine recovery operations.)	No (Yes if respirator is used for mine rescue and mine recovery operations.)	— 100	As measured on each person, but limited to the use of the respirators in concentrations of contaminants below the immediately dangerous to life or health (IDLH) values, except when the respirator is used for mine rescue and mine recovery operations.
Self-contained breathing apparatus, pressure demand-type open circuit, or positive pressure-type closed circuit quarter mask or half mask facepiece or mouth-piece/nose clamp <sup>g</sup>	Yes <sup>g</sup>	Yes	— NA	— NA No tests are required due to positive pressure operation of respirator. The maximum protection factor is 10,000 plus <sup>h</sup> .

Combination respirators—The type and mode of operation having the lowest respirator protection factor shall be applied to the Combination Respirator not listed.

N/A

means not applicable since a respirator fitting test is not carried out.

a

A respirator protection factor is a measure of the degree of protection provided by a respirator to a respirator wearer. Multiplying the permissible time-weighted average concentration or the permissible ceiling concentration, whichever is applicable, for a toxic substance, or the maximum permissible airborne concentration for a radionuclide, by a protection factor assigned to a respirator gives the maximum concentration of the hazardous substance for which the respirator can be used. Limitations of filters, cartridges, and canisters used in air-purifying respirators shall be considered in determining protection factors.

b

When the respirator is used for protection against airborne particulate matter having a permissible time-weighted average concentration less than 0.05 milligram particulate matter per cubic meter of air or less than 2 million particles per cubic foot of air, or for protection against airborne radionuclide particulate matter, the respirator shall be equipped with a high-efficiency filter(s).

PROPOSED

Type of Respirator	Permitted for Use in Oxygen Deficient Atmosphere	Permitted for Use in Immediately Dangerous to Life or Health Atmosphere <sup>f</sup>	Qualitative Test	Quantitative Test
e	If the air contaminant causes eye irritation, the wearer of a respirator equipped with a quarter-mask or half-mask facepiece or mouthpiece and nose clamp shall be permitted to use a protective goggle or to use a respirator equipped with a full facepiece. Mouthpiece and nose clamp respirators are approved by NIOSH only for escape from IDLH atmospheres.			
d	If the powered air purifying respirator is equipped with a facepiece, the escape provision means that the wearer is able to breathe through the filter, cartridge, or canister and through the pump. If the powered air purifying respirator is equipped with a helmet, hood, or suit, the escape provision shall be an auxiliary self-contained supply of respirable air.			
e	The escape provision shall be an auxiliary self-contained supply of respirable air.			
f	For definition of "oxygen deficiency not immediately dangerous to life or health" see WAC 296-62-07105.			
g	For definition of "oxygen deficiency immediately dangerous to life or health" see WAC 296-62-07105.			
h	The protection factor measurement exceeds the limit of sensitivity of the test apparatus. Therefore, the respirator has been classified for use in atmospheres having unknown concentrations of contaminants.			
i	The service life of a vapor or gas removing cartridge canister depends on the specific vapor or gas, the concentration of the vapor or gas in air, the temperature and humidity of the air, the type and quantity of the sorbent in the cartridge or canister, and the activity of the respirator wearer. Cartridges and canisters may provide only very short service lives for certain vapors and gases. Vapor/gas service life testing is recommended to ensure that cartridges and canisters provide adequate service lives. Reference should be made to published reports which give vapor/gas life data for cartridges and canisters.			
j	Vapor and gas removing respirators are not approved for contaminants that lack adequate warning properties of odor, irritation, or taste at concentrations in air at or above the permissible exposure limits.			

Note: Respirator protection factors for air purifying type respirators equipped with a mouthpiece/nose clamp form of respirator inlet covering are not given, since such respirators are approved only for escape purposes.)

You must designate a program administrator qualified by training or experience appropriate to the needs of your program to:

- (1) Oversee the respiratory protection program; and
- (2) Conduct the required evaluations of program effectiveness.

AMENDATORY SECTION (Amending Order 88-11, filed 7/6/88)

WAC 296-62-07115 ((Use of respirators.)) Who pays for the respirators, training, medical evaluations, and fit testing? ((1) Standard operating procedures. Written standard operating procedures shall cover a complete respirator program and shall include information necessary for the proper use of respirators, including training of respirator wearers, respirator sealing tests, issuance of respirators, inspection of respirators prior to use, monitoring respirator use, monitoring respiratory hazard, and planning for routine, nonroutine, emergency, and rescue uses of respirators.

(a) The written standard operating procedures shall include plans necessary to ensure the safe routine use and nonroutine use of respirators. Emergency and rescue uses of respirators shall be anticipated, and the written standard operating procedures shall include plans necessary to ensure the safe emergency and rescue uses of respirators. Persons who wear respirators routinely, who wear respirators nonroutinely, and who may be required to wear respirators for emergency and rescue work shall be given adequate information

concerning plans covering these respirator uses to ensure the safe use of respirators.

(b) Standard operating procedures for emergency and rescue use of respirators. It is recognized that it is not possible to foresee every emergency and rescue use of respirators for every kind of operation. Nevertheless, a wide variety of possible conditions requiring the emergency or rescue use of respirators can be envisioned and an adequate emergency and rescue respirator response capability can be achieved through a serious effort to anticipate the worst possible consequences of particular malfunctions or mishaps.

The written standard operating procedures governing the emergency and rescue uses of respirators shall be developed in the following manner:

(i) An analysis of the emergency and rescue uses of respirators that may occur in each operation shall be made by careful consideration of materials, equipment, processes, and personnel involved. Such an analysis shall be reviewed by the person who is thoroughly familiar with the particular operation. Consideration shall be given to past occurrences requiring emergency or rescue uses of respirators as well as conditions which resulted in such respirator applications. The possible consequences of equipment or power failures, uncontrolled chemical reactions, fire, explosion, or human error shall be given consideration. All potential hazards which may result in emergency or rescue use of respirators shall be listed.

(ii) Based upon the analysis, appropriate types of respirators shall be selected, an adequate number shall be provided for each area where they may be needed for emergency or rescue use, and these respirators shall be maintained and stored so that they are readily accessible and operational when needed.

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(iii) In areas where the wearer, with failure of the respirator, could be overcome by a toxic or oxygen deficient atmosphere, at least one additional person shall be present. Communications (visual, voice, or signal line) shall be maintained between both or all individuals present. Planning shall be such that one individual will be unaffected by any likely incident and have the proper rescue equipment to be able to assist the other(s) in case of emergency.

(iv) When self-contained breathing apparatus or airline respirators with an escape provision are used in atmospheres immediately dangerous to life or health, standby workers must be present at the nearest fresh air base with suitable rescue equipment.

(v) Persons using air line respirators in atmospheres immediately hazardous to life or health shall be equipped with safety harnesses and safety lines for lifting or removing persons from hazardous atmospheres or other and equivalent provisions for the rescue of persons from hazardous atmospheres shall be used. A standby worker or workers with suitable self-contained breathing apparatus shall be at the nearest fresh air base for emergency rescue.

(2) Training. The supervisor, the person issuing respirators, and the respirator wearers shall be given adequate training by a qualified person(s) to ensure the proper use of respirators. Written records shall be kept of the names of the persons trained and the dates when training occurred.

(a) Training of supervisor. A supervisor—that is, a person who has the responsibility of overseeing the work activities of one or more persons who must wear respirators—shall be given adequate training to ensure the proper use of respirators.

(b) Training of person issuing respirators. A person assigned the task of issuing respirators to persons who must wear respirators for protection against harmful atmospheres shall be given adequate training to ensure that the correct respirator is issued for each application in accordance with written standard operating procedures.

(c) Training of respirator wearer. To ensure the proper and safe use of a respirator, the minimum training of each respirator wearer shall include the following elements:

(i) The reasons for the need of respiratory protection.

(ii) The nature, extent, and effects of respiratory hazards to which the person may be exposed.

(iii) An explanation of why engineering controls are not being applied or are not adequate and of what effort is being made to reduce or eliminate the need for respirators.

(iv) An explanation of why a particular type of respirator has been selected for a specific respiratory hazard.

(v) An explanation of the operation, and the capabilities and limitations, of the respirator selected.

(vi) Instruction in inspecting, donning, checking the fit of, and wearing the respirator.

(vii) An opportunity for each respirator wearer to handle the respirator, learn how to don and wear it properly, check its seals, wear it in a safe atmosphere, and wear it in a test atmosphere.

(viii) An explanation of how maintenance and storage of the respirator is carried out.

(ix) Instructions in how to recognize and cope with emergency situations.

(x) Instructions as needed for special respirator use.

(xi) Regulations concerning respirator use.

(A) Wearing instructions and training. Wearing instructions and training, including practice demonstrations, shall be given to each respirator wearer and shall cover:

(I) Donning, wearing, and removing the respirator.

(II) Adjusting the respirator so that its respiratory inlet covering is properly fitted on the wearer and so that the respirator causes a minimum of discomfort to the wearer.

(III) Allowing the respirator wearer to wear the respirator in a safe atmosphere for an adequate period of time to ensure that the wearer is familiar with the operational characteristics of the respirator.

(IV) Providing the respirator wearer an opportunity to wear the respirator in a test atmosphere to demonstrate that the respirator provides protection to the wearer. A test atmosphere is any atmosphere in which the wearer can carry out activities simulating work movements and respirator leakage or respirator malfunction can be detected by the wearer.

(B) Retraining. Each respirator wearer shall be retrained as necessary to assure effective respirator use. Refresher training shall be given at least annually and shall include the provisions of (c)(vii) through (xi)(A)(III) of this subsection.

(3) Respirator sealing problems. Respirators shall not be worn when conditions prevent a seal of the respirator to the wearer.

(a) A person who has hair (stubble, moustache, sideburns, beard, low hairline, bangs) which passes between the face and the sealing surface of the facepiece of the respirator shall not be permitted to wear such a respirator.

(b) A person who has hair (moustache, beard) which interferes with the function of a respirator valve(s) shall not be permitted to wear the respirator.

(c) A spectacle which has temple bars or straps which pass between the sealing surface of a respirator full facepiece and the wearer's face shall not be used.

(d) A head covering which passes between the sealing surface of a respirator facepiece and the wearer's face shall not be used.

(e) The wearing of a spectacle, a goggle, a faceshield, a welding helmet, or other eye and face protective device which interferes with the seal of a respirator to the wearer shall not be allowed.

(f) If scars, hollow temples, excessively protruding cheekbones, deep creases in facial skin, the absence of teeth or dentures, or unusual facial configurations prevent a seal of a respirator facepiece to a wearer's face, the person shall not be permitted to wear the respirator.

(g) If missing teeth or dentures prevent a seal of a respirator mouthpiece in a person's mouth, the person shall not be allowed to wear a respirator equipped with a mouthpiece.

(h) If a person has a nose of a shape or size which prevents the closing of the nose by the nose clamp of a mouthpiece/nose clamp type of respirator, the person shall not be permitted to wear this type of respirator.

(4) Respirator sealing tests. To ensure proper protection, the wearer of a respirator equipped with a facepiece shall check the seal of the facepiece prior to each entry into a hazardous atmosphere. This may be done using procedures rec-



ommended by respirator manufacturers or by approved field tests.

(5) Issuance of respirators. The proper respirator shall be specified for each application and shall be listed in the written standard operating procedures. If a respirator is marked for the worker to whom it is assigned or for other identification purposes, the markings shall not affect the respirator performance in any way.

(6) Respirator inspection prior to use. Each person issued a respirator for routine, nonroutine, emergency, or rescue use shall inspect the respirator prior to its use to ensure that it is in good operating condition.

(7) Monitoring respirator use. The use of respirators on a routine or nonroutine basis shall be monitored to ensure that the correct respirators are being used, that the respirators are being worn properly and that the respirators being used are in good working condition.

(8) Evaluation of respiratory hazard during use. The level of the respiratory hazard in the workplace to which a person wearing a respirator is exposed shall be evaluated periodically.

(9) Leaving a hazardous area. A respirator wearer shall be permitted to leave the hazardous area for any respirator-related cause. Reasons which may cause a respirator wearer to leave a hazardous area include, but are not limited to, the following:

- (a) Failure of the respirator to provide adequate protection.
- (b) Malfunction of the respirator.
- (c) Detection of leakage of air contaminant into the respirator.
- (d) Increase in resistance of respirator to breathing.
- (e) Severe discomfort in wearing the respirator.
- (f) Illness of respirator wearer, including: Sensation of dizziness, nausea, weakness, breathing difficulty, coughing, sneezing, vomiting, fever, and chills.) When respirators are required, you must provide respirators, training, medical evaluations, and fit testing at no cost to your employees (including expenses such as wages and travel).

## VOLUNTARY USE OF RESPIRATORS

AMENDATORY SECTION (Amending Order 81-19, filed 7/27/81)

WAC 296-62-07117 ((Maintenance of respirators,))  
What must you do when employees choose to wear respirators when respirators are not required? (((1) General. A program for the maintenance of respirators shall be adjusted to the type of plant, working conditions, hazards involved, and shall include the following:

- (a) Cleaning and sanitizing.
- (b) Inspection for defects.
- (c) Repair.
- (d) Storage.

Each respirator shall be properly maintained to retain its original shape and effectiveness.

(2) Cleaning and sanitizing. Each respirator shall be cleaned and sanitized to ensure that the respirator wearer is provided with a clean and sanitized respirator at all times. A

respirator issued for other than continuous personal use by a particular worker, such as with routine, nonroutine, emergency, or rescue use, shall be cleaned and sanitized after each use.

(3) Inspection. Each respirator shall be inspected routinely before and after use. A respirator shall be inspected by the user immediately prior to each use to ensure that it is in proper working condition.

(a) After cleaning and sanitizing, each respirator shall be inspected to determine if it is in proper working condition, if it needs replacement of parts or repairs, or if it should be discarded. Each respirator stored for emergency or rescue use shall be inspected at least monthly. Respirator inspection shall include a check for tightness of connections; for the condition of the respiratory inlet covering, head harness, valves, connecting tubes, harness assemblies, filters, cartridges, canisters, end-of-service-life indicator, and shelf life date(s); and for the proper function of regulators, alarms, and other warning systems.

(b) Each rubber or other elastomeric part shall be inspected for pliability and signs of deterioration. Each air and oxygen cylinder shall be inspected to ensure that it is fully charged according to the manufacturer's instructions.

(c) A record of inspection dates, findings, and remedial actions shall be kept for each respirator maintained for emergency or rescue use.

(4) Part replacement and repair. Replacement of parts or repairs shall be done only by persons trained in proper respirator assembly and correction of possible respirator malfunctions and defects. Replacement parts shall be only those designed for the specific respirator being repaired. Reducing or admission valves, regulators, and alarms shall be returned to the manufacturer or to a trained technician for repair or adjustment. Instrumentation for valve, regulator, and alarm adjustments and tests must be approved by the valve, regulator, or alarm manufacturer.

(5) Storage. Respirators shall be stored in a manner that will protect them against dust, sunlight, heat, extreme cold, excessive moisture, or damaging chemicals. Respirators shall be stored to prevent distortion of rubber or other elastomeric parts. Respirators shall not be stored in such places as lockers and tool boxes unless they are protected from contamination, distortion, and damage. Emergency and rescue use respirators that are placed in work areas shall be quickly accessible at all times, and the storage cabinet or container in which they are stored shall be clearly marked.) (1) You may provide respirators at the request of employees or permit employees to use their own respirators, if you determine that such respirator use will not in itself create a hazard.

(2) If you determine that any voluntary respirator use is permissible, you must provide the respirator users with the following information:

### Figure 1 Important Information About Voluntary Use of Respirators

Note: "You" and "your" mean the employee in the following information.

## RESPIRATOR SELECTION

Respirators protect against airborne contaminants when properly selected and worn. Respirator use is encouraged, even when exposure to contaminants are below the exposure limit(s), to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to you. Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous contaminants (chemical biological) does not exceed the limits set by WISHA standards. If your employer provides respirators for your voluntary use, or if you are allowed to provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard.

You should do the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.
2. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.
3. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against solvent vapor or smoke (since smoke particles are much smaller than dust particles).
4. Keep track of your respirator so that you do not mistakenly use someone else's respirator.

(3) In addition, you must establish, implement, and pay for those elements of a written respiratory protection program necessary to make sure that:

- Any employee using a respirator voluntarily is medically able to use that respirator, and that
- The respirator is cleaned, stored, and maintained so that its use does not present a health hazard to the user.

EXCEPTION: You are not required to include in a written respiratory protection program those employees whose only use of respirators involves the voluntary use of filtering facepieces (for example, dust masks).

NEW SECTION

**WAC 296-62-07130 What must be considered when selecting any respirator?** (1) You must identify and evaluate the respiratory hazard(s) in the workplace. This evaluation must reasonably estimate employee exposures to respiratory hazard(s) and identify the contaminant's chemical state and physical form. Where you cannot identify or reasonably estimate the employee exposure, you must consider the atmosphere to be IDLH.

(2) You must identify relevant factors pertaining to the workplace and respirator user that affect respirator performance and reliability.

(3) You must select and provide the appropriate respirators based on the respiratory hazards and the relevant factors related to the workplace and user.

(4) You must select a NIOSH-certified respirator. The respirator must be used in compliance with the conditions of its certification.

(5) You must select respirators from a sufficient number of respirator models and sizes so that the respirator is acceptable to, and correctly fits, the user.

NEW SECTION

**WAC 296-62-07131 What else must you consider when selecting a respirator for use in atmospheres that are not IDLH?** (1) You must provide a respirator that is adequate to protect the health of the employee and ensure compliance with all other WISHA statutory and regulatory requirements for routine, nonroutine, and reasonably foreseeable emergency and rescue situations.

(2) You must use the assigned protection factors (APFs) in Table 1 when selecting respirators.

Table 1—Assigned Protection Factors

Type of Respirator	Permitted for Use In Oxygen-Deficient Atmosphere	Permitted for Use In Immediately-Dangerous-to-Life-or-Health Atmosphere	Assigned Protection Factor
Half-facepiece <sup>b</sup> for: •Particulate-filter •Vapor- or gas-removing •Combination particulate-filter and vapor- or gas-removing	No	No	10
Full facepiece for: •Particulate-filter •Vapor- or gas-removing •Combination particulate-filter and vapor- or gas-removing	No	No	100
Powered air-purifying, half facepiece <sup>b</sup>	No	No	50
Powered air-purifying, full facepiece	No	No	100
Powered air-purifying, full facepiece, equipped with HEPA filters	No	No	1000
Powered air-purifying, loose fitting facepiece	No	No	25
Powered air-purifying, hood or helmet	No	No	100
Powered air-purifying, hood or helmet equipped with HEPA filters	No	No	1000
Supplied-air, demand, half facepiece	Yes	No	10
Supplied-air, demand, full facepiece	Yes	No	50
Supplied-air, continuous-flow or pressure-demand type, full facepiece	Yes	No	50
Supplied-air, continuous-flow or pressure-demand type, full facepiece without escape provisions <sup>c</sup>	Yes	No	1000
Supplied-air, continuous-flow or pressure-demand type, full facepiece with escape provisions <sup>c</sup>	Yes	Yes	No applicable APF
Supplied-air, helmet or hood	Yes	No	1000
Supplied-air, loose fitting facepiece	Yes	No	25
Self-contained breathing apparatus, demand-type, half facepiece <sup>b</sup>	Yes	No	10
Self-contained breathing apparatus, demand-type, full facepiece <sup>b</sup>	Yes	No	100
Self-contained breathing apparatus, pressure-demand type <sup>b</sup>	Yes	Yes	10,000

**Combination respirators.** The type and mode of operation having the lowest respirator protection factor must be applied to the combination respirator not listed.

<sup>a</sup> An assigned protection factor is a numeric rating given to respirators, which tells how much protection the respirator can provide.

<sup>b</sup> If the air contaminant causes eye irritation, the wearer of a respirator equipped with a quarter-mask or half-mask facepiece or mouthpiece and nose clamp must be permitted to use a protective goggle or to use a respirator equipped with a full facepiece. Mouthpiece and nose clamp respirators are approved by NIOSH only for escape from IDLH atmospheres.

<sup>c</sup>The escape provision must be an auxiliary self-contained supply of respirable air.

(3) The respirator selected must be appropriate for the chemical state and physical form of the contaminant.

(4) For protection against gases and vapors, you must provide:

- (a) An atmosphere-supplying respirator; or
  - (b) An air-purifying respirator, provided that:
    - (i) The respirator is equipped with an end-of-service-life indicator (ESLI) certified by NIOSH for the contaminant; or
    - (ii) If there is no ESLI appropriate for the conditions in your workplace, you must implement a change schedule for canisters and cartridges that is based on objective information or data that will make sure that canisters and cartridges are changed before the end of their service life. Your respirator program must describe:
      - The information and data relied upon; and
      - The basis for the canister and cartridge change schedule; and
      - The basis for reliance on the data.
- (5) For protection against particulates, you must provide:

- (a) An atmosphere-supplying respirator; or
- (b) An air-purifying respirator equipped with a filter certified by NIOSH under 30 CFR Part 11 as a high efficiency particulate air (HEPA) filter, or an air-purifying respirator equipped with a filter certified for particulates by NIOSH under 42 CFR Part 84; or
- (c) For contaminants consisting primarily of particles with mass median aerodynamic diameters (MMAD) of at least 2 micrometers, an air-purifying respirator equipped with any filter certified for particulates by NIOSH.

**NEW SECTION**

**WAC 296-62-07132 What else must you consider when selecting a respirator for use in IDLH atmospheres?**

(1) You must provide the following respirators for your employees to use in IDLH atmospheres:

(a) A full facepiece pressure demand SCBA certified by NIOSH for a minimum service life of thirty minutes; or

(b) A combination full facepiece pressure demand supplied-air respirator (SAR) with auxiliary self-contained air supply.

(2) Respirators provided only for escape from IDLH atmospheres must be NIOSH-certified for escape from the atmosphere in which they will be used.

(3) All oxygen-deficient atmospheres must be considered IDLH unless you demonstrate that, under all foreseeable conditions, the oxygen concentration can be maintained within the ranges specified in Table 2 of this section (i.e., for the altitudes set out in the table). In such cases, any atmosphere-supplying respirator may be used.

**Table 2 Altitudes for Oxygen Deficient Atmospheres**

Altitude (ft.)	Oxygen deficient atmospheres (%O <sub>2</sub> ) for which the employer may rely on any atmosphere-supplying respirator
Less than 3,001	16.0 - 19.5
3,001 - 4,000	16.4 - 19.5
4,001 - 5,000	17.1 - 19.5
5,001 - 6,000	17.8 - 19.5
6,001 - 8,000	19.3 - 19.5

<sup>1</sup>Above 8,000 feet the exception does not apply. Oxygen-enriched breathing air must be supplied above 14,000 feet.

**NEW SECTION**

**WAC 296-62-07133 What else must you consider when selecting a respirator for emergency and rescue use?**

(1) You must analyze emergency and rescue uses of respirators that may occur in each operation by carefully considering materials, equipment, processes, and personnel involved in each operation. The person who is thoroughly familiar with the particular operation must review the analysis. As part of your analysis, you must:

- Consider past occurrences requiring emergency or rescue use of respirators as well as conditions that resulted in such respirator applications;

- Consider the possible consequences of equipment or power failures, uncontrolled chemical reactions, fire, explosion, or human error; and
  - List all potential hazards that may result in emergency or rescue use of respirators.
- (2) Based upon the analysis, you must:
- Select the appropriate types of respirators;
  - Provide an adequate number of respirators for each area where they may be needed for emergency or rescue use; and
  - Maintain and store the respirators so that they are readily accessible and operational when needed.

**MEDICAL EVALUATIONS**

**NEW SECTION**

**WAC 296-62-07150 What are the general requirements for medical evaluations?** (1) Before an employee is fit tested or required to use a respirator in the workplace, you must provide a medical evaluation to determine the employee's ability to use a respirator.

(2) You may rely upon a previous employer's medical evaluation, if you can show that:

(a) The employee's most recent evaluation was completed in the previous 12 months;

(b) You have been provided with a copy of the written recommendation as required in WAC 296-62-07155 from the PLHCP approving the employee to use the respirator chosen; and

(c) The previous working conditions, which required respirator use as detailed in WAC 296-62-07154(1), are substantially similar to yours.

(3) Exception. You are not required to provide medical evaluations for employees using respirators that are both:

- Certified for escape-only uses; and
- Do not have tight-fitting facepieces.

**NEW SECTION**

**WAC 296-62-07151 What are the procedures for determining if your employee is able to use a respirator?**

You must identify a physician or other licensed health care professional (PLHCP) to perform medical evaluations in accordance with the following:

(1) For the initial medical evaluation, the PLHCP must review the information obtained by the questionnaire in Sections 1 and 2, Part A in WAC 296-62-07255. It is not necessary to have an initial medical examination. However, an initial medical examination may be substituted for the questionnaire if it obtains the same information.

(2) The PLHCP must complete a follow-up medical evaluation for any employee who gives a positive response to any question in Section 2, Part A in WAC 296-62-07255 or whose initial medical examination demonstrates the need for follow-up evaluation.

(3) The follow-up medical evaluation must include any consultations (for example, to evaluate positive responses on the questionnaire), medical tests, or diagnostic procedures

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that the PLHCP deems necessary to make a final determination.

#### NEW SECTION

**WAC 296-62-07153 How must the medical questionnaire and examinations be administered?** (1) The medical questionnaire and examinations must be administered confidentially during the employee's normal working hours or at a time and place convenient to the employee. The medical questionnaire must be administered in a way that makes sure that the employee understands its content. To ensure confidentiality, you must not review an employee's questionnaire at any time.

(2) You must provide the employee with an opportunity to discuss the questionnaire and examination results with the PLHCP.

#### NEW SECTION

**WAC 296-62-07154 What information must you provide to the PLHCP in addition to the questionnaire?** (1) You must provide the following information to the PLHCP before the PLHCP makes a recommendation concerning an employee's ability to use a respirator:

- (a) The type and weight of the respirator to be used by the employee;
- (b) The duration and frequency of respirator use (including use for rescue and escape);
- (c) The expected physical work effort;
- (d) Additional protective clothing and equipment to be worn; and
- (e) Temperature and humidity extremes that may be encountered.

(2) You must provide the PLHCP with a copy of your written respiratory protection program and a copy of chapter 296-62 WAC, Part E, Respiratory protection.

(3) When an employee needs a subsequent medical evaluation, you do not have to provide any information previously given to the PLHCP if the information and the PLHCP remain the same.

**Note:** When you replace a PLHCP, you must make sure that the new PLHCP obtains this information, either by providing the documents directly to the PLHCP or having the documents transferred from the former PLHCP to the new PLHCP. However, WISHA does not expect you to have employees medically reevaluated solely because a new PLHCP has been selected.

#### NEW SECTION

**WAC 296-62-07155 What medical determinations are required when establishing your employee's ability to use a respirator?** In determining the employee's ability to use a respirator, you must:

(1) Obtain a written recommendation regarding the employee's ability to use the respirator from the PLHCP. The recommendation must provide only the following information:

- (a) Any limitations on respirator use related to the medical condition of the employee, or relating to the workplace

conditions in which the respirator will be used, including whether or not the employee is medically able to use the respirator;

(b) The need, if any, for follow-up medical evaluations; and

(c) A statement that the PLHCP has provided the employee with a copy of the PLHCP's written recommendation.

(2) If the respirator is a negative pressure respirator and the PLHCP finds a medical condition that may place the employee's health at increased risk if the respirator is used, you must provide a PAPR if the PLHCP's medical evaluation finds that the employee can use such a respirator; if a subsequent medical evaluation finds that the employee is medically able to use a negative pressure respirator, then you no longer must provide a PAPR.

#### NEW SECTION

**WAC 296-62-07156 When are additional medical evaluations required?** (1) At a minimum, you must provide additional medical evaluations that comply with the requirements in WAC 296-62-07151 through 296-62-07155 if:

(a) An employee reports medical signs or symptoms related to his or her ability to use a respirator;

(b) A PLHCP, supervisor, or the respirator program administrator informs you that an employee needs to be reevaluated;

(c) Information from the respiratory protection program, including observations made during fit testing and program evaluation, indicates a need for employee reevaluation; or

(d) A change occurs in workplace conditions (for example, physical work effort, protective clothing, temperature) that may result in a substantial increase in the physiological burden placed on an employee.

(2) You may discontinue an employee's medical evaluations when the employee is no longer required to use a respirator.

### **FIT TESTING**

#### NEW SECTION

**WAC 296-62-07160 When is fit testing required?** You must make sure that employees using a negative or positive pressure tight-fitting facepiece respirator pass an appropriate qualitative fit test (QLFT) or quantitative fit test (QNFT). Fit testing must occur:

- (1) Prior to initial use of the respirator;
- (2) Whenever a different respirator facepiece (size, style, model or make) is used;
- (3) At least annually thereafter; and

(4) Whenever the employee reports to you or your PLHCP observes changes in the employee's physical condition that could affect respirator fit. Such conditions include, but are not limited to, facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight.

(5) You may rely on a current fit test completed by a previous employer for the same employee if you obtain written documentation of the fit test and all other applicable require-

ments in WAC 296-62-07160 and 296-62-07161 have been satisfied.

#### NEW SECTION

**WAC 296-62-07161 What is required when an employee finds the respirator's fit unacceptable?** If after passing a qualitative fit test or a quantitative fit test, your employee subsequently notifies you or your PLHCP that the fit of the respirator is unacceptable, you must give the employee a reasonable opportunity to select a different respirator facepiece and to be retested.

#### NEW SECTION

**WAC 296-62-07162 How must fit testing be done?** (1) The fit test must be administered using WISHA-accepted quantitative or qualitative protocol. These protocols are contained in WAC 296-62-07201 through 296-62-07248 (Appendices A-1, A-2 and A-3 of this part).

(2) Qualitative fit testing may be used only to fit test negative pressure air-purifying respirators that must achieve a fit factor of 100 or less.

(3) If the fit factor, as determined through WISHA-accepted quantitative fit testing protocol, is equal to or greater than 100 for tight-fitting half facepieces, or equal to or greater than 500 for tight-fitting full facepieces, the employee passed the quantitative fit test for that respirator.

(4) Fit testing of tight-fitting atmosphere-supplying respirators and tight-fitting powered air-purifying respirators must be accomplished by performing quantitative or qualitative fit testing in the negative pressure mode, regardless of the mode of operation (negative or positive pressure) that is used for respiratory protection.

(a) Qualitative fit testing of these respirators must be accomplished by temporarily converting the respirator user's actual facepiece into a negative pressure respirator with appropriate filters, or by using an identical negative pressure air-purifying respirator facepiece with the same sealing surfaces as a surrogate for the atmosphere-supplying or powered air-purifying respirator facepiece.

(b) Quantitative fit testing of these respirators must be accomplished by modifying the facepiece to allow sampling inside the facepiece in the breathing zone of the user, midway between the nose and mouth. This requirement must be accomplished by installing a permanent sampling probe onto a surrogate facepiece, or by using a sampling adapter designed to temporarily provide a means of sampling air from inside the facepiece.

(c) Any modifications to the respirator facepiece for fit testing must be completely removed, and the facepiece restored to NIOSH-approved configuration, before that facepiece can be used in the workplace.

### USE OF RESPIRATORS

#### NEW SECTION

**WAC 296-62-07170 How must you prevent problems with the seal on tight-fitting facepieces?** (1) You must not

permit respirators with tight-fitting facepieces to be worn by employees who have:

(a) Facial hair (stubble, moustache, sideburns, beard, low hairline, bangs) that comes between the sealing surface of the facepiece and the face or that interferes with valve function; or

(b) Any other condition that interferes with the face-to-facepiece seal or valve function.

(2) If an employee wears corrective glasses or goggles or other personal protective equipment, you must make sure that such equipment is worn in a manner that does not interfere with the seal of the facepiece.

(3) For all tight-fitting respirators, you must make sure that employees perform a user seal check each time they put on the respirator using the procedures in Appendix B-1 or procedures recommended by the respirator manufacturer that you demonstrate are as effective as those in Appendix B-1 of chapter 296-62 WAC, Part E.

#### NEW SECTION

**WAC 296-62-07171 How do you monitor continuing effectiveness of your employees' respirators?** (1) You must maintain appropriate surveillance of work area conditions and degree of employee exposure or stress.

(2) When there is a change in work area conditions or degree of employee exposure or stress that may affect respirator effectiveness, you must reevaluate the continued effectiveness of the respirator.

(3) You must make sure that employees leave the respirator use area:

(a) To wash their faces and respirator facepieces as necessary to prevent eye or skin irritation associated with respirator use; or

(b) If they detect vapor or gas breakthrough, changes in breathing resistance, or leakage of the facepiece; or

(c) To replace the respirator or the filter, cartridge, or canister elements; or

(d) If the employee experiences severe discomfort in wearing the respirator; or

(e) If the employee becomes ill or experiences sensations of dizziness, nausea, weakness, breathing difficulty, coughing, sneezing, vomiting, fever, and chills.

(4) If the employee detects vapor or gas breakthrough, changes in breathing resistance, or leakage of the facepiece, you must replace or repair the respirator before allowing the employee to return to the work area.

#### NEW SECTION

**WAC 296-62-07172 What are the standby procedures when respirators are used in IDLH situations?** (1) You must provide standby employees when employees are working in IDLH atmospheres.

(2) In certain IDLH situations, one standby employee is permitted when:

(a) The IDLH atmosphere is well characterized; and

(b) You can show that one employee can adequately:

(i) Monitor the employees in the IDLH atmosphere;

(ii) Implement communication activities; and

(iii) Initiate rescue duties.

(3) For all other IDLH situations, you must have at least two employees located outside the IDLH atmosphere.

(4) Visual, voice, or signal line communication must be maintained between the employee(s) in the IDLH atmosphere and the employee(s) located outside the IDLH atmosphere.

(5) The employee(s) located outside the IDLH atmosphere must be trained and equipped to provide effective emergency rescue.

(6) You or your designee must be notified before the employee(s) located outside the IDLH atmosphere enter the IDLH atmosphere to provide emergency rescue.

(7) You or your designee, once notified, must provide necessary assistance appropriate to the situation.

(8) Standby employee(s) located outside the IDLH atmospheres must be equipped with:

(a) Pressure demand or other positive pressure SCBAs, or a pressure demand or other positive pressure supplied-air respirator with auxiliary SCBA; and either

(b) Appropriate retrieval equipment for removing the employee(s) who enter(s) these hazardous atmospheres where retrieval equipment would contribute to the rescue of the employee(s) and would not increase the overall risk resulting from entry; or

(c) Equivalent means for rescue where retrieval equipment is not required under (b) of this subsection.

## MAINTENANCE AND CARE OF RESPIRATORS

### NEW SECTION

**WAC 296-62-07175 How must respirators be cleaned and disinfected?** (1) You must provide each respirator user with a respirator that is clean, sanitary, and in good working order.

(2) You must make sure that respirators are cleaned and disinfected using the procedures in WAC 296-62-07253, Appendix B-2, or procedures recommended by the respirator manufacturer, provided that such procedures are as effective.

(3) The respirators must be cleaned and disinfected as follows:

(a) Respirators issued for the exclusive use of an employee must be cleaned and disinfected as often as necessary to be maintained in a sanitary condition;

(b) Respirators issued to more than one employee must be cleaned and disinfected before being worn by different individuals;

(c) Respirators maintained for emergency use must be cleaned and disinfected after each use; and

(d) Respirators used in fit testing and training must be cleaned and disinfected after each use.

### NEW SECTION

**WAC 296-62-07176 How must respirators be stored?**

(1) You must make sure that all respirators are stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals. You must also make sure that they are packed or

stored to prevent deformation of the facepiece and exhalation valve.

(2) When storing emergency respirators, you must:

(a) Keep them accessible to the work area;

(b) Store them in compartments or in covers that are clearly marked as containing emergency respirators;

(c) Store them in accordance with any applicable manufacturer instructions; and

(d) Provide an adequate number for each work area where they may be needed.

### NEW SECTION

**WAC 296-62-07177 When must respirators be inspected?** You must make sure that:

(1) All respirators used in routine situations are inspected before each use and during cleaning;

(2) All respirators maintained for use in emergency situations are inspected at least monthly and in accordance with the manufacturer's recommendations, and are checked for proper function before and after each use; and

(3) Emergency escape-only respirators are inspected before being carried into the workplace for use.

### NEW SECTION

**WAC 296-62-07178 How must respirators be inspected?** (1) You must make sure that respirator inspections include:

(a) A check of respirator function, tightness of connections, and the condition of the various parts including, but not limited to, the facepiece, head straps, valves, connecting tube, and cartridges, canisters or filters; and

(b) A check of elastomeric parts for pliability and signs of deterioration.

(2) Self-contained breathing apparatus must be inspected monthly. Air and oxygen cylinders must be maintained in a fully charged state and must be recharged when the pressure falls to 90% of the manufacturer's recommended pressure level. You must determine that the regulator and warning devices function properly.

(3) For respirators maintained for emergency use, you must:

(a) Certify the respirator by documenting the date the inspection was performed, the name (or signature) of the person who made the inspection, the findings, required remedial action, and a serial number or other means of identifying the inspected respirator; and

(b) Provide this information on a tag or label that is attached to the storage compartment for the respirator, is kept with the respirator, or is included in inspection reports stored as paper or electronic files. This information must be maintained until replaced following a subsequent certification.

### NEW SECTION

**WAC 296-62-07179 How must respirators be repaired and adjusted?** (1) You must make sure that respirators that fail an inspection or are otherwise found to be

defective are no longer used until they are repaired or adjusted properly;

(2) Repairs or adjustments to respirators must be made only by persons appropriately trained to perform such operations, who must use only the respirator manufacturer's NIOSH-approved parts designed for the respirator;

(3) Repairs must be made according to the manufacturer's recommendations and specifications for the type and extent of repairs to be performed; and

(4) Reducing and admission valves, regulators, and alarms must be adjusted or repaired only by the manufacturer or a technician trained by the manufacturer.

**BREATHING AIR QUALITY AND USE**

**NEW SECTION**

**WAC 296-62-07182 What are the breathing gas requirements for atmosphere-supplying respirators?** (1) You must provide employees using atmosphere-supplying respirators (supplied-air and SCBA) with breathing gases of high purity.

(2) You must make sure that compressed air, compressed oxygen, liquid air, and liquid oxygen used for respiration accords with the following specifications:

(a) Compressed and liquid oxygen must meet the United States Pharmacopoeia requirements for medical or breathing oxygen; and

(b) Compressed breathing air must meet at least the requirements for Grade D breathing air described in ANSI/Compressed Gas Association Commodity Specification for Air, G-7.1-1989, to include:

(i) Oxygen content (v/v) of 19.5-23.5%;

(ii) Hydrocarbon (condensed) content of 5 milligrams per cubic meter of air or less;

(iii) Carbon monoxide (CO) content of 10 ppm or less;

(iv) Carbon dioxide content of 1,000 ppm or less; and

(v) Lack of noticeable odor.

(3) You must make sure that compressed oxygen is not used in atmosphere-supplying respirators that have previously used compressed air.

(4) You must make sure that oxygen concentrations greater than 23.5% are used only in equipment designed for oxygen service or distribution.

(5) You must make sure that cylinders used to supply breathing air to respirators meet the following requirements:

(a) Cylinders must be tested and maintained as prescribed in the Shipping Container Specification Regulations of the Department of Transportation (49 CFR Part 173 and Part 178);

(b) Cylinders of purchased breathing air must have a certificate of analysis from the supplier that the breathing air meets the requirements for Grade D breathing air; and

(c) The moisture content in the cylinder must not exceed a dew point of -50°F (-45.6°C) at 1 atmosphere pressure.

(6) You must make sure that compressors used to supply breathing air to respirators are constructed and situated so as to:

(a) Prevent entry of contaminated air into the air-supply system;

(b) Minimize moisture content so that the dew point at 1 atmosphere pressure is 10°F (5.56°C) below the ambient temperature;

(c) Have suitable in-line air-purifying sorbent beds and filters to further make sure that the supplied-air is breathing air quality. Sorbent beds and filters must be maintained and replaced or refurbished periodically following the manufacturer's instructions;

(d) Have a tag containing the most recent change date and the signature of the person authorized by the employer to perform the change. The tag must be maintained at the compressor.

(7) For compressors that are not oil-lubricated, you must make sure that carbon monoxide levels in the breathing air do not exceed 10 ppm.

(8) For oil-lubricated compressors, you must use a high-temperature or carbon monoxide alarm, or both, to monitor carbon monoxide levels. If only high-temperature alarms are used, the air supply must be monitored at intervals sufficient to make sure the concentration of carbon monoxide in the breathing air does not exceed 10 ppm.

(9) You must make sure that breathing air couplings are incompatible with outlets for nonrespirable worksite air or other gas systems. No asphyxiating substance must be introduced into breathing air lines.

(10) You must use breathing gas containers marked in accordance with the NIOSH respirator certification standard, 42 CFR Part 84.

**IDENTIFICATION OF FILTERS, CARTRIDGES AND CANISTERS**

**NEW SECTION**

**WAC 296-62-07184 How must filters, cartridges and canisters be labeled?** You must make sure that all filters, cartridges and canisters used in the workplace are labeled and color coded with the NIOSH approval label. The label must not be removed and must remain legible. Table 3 provides information about color coding for air-purifying respirator filters, cartridges, and canisters.

**TABLE 3 — Color Coding of Respirator Filters, Cartridges and Canisters**

Atmospheric Contaminants to be Protected Against	Colors Assigned*
Acid gases	White.
Hydrocyanic acid gas	White with 1/2 - inch green stripe completely around the canister near the bottom.
Chlorine gas	White with 1/2 - inch yellow stripe completely around the canister near the bottom.
Organic vapors	Black.
Ammonia gas	Green.



PROPOSED

Atmospheric Contaminants to be Protected Against	Colors Assigned*
Acid gases and ammonia gas	Green with 1/2 - inch white stripe completely around the canister near the bottom.
Carbon monoxide	Blue.
Acid gases and organic vapors	Yellow.
Hydrocyanic acid gas and chloropicrin vapor	Yellow with 1/2 - inch blue stripe completely around the canister near the bottom.
Acid gases, organic vapors, and ammonia gases	Brown.
Radioactive materials, excepting tritium and noble gases	Purple (Magenta).
Particulates (dusts, fumes, mists, fogs, or smokes) in combination with any of the above cases or vapors	Canister color for contaminant, as designated above, with 1/2 - inch gray stripe completely around the canister near the top.
All of the above atmospheric contaminants	Red with 1/2 - inch gray stripe completely around the canister near the top.

\*Gray must not be assigned as the main color for a canister designed to remove acids or vapors.

Note: Orange must be used as a complete body, or stripe color to represent gases not included in this table. The user will need to refer to the canister label to determine the degree of protection the canister will afford

**TRAINING AND INFORMATION**

NEW SECTION

**WAC 296-62-07186 What are the general training requirements?** (1) You must provide effective training to:

- (a) Employees required to use respirators;
  - (b) Supervisors; and
  - (c) Any person issuing respirators.
- (2) The training must be done so your employees understand it.
- (3) The training must be provided by qualified persons.

NEW SECTION

**WAC 296-62-07188 How do you know if you adequately trained your employees?** At a minimum, you must make certain that each employee can demonstrate:

- (1) Why the respirator is necessary and how improper fit, use, or maintenance can compromise the protective effect of the respirator;

(2) What the respirator is capable of doing and what its limitations are;

(3) How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions;

(4) How to inspect, put on and remove, use, and check the seals of the respirator;

(5) The procedures for maintaining and storing of the respirator;

(6) How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators; and

(7) The general requirements of chapter 296-62 WAC, Part E.

NEW SECTION

**WAC 296-62-07190 When must your employees be trained?** (1) You must train employees before they are required to use a respirator in the workplace.

(2) If you are able to demonstrate that a new employee has received training within the last 12 months that addresses the elements specified in WAC 296-62-07132 and 296-62-07186, then you are not required to repeat the training provided that the employee can demonstrate knowledge of the element(s) required in WAC 296-62-07188.

(3) If you do not repeat initial training for an employee, then you must provide retraining no later than 12 months from the date of the employee's previous training.

(4) Retraining must be completed annually, and when the following situations occur:

(a) Changes in the workplace or the type of respirator render previous training obsolete or incomplete;

(b) The employee's knowledge or use of the respirator indicates that the employee has not retained the understanding or skill as required in WAC 296-62-07188 above; or

(c) Any other situation arises when retraining appears to be necessary to make sure respirators are used safely.

**PROGRAM EVALUATION**

NEW SECTION

**WAC 296-62-07192 How must you evaluate the effectiveness of your respiratory protection program?** (1) You must evaluate the workplace as necessary to make sure that the requirements of the current written program are being effectively carried out and that the program continues to be effective.

(2) Evaluation must include periodic monitoring by the supervisor to make sure respirators are properly worn.

(3) You must regularly ask employees required to use respirators their views on the program's effectiveness and use their input to identify any problems. Any problems identified must be corrected. At a minimum, you must evaluate the following factors:

(a) Respirator fit (including the employee's ability to use the respirator without interfering with effective workplace performance);

(b) Appropriate respirator selection for the hazards to which the employee is exposed;

(c) Proper respirator use under the workplace conditions the employee encounters; and

(d) Proper respirator maintenance.

## RECORDKEEPING

### NEW SECTION

**WAC 296-62-07194 What are the recordkeeping requirements?** (1) General. You must keep written information of the following:

- Medical evaluations;
- Fit testing;
- The respirator program; and
- Training.

(2) Medical evaluations. You must keep records of medical evaluations as required by this part and make them available as required by chapter 296-62 WAC, Part B.

(3) Fit testing.

(a) You must keep a record of any qualitative and quantitative fit tests completed for each employee. The record must include:

- (i) The name or identification of the employee tested;
- (ii) Type of fit test performed;
- (iii) Specific make, model, style, and size of respirator tested;
- (iv) Date of test; and
- (v) The pass/fail results for QLFTs or the fit factor and strip chart recording or other recording of the test results for QNFTs.

(b) Fit test records must be retained for respirator users until the next fit test is administered.

(4) You must keep a written copy of the current respirator program.

(5) You must keep written training records that include:

- Names of the employees trained; and
- The dates when the employees were trained.

(6) Written materials required by this part must be made available upon request for examination and copying to affected employees and to the director or the director's designee.

### NEW SECTION

**WAC 296-62-07201 Appendix A-1: General Fit Testing Requirements for Respiratory Protection—Mandatory.** This is a mandatory appendix to chapter 296-62 WAC, Part E, which includes WAC 296-62-07201 through 296-62-07203.

### NEW SECTION

**WAC 296-62-07202 What are the general requirements for fit testing?** (1) You must conduct fit testing using the procedures found in appendices A-1 through A-3. The requirements in these appendices apply to all WISHA-accepted qualitative (QLFT) and quantitative (QNFT) fit test methods.

(2) You must allow your employees to pick the most acceptable respirator from a sufficient number of respirator

models and sizes so that the respirator is acceptable to, and correctly fits, the user.

(3) Prior to selecting a respirator, you must show your employees how to:

- Put on a respirator;
- Positioned the respirator on the face;
- Set strap tension; and
- Determine an acceptable fit.

(4) You must provide a mirror for your employees to use when evaluating the fit and positioning of the respirator. This instruction does not constitute your employees' formal training on respirator use, because it is only a review.

(5) You must inform your employees that:

- They are being asked to select the respirator that provides the most acceptable fit;
- Each respirator represents a different size and shape; and
- If fitted and used properly, each respirator will provide adequate protection.

(6) You must have your employees hold each chosen facepiece up to their face and eliminate those that obviously do not give an acceptable fit.

(7) You must note the more acceptable facepieces in case the one selected proves unacceptable. The most comfortable mask must be put on and worn at least five minutes to make sure it is comfortable. You must help your employee assess comfort by discussing the points in subsection (8) of this section. If the employee is not familiar with using a particular respirator, have the employee put on the mask several times and adjust the straps each time to become adept at setting proper tension on the straps.

(8) You must review how to assess the comfort of a respirator by reviewing the following points with the employee and allowing the employee enough time to check the comfort of the respirator chosen:

- (a) Position of the mask on the nose;
- (b) Room for eye protection;
- (c) Room to talk;
- (d) Position of mask on face and cheeks.

(9) You must use the following criteria to determine if the respirator adequately fits each employee:

- (a) Chin properly placed;
- (b) Adequate strap tension, not overly tightened;
- (c) Fit across nose bridge;
- (d) Respirator of proper size to span distance from nose to chin;
- (e) Tendency of respirator to slip;
- (f) Self-observation in mirror to evaluate fit and respirator position.

(10) The employees must complete a user seal check. They must use either the negative and positive pressure seal checks described in WAC 296-62-07251, Appendix B-1 or those recommended by the respirator manufacturer that provide equivalent protection to the procedures in WAC 296-62-07251, Appendix B-1. Before conducting the negative and positive pressure checks, the employee must be told to seat the mask on the face by moving the head from side-to-side and up and down slowly while taking in a few slow deep breaths. Another facepiece must be selected and retested if the employee fails the user seal check tests.

(11) You must not conduct the fit test if there is any hair growth between the skin and the facepiece sealing surface, such as stubble beard growth, beard, mustache or sideburns that cross the respirator sealing surface. Any type of apparel that interferes with a satisfactory fit must be altered or removed.

(12) If the employee has difficulty in breathing during the tests, you must refer the employee to a physician or other licensed health care professional, as appropriate, to determine whether the employee can wear respirators while performing the employee's duties.

(13) If the employee finds the fit of the respirator unacceptable, you must give the employee the opportunity to select a different respirator and the employee must be retested.

- (14) Prior to starting the fit test, you must describe the:
- Fit test to the employee;
  - Employee's responsibilities during the test procedure; and
  - Test exercises that the employee will be performing.

(15) The employee must wear the respirator at least 5 minutes before starting the fit test.

(16) When performing the fit test, you must have your employee wear any applicable safety equipment that may be worn during actual respirator use that could interfere with respirator fit.

#### NEW SECTION

**WAC 296-62-07203 What are the fit test exercise requirements?** (1) You must have your employees perform the following test exercises for all fit testing methods required in the appendices for Respiratory Protection Part E, except for the CNP testing. The CNP protocol contains a different fit testing exercise regimen. The employee must perform exercises, in the test environment, in the following ways:

(a) Normal breathing. In a normal standing position, without talking, the employee must breathe normally.

(b) Deep breathing. In a normal standing position, the employee must breathe slowly and deeply, taking caution so as not to hyperventilate.

(c) Turning head side to side. Standing in place, the employees must slowly turn their heads from side to side between the extreme positions on each side, holding their heads at each extreme momentarily so they can inhale at each side.

(d) Moving head up and down. Standing in place, the employees must slowly move their heads up and down, inhaling in the up position (when looking toward the ceiling).

(e) Talking. The employee must talk out loud slowly and loud enough so as to be heard clearly by the test conductor. The employee can read from a prepared text such as the Rainbow Passage, count backward from 100, or recite a memorized poem or song.

#### *Rainbow Passage*

When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colors. These take the shape of a

long round arch, with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a man looks for something beyond reach, his friends say he is looking for the pot of gold at the end of the rainbow.

(f) Grimace. The employee must grimace by smiling or frowning (this applies only to QNFT testing; it is not performed for QLFT).

(g) Bending over. Employees must bend at their waist as if they were touching their toes. Jogging in place must be substituted for this exercise in those test environments such as shroud type QNFT or QLFT units that do not permit bending over at the waist.

(h) Normal breathing. Repeat exercise (a) for normal breathing.

(2) Each test exercise must be performed for one minute except for the grimace exercise, which must be performed for 15 seconds.

(3) You must question the employee about the comfort of the respirator after completing the test exercises. If the respirator has become unacceptable, you must try another model of respirator.

(4) Any adjustments during fit testing will void the test, making it necessary to begin again.

#### NEW SECTION

**WAC 296-62-07205 Appendix A-2: Qualitative Fit Testing (QLFT) Protocols for Respiratory Protection—Mandatory.** This is a mandatory appendix to chapter 296-62 WAC, Part E, which includes WAC 296-62-07205 through 296-62-07225.

#### NEW SECTION

**WAC 296-62-07206 What are the general qualitative fit testing (QLFT) protocols?** (1) You must make sure the person who administers QLFT is able to:

- Prepare test solutions;
- Calibrate equipment and perform tests properly;
- Recognize invalid tests; and
- Make sure that test equipment is in proper working order.

(2) You must make sure that QLFT equipment is kept clean and well maintained so it operates within the parameters for which it was designed.

#### NEW SECTION

**WAC 296-62-07208 Isoamyl acetate protocol (a QLFT).**

Note: The protocol for isoamyl acetate is not appropriate to use for the fit testing of particulate respirators. If used to fit test particulate respirators, the respirator must be equipped with an organic vapor filter.

NEW SECTION

**WAC 296-62-07209** What are the odor threshold screening procedures for isoamyl acetate (QLFT)? (1) Why use odor threshold screening?

Odor threshold screening, performed without wearing a respirator, determines if the employee tested can detect the odor of isoamyl acetate at low levels.

(2) How are the test solutions for odor threshold screening prepared?

(a) Use three 1 liter glass jars with metal lids.

(b) Use odor-free water (for example, distilled or spring water) at approximately 25°C (77°F) for preparing the solutions.

(c) Stock solution: Prepare the isoamyl acetate (IAA) (also known as isopentyl acetate) stock solution by:

- Adding 1 ml of pure IAA to 800 ml of odor-free water in a 1 liter jar;
- Closing the lid; and
- Shaking for 30 seconds.

A new stock solution must be prepared at least weekly.

(d) Daily test solution: Prepare the daily odor test solution in a second jar by placing 0.4 ml of the IAA stock solution into 500 ml of odor-free water using a clean dropper or pipette. Shake the solution for 30 seconds and allow it to stand for two to three minutes so that the IAA concentration above the liquid may reach equilibrium. The daily test solution must be used for only one day.

(e) Prepare a test blank in a third jar by adding 500 cc of odor-free water.

(f) Clearly label and identify the daily odor test solution and test blank jar lids (for example, 1 and 2). Place the labels on the lids so that they can be peeled off periodically and switched to maintain the integrity of the test.

(g) Prepare the solutions used in the IAA odor detection test in an area separate from where the test is performed, in order to prevent olfactory (smelling) fatigue in the employee.

(3) What are the odor threshold screening procedures?

(a) Conduct the screening test in a different room from the one used for actual fit testing. The two rooms must be well-ventilated to prevent the odor of IAA from becoming evident in the general room air where testing takes place.

(b) Type the following instructions on a card and place them on the table in front of the two test jars (i.e., 1 and 2): "The purpose of this test is to determine if you can smell banana oil at a low concentration. The two bottles in front of you contain water. One of these bottles also contains a small amount of banana oil. Be sure the covers are on tight, then shake each bottle for two seconds. Unscrew the lid of each bottle, one at a time, and sniff at the mouth of the bottle. Indicate to the test conductor which bottle contains banana oil."

(c) If the employee is unable to correctly identify the jar containing the odor test solution, do not perform the IAA qualitative fit test.

(d) If the employee correctly identifies the jar containing the odor test solution, the employee may proceed to respirator selection and fit testing.

NEW SECTION

**WAC 296-62-07210** What are the isoamyl acetate fit testing procedures (QLFT)? (1) The fit test chamber must be a clear 55-gallon drum liner suspended inverted over a 2-foot diameter frame so that the top of the chamber is about 6 inches above the employee's head. If no drum liner is available, construct a similar chamber using plastic sheeting.

(2) Attach a small hook to the inside top center of the chamber.

(3) Equip each respirator used for the fitting and fit testing with organic vapor cartridges or offer protection against organic vapors.

(4) After selecting, putting on, and properly adjusting a respirator, the employee must wear it to the fit testing room.

(5) This room used for fit testing must be separate from the room used for odor threshold screening and respirator selection. It must be well-ventilated, as by an exhaust fan or lab hood, to prevent general room contamination.

(6) A copy of the test exercises and any prepared text from which the employee is to read must be taped to the inside of the test chamber.

(7) Upon entering the test chamber, give the employee a 6-inch by 5-inch piece of paper towel, or other porous, absorbent, single-ply material, folded in half and wetted with 0.75 ml of pure IAA.

(8) Have the employee hang the wet towel on the hook at the top of the chamber. An IAA test swab or ampule may be substituted for the IAA wetted paper towel provided it has been demonstrated that the alternative IAA source will generate an IAA test atmosphere with a concentration equal to that generated by the paper towel method.

(9) Allow two minutes for the IAA test concentration to stabilize before starting the fit test exercises. This would be an appropriate time to talk with the employee; to explain the fit test, the importance of the employee's cooperation in the fit test, and the purpose for the test exercises; or to demonstrate some of the exercises.

(10) If at any time during the test, the employee detects the banana-like odor of IAA, the test is failed. The employee must quickly exit from the test chamber and leave the test area to avoid olfactory (smelling) fatigue.

(11) If the test is failed, the employee must return to the selection room and remove the respirator. The employee must:

- Repeat the odor sensitivity test;
- Select and put on another respirator;
- Return to the test area; and
- Again begin the fit test procedure described in subsections (1) through (8) of this section.

The process continues until a respirator that fits well has been found.

(12) Should the odor sensitivity test be failed, the employee must wait at least 5 minutes before retesting. Odor sensitivity will usually have returned by this time.

(13) If the employee passes the test, the efficiency of the test procedure must be demonstrated by having the employee break the respirator face seal and take a breath before exiting the chamber.

(14) When the employee leaves the chamber, the employee must remove the saturated towel and return it to the person conducting the test, so that there is no significant IAA concentration buildup in the chamber during subsequent tests.

(15) The used towels must be kept in a self-sealing plastic bag to keep the test area from being contaminated.

#### NEW SECTION

**WAC 296-62-07212 Saccharin solution aerosol protocol (QLFT).** The entire screening and testing procedure must be explained to the employee prior to conducting the screening test.

#### NEW SECTION

**WAC 296-62-07213 What are the taste threshold screening procedures for saccharin (QLFT)?** (1) Why use saccharin taste threshold screening?

The saccharin taste threshold screening, performed without wearing a respirator, is intended to determine whether the employee being tested can detect the taste of saccharin.

(2) What are the saccharin solution aerosol procedures?

(a) During threshold screening as well as during fit testing, the employee must wear an enclosure over the head and shoulders that is approximately 12 inches in diameter by 14 inches tall with at least the front portion clear and that allows free movements of the head when a respirator is worn. An enclosure substantially similar to the 3M hood assembly, parts #FT 14 and #FT 15 combined, is adequate.

(b) The test enclosure must have a 3/4-inch (1.9 cm) hole in front of the employee's nose and mouth area to accommodate the nebulizer nozzle.

(c) Have the employee put on the test enclosure.

(d) Throughout the threshold screening test, the employee must breathe through a slightly open mouth with tongue extended.

(e) Instruct the employees to report when they detect a sweet taste.

(f) Using a DeVilbiss Model 40 Inhalation Medication Nebulizer or equivalent, spray the threshold check solution into the enclosure. The nozzle is directed away from the nose and mouth of the person. This nebulizer must be clearly marked to distinguish it from the fit test solution nebulizer.

(g) Saccharin threshold check solution. Prepare the threshold check solution by dissolving 0.83 gram of sodium saccharin USP in 100 ml of warm water. It can be prepared by putting 1 ml of the fit test solution in 100 ml of distilled water.

(h) To produce the aerosol, the nebulizer bulb is firmly squeezed so that it collapses completely, then released and allowed to fully expand.

(i) Ten squeezes are repeated rapidly and then the employee is asked whether the saccharin can be tasted. If the employee tastes a sweet taste during the ten squeezes, the screening test is completed. The taste threshold is noted as ten regardless of the number of squeezes actually completed.

(j) If the first response is negative, ten more squeezes are repeated rapidly and the employee is again asked whether the

saccharin is tasted. If the employee tastes a sweet taste during the second ten squeezes, the screening test is completed. The taste threshold is noted as twenty regardless of the number of squeezes actually completed.

(k) If the second response is negative, ten more squeezes are repeated rapidly and the employee is again asked whether the saccharin is tasted. If the employee tastes a sweet taste during the third set of ten squeezes, the screening test is completed. The taste threshold is noted as thirty regardless of the number of squeezes actually completed.

(l) Note the number of squeezes required to solicit a taste response.

(m) If the saccharin is not tasted after 30 squeezes (step k), the employee is unable to taste saccharin and must not perform the saccharin fit test.

Note: If employees eat or drink something sweet before the screening test, they may be unable to taste the weak saccharin solution.

(n) If a taste response is elicited, ask the employee to take note of the taste for reference in the fit test.

(o) Correct use of the nebulizer means that approximately 1 ml of liquid is used at a time in the nebulizer body.

(p) The nebulizer must be thoroughly rinsed in water, shaken dry, and refilled at least each morning and afternoon or at least every four hours.

#### NEW SECTION

**WAC 296-62-07214 What is the saccharin solution aerosol fit testing procedure (QLFT)?** (1) The employee must not eat, drink (except plain water), smoke, or chew gum for 15 minutes before the test.

(2) The fit test uses the same enclosure described in WAC 296-62-07210.

(3) Have the employee put on the enclosure while wearing the respirator selected in WAC 296-62-07202. The respirator must be properly adjusted and equipped with a particulate filter(s).

(4) Use a second DeVilbiss Model 40 Inhalation Medication Nebulizer or equivalent to spray the fit test solution into the enclosure. Clearly mark this nebulizer to distinguish it from the screening test solution nebulizer.

(5) Prepare the fit test solution adding 83 grams of sodium saccharin to 100 ml of warm water.

(6) As before, the employees must breathe through a slightly open mouth with tongue extended, and report if they taste the sweet taste of saccharin.

(7) Insert the nebulizer into the hole in the front of the enclosure and spray an initial concentration of saccharin fit test solution into the enclosure.

(8) Use the same number of squeezes (either 10, 20 or 30 squeezes) based on the number of squeezes required to elicit a taste response as noted during the screening test. A minimum of 10 squeezes is required.

(9) After generating the aerosol, instruct the employee to perform the exercises in WAC 296-62-07202.

(10) Replenish the aerosol concentration every 30 seconds using one half the original number of squeezes used initially (for example, 5, 10 or 15).

(11) Instruct the employees to tell you if at any time during the fit test the taste of saccharin is detected. If the employee does not detect tasting the saccharin, the test is passed.

(12) If the taste of saccharin is detected, the fit is deemed unsatisfactory and the test is failed. A different respirator must be tried and the entire test procedure is repeated (taste threshold screening and fit testing).

(13) Since the nebulizer has a tendency to clog during use, periodically check the nebulizer to make sure that it is not clogged. If the nebulizer is clogged at the end of the test session, the test is invalid.

#### NEW SECTION

**WAC 296-62-07217 Bitrex™ (denatonium benzoate) solution aerosol qualitative fit testing (QLFT) protocol.** General information. The Bitrex™ (denatonium benzoate) solution aerosol QLFT protocol uses the published saccharin test protocol because that protocol is widely accepted. Bitrex™ is routinely used as a taste aversion agent in household liquids that children should not be drinking and is endorsed by the American Medical Association, the National Safety Council, and the American Association of Poison Control Centers. The entire screening and testing procedure must be explained to the employee prior to the conduct of the screening test.

#### NEW SECTION

**WAC 296-62-07218 What is the taste threshold screening procedure for Bitrex™ (QLFT)?** (1) Why use odor threshold screening?

The Bitrex™ taste threshold screening, performed without wearing a respirator, is intended to determine whether the employee being tested can detect the taste of Bitrex™.

(2) What are the taste threshold screening procedures for Bitrex™ (QLFT)?

(a) During threshold screening as well as during fit testing, employees must wear an enclosure over the head and shoulders that is approximately 12 inches (30.5 cm) in diameter by 14 inches (35.6 cm) tall. The front portion of the enclosure must be clear from the respirator and allow free movement of the head when a respirator is worn. An enclosure substantially similar to the 3M hood assembly, parts #14 and #15 combined, is adequate.

(b) The test enclosure must have a 3/4-inch (1.9 cm) hole in front of the employee's nose and mouth area to accommodate the nebulizer nozzle.

(c) Have the employee put on the test enclosure.

(d) Throughout the threshold screening test, the employees must breathe through a slightly open mouth with tongue extended.

(e) Instruct the employees to tell you when they detect a bitter taste.

(f) Using a DeVilbiss Model 40 Inhalation Medication Nebulizer or equivalent, spray the threshold check solution into the enclosure. Clearly mark this nebulizer to distinguish it from the fit test solution nebulizer.

(g) Prepare the threshold check solution by adding 13.5 milligrams of Bitrex™ to 100 ml of 5% salt (NaCl) solution in distilled water.

(h) To produce the aerosol, the nebulizer bulb is firmly squeezed so that the bulb collapses completely, and is then released and allowed to fully expand.

(i) Rapidly repeat an initial ten squeezes and then ask the employee if the Bitrex™ can be tasted. If the employee reports tasting the bitter taste during the ten squeezes, the screening test is completed. Note the taste threshold as ten regardless of the number of squeezes actually completed.

(j) If the first response is negative, rapidly repeat ten more squeezes and ask the employee if the Bitrex™ is tasted. If the employee reports tasting the bitter taste during the second ten squeezes, the screening test is completed. Note the taste threshold as twenty regardless of the number of squeezes actually completed.

(k) If the second response is negative, rapidly repeat ten more squeezes and ask the employee if the Bitrex™ is tasted. If the employee reports tasting the bitter taste during the third set of ten squeezes, the screening test is completed. Note the taste threshold as thirty regardless of the number of squeezes actually completed.

(l) Note the number of squeezes required to solicit a taste response.

(m) If the Bitrex™ is not tasted after 30 squeezes (step k), the employee is unable to taste Bitrex™ and must not perform the Bitrex™ fit test.

(n) If a taste response is elicited, ask the employee to take note of the taste for reference in the fit test.

(o) Correct use of the nebulizer means that approximately 1 ml of liquid is used at a time in the nebulizer body.

(p) The nebulizer must be thoroughly rinsed in water, shaken to dry, and refilled at least each morning and afternoon or at least every four hours.

#### NEW SECTION

**WAC 296-62-07219 What is the Bitrex™ solution aerosol fit testing procedure (QLFT)?** (1) The employee must not eat, drink (except plain water), smoke, or chew gum for 15 minutes before the test.

(2) The fit test uses the same enclosure as that described in WAC 296-62-07210.

(3) Have the employee put on the enclosure while wearing the respirator selected according to WAC 296-62-07202. The respirator must be properly adjusted and equipped with any type particulate filter(s).

(4) Use a second DeVilbiss Model 40 Inhalation Medication Nebulizer or equivalent to spray the fit test solution into the enclosure. Clearly mark this nebulizer to distinguish it from the screening test solution nebulizer.

(5) Prepare the fit test solution by adding 337.5 mg of Bitrex™ to 200 ml of a 5% salt (NaCl) solution in warm water.

(6) As before, the employees must breathe through a slightly open mouth with tongue extended.

(7) Instruct the employees to tell you when they detect the bitter taste of Bitrex™.

(8) Insert the nebulizer into the hole in the front of the enclosure. Spray an initial concentration of the fit test solution into the enclosure. Use the same number of squeezes (either 10, 20 or 30 squeezes) based on the number of squeezes required for the employee to taste the bitter tastes as noted during the screening test.

(9) After generating the aerosol, instruct the employee to perform the exercises in WAC 296-62-07203.

(10) Replenish the aerosol concentration every 30 seconds using one half the number of squeezes used initially (for example, 5, 10 or 15).

(11) Have the employees tell you if at any time during the fit test they taste the bitter taste of Bitrex™. If the employee does not detect tasting the Bitrex™, the test is passed.

(12) If the taste of Bitrex™ is tasted, the fit is deemed unsatisfactory and the test is failed. A different respirator must be tried and the entire test procedures must be repeated (taste threshold screening and fit testing).

#### NEW SECTION

**WAC 296-62-07222 Irritant smoke (stannic chloride) protocol (QLFT).** This qualitative fit test uses a person's response to the irritating chemicals released in the "smoke" produced by a stannic chloride ventilation smoke tube to detect leakage into the respirator.

#### NEW SECTION

**WAC 296-62-07223 What are the general requirements and precautions for irritant smoke fit testing (QLFT)?** (1) The respirator to be tested must be equipped with high efficiency particulate air (HEPA) or P100 series filter(s).

(2) Use only stannic chloride smoke tubes for this protocol.

(3) Do not use any form of a test enclosure or hood.

(4) The smoke can be irritating to the eyes, lungs, and nasal passages. Take precautions to minimize the employee's exposure to irritant smoke. Sensitivity varies, and certain employees may respond to a greater degree to irritant smoke. Care must be taken when performing the sensitivity screening checks to use only the minimum amount of smoke necessary to elicit a response from the employee. Sensitivity screening checks determine whether the employee can detect the irritant smoke.

(5) The fit test must be performed in an area with adequate ventilation to prevent exposure of the person conducting the fit test or the build-up of irritant smoke in the general atmosphere.

#### NEW SECTION

**WAC 296-62-07224 What is the sensitivity screening check protocol for irritant smoke (QLFT)?** (1) Why use irritant smoke sensitivity screening checks?

Employees must be tested to see if they can detect a weak concentration of the irritant smoke.

(2) What are the sensitivity screening check procedures?

(a) Break both ends of a ventilation smoke tube containing stannic chloride, and attach one end of the smoke tube to a low flow air pump set to deliver 200 milliliters per minute, or an aspirator squeeze bulb.

(b) Cover the other end of the smoke tube with a short piece of tubing to prevent potential injury from the jagged end of the smoke tube.

(c) Advise the employees that the smoke can be irritating to the eyes, lungs, and nasal passages and instruct them to keep their eyes closed while the test is performed.

(d) Allow the employee to smell a weak concentration of the irritant smoke before putting on a respirator to become familiar with its irritating properties and determine if they can detect the irritating properties of the smoke.

(e) Carefully direct a small amount of the irritant smoke toward the employees being tested to see if they can detect it.

#### NEW SECTION

**WAC 296-62-07225 What is the irritant smoke fit testing procedure (QLFT)?** (1) Have the employee put on the respirator without assistance, and perform the required user seal check(s).

(2) Instruct the employees to keep their closed.

(3) Direct the stream of irritant smoke from the smoke tube toward the face seal area of the employee, using the low flow pump or the squeeze bulb. Begin at least 12 inches from the facepiece and move the smoke stream around the whole perimeter of the mask. Gradually make two more passes around the perimeter of the mask, moving to within six inches of the respirator.

(4) If the person being tested has not had an involuntary response and/or detected the irritant smoke, proceed with the test exercises.

(5) Have the employee perform the exercises required in WAC 296-62-07203 while the respirator seal is being continually challenged by the smoke. Direct the smoke around the perimeter of the respirator at a distance of six inches.

(6) If the employee being fit tested detects the irritant smoke at any time, the test is failed. An employee being retested must repeat the entire sensitivity check and fit test procedures.

(7) Have the employee remove the respirator.

(8) Give employees passing the irritant smoke test without evidence of a response (involuntary cough, irritation) a second sensitivity screening check, with the smoke from the same smoke tube used during the fit test to determine if they still react to the smoke. The fit test is void if an employee does not respond to the smoke.

(9) If the employee responds to the second sensitivity check, then the fit test is passed.

#### NEW SECTION

**WAC 296-62-07230 Appendix A-3: Quantitative Fit Testing (QNFT) Protocols for Respiratory Protection—Mandatory.** This is a mandatory appendix to chapter 296-62 WAC, Part E, which includes WAC 296-62-07230 through 296-62-07248.

The following quantitative fit testing procedures are acceptable protocols:

- Nonhazardous test aerosol (such as corn oil, polyethylene glycol 400 [PEG 400], di-2-ethyl hexyl sebacate [DEHS], or sodium chloride) generated in a test chamber, and employing instrumentation to quantify the fit of the respirator;
- Ambient aerosol as the test agent and appropriate instrumentation (condensation nuclei counter) to quantify the respirator fit;
- Controlled negative pressure and appropriate instrumentation to measure the volumetric leak rate of a facepiece to quantify the respirator fit.

**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 296-62-07231 What are the general requirements for quantitative fit testing (QNFT)?** (1) You must make sure that persons administering QNFT are able to:

- Calibrate equipment and perform tests properly;
- Recognize invalid tests;
- Calculate fit factors properly; and
- Make sure that test equipment is in proper working order.

(2) You must make sure that QNFT equipment is kept clean, and is maintained and calibrated according to the manufacturer's instructions so as to operate at the parameters for which it was designed.

#### NEW SECTION

**WAC 296-62-07233 Generated aerosol quantitative fit testing protocol (QNFT).**

#### NEW SECTION

**WAC 296-62-07234 What equipment is required for generated aerosol fit testing (QNFT)?** (1) Instrumentation. Use aerosol generation, dilution, and measurement systems using particulates (corn oil, polyethylene glycol 400 [PEG 400], di-2-ethyl hexyl sebacate [DEHS] or sodium chloride) as test aerosols for quantitative fit testing.

(2) Test chamber.

(a) The test chamber must be large enough to permit all employees to perform freely all required exercises without disturbing the test agent concentration or the measurement apparatus.

(b) The test chamber must be equipped and constructed so that the test agent is effectively isolated from the ambient air, yet uniform in concentration throughout the chamber.

(3) When testing air-purifying respirators, replace the normal filter or cartridge element with a high efficiency particulate air (HEPA) or P100 series filter supplied by the same manufacturer.

(4) Select the sampling instrument so that a computer record or strip chart record may be made of the test showing the rise and fall of the test agent concentration with each inspiration and expiration at fit factors of at least 2,000. Inte-

grators or computers that integrate the amount of test agent penetration leakage into the respirator for each exercise may be used provided a record of the readings is made.

(5) Do not expose the employee to any combination of substitute air-purifying elements, test agent and test agent concentration in excess of an established exposure limit for the test agent at any time during the testing process. Base the employee's exposure on the length of the exposure and the exposure limit duration.

(6) Construct the sampling port and place it on the test specimen respirator so that:

- No leaks occurs around the port (for example, where the respirator is probed);
- A free air flow is allowed into the sampling line at all times; and
- There is no interference with the fit or performance of the respirator.

The in-mask sampling device (probe) must be designed and used so that the air sample is drawn from the breathing zone of the employee, midway between the nose and mouth and with the probe extending into the facepiece cavity at least 1/4-inch.

(7) The person administering the fit test must be able to observe the employee inside the chamber during the test.

(8) The equipment generating the test atmosphere must maintain the concentration of test agent constant to within a 10 percent variation for the duration of the test.

(9) Keep the time lag (interval between an event and the recording of the event on the strip chart or computer or integrator) to a minimum. You must be able to clearly see when an event occurs and when it is recorded on the strip chart or computer.

(10) The sampling line tubing for the test chamber atmosphere and for the respirator sampling port must be:

- Equal in diameter;
- Made of the same material; and
- Equal in length.

(11) The exhaust flow from the test chamber must pass through an appropriate filter (i.e., high efficiency particulate filter) before release.

(12) When sodium chloride aerosol is used, the relative humidity inside the test chamber must not exceed 50 percent.

(13) Take into account the limitations of instrument detection when determining the fit factor.

(14) Test respirators must be maintained in proper working order and be inspected regularly for deficiencies such as cracks or missing valves and gaskets.

**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 296-62-07235 What are the procedures for generated aerosol quantitative fit testing (QNFT)?** (1) When performing the initial user seal check using a positive or negative pressure check, crimp the sampling line in order to avoid air pressure leakage during either of these pressure checks.



(2) Using an abbreviated screening QLFT test is optional. You may use a QLFT screening test to quickly identify poor fitting respirators that passed the positive and/or negative pressure test and reduce the amount of QNFT time. Another option is to use the CNC QNFT instrument in the count mode to obtain a quick estimate of fit and eliminate poor fitting respirators before going on to perform a full QNFT.

(3) A reasonably stable test agent concentration must be measured in the test chamber prior to testing. For canopy or shower curtain types of test units, determine the test agent's stability after the employee has entered the test environment.

(4) Immediately after the employee enters the test chamber, measure the test agent concentration inside the respirator to make sure that the peak penetration does not exceed 5 percent for a half-mask or 1 percent for a full facepiece respirator.

(5) Obtain a stable test agent concentration prior to the actual start of testing.

(6) Do not over-tighten respirator restraining straps for testing. Have the employee adjust the straps, without assistance, to give a reasonably comfortable fit typical of normal use.

(7) Do not adjust the respirator once the fit test exercises begin.

(8) Stop the test whenever any single peak penetration exceeds 5 percent for half-masks and 1 percent for full facepiece respirators. The employee must be refitted and retested.

(9) Do not permit the employee to wear a half-mask or quarter facepiece respirator unless:

- A minimum fit factor of 100 is obtained; or
- A full facepiece respirator unless a minimum fit factor of 500 is obtained.

(10) Filters used for quantitative fit testing must be replaced whenever increased breathing resistance is encountered, or when the test agent has altered the integrity of the filter media.

#### NEW SECTION

**WAC 296-62-07236 How are fit factors calculated (QNFT)?** (1) Determine the fit factor for the quantitative fit test by taking the ratio of the average chamber concentration to the concentration measured inside the respirator for each test exercise except the grimace exercise.

(2) Calculate the average test chamber concentration using one of the following:

- Arithmetic average of the concentration measured before and after each test (i.e., 7 exercises); or
- Arithmetic average of the concentration measured before and after each exercise; or
- True average measured continuously during the respirator sample.

(3) Determine the concentration of the challenge agent inside the respirator by one of the following methods:

(a) Average peak penetration method. Average peak penetration method determines how much test agent penetrates into the respirator using a strip chart recorder, integrator, or computer. Determine the agent penetration averaging

the peak heights on the graph or by computer integration, for each exercise except the grimace exercise. Integrators or computers that calculate the actual test agent penetration into the respirator for each exercise also will meet the requirements of the average peak penetration method.

(b) Maximum peak penetration. Maximum peak penetration method determines how much test agent penetrates into the respirator using a strip chart recordings of the test. The highest peak penetration for a given exercise represents the average penetration into the respirator for that exercise.

(c) Area under the peaks. Integrate the area under the individual peak for each exercise except the grimace exercise using computerized integration or other appropriate calculations.

(d) Overall fit factor. Calculate the overall fit factor using individual exercise fit factors.

- Convert the exercise fit factors to the penetration values.
- Determine the average.
- Then convert the average result back to a fit factor.

Use the following equation to calculate overall fit factor:

$$\text{Overall Fit Factor} = \frac{\text{Number of exercises}}{1/ff_1 + 1/ff_2 + 1/ff_3 + 1/ff_4 + 1/ff_5 + 1/ff_6 + 1/ff_7 + 1/ff_8}$$

Where  $ff_1, ff_2, ff_3, \text{ etc.}$  are the fit factors for exercises 1, 2, 3, etc.

#### NEW SECTION

**WAC 296-62-07238 Ambient aerosol condensation nuclei counter (CNC) quantitative fit testing protocol.**

#### NEW SECTION

**WAC 296-62-07239 General information about ambient aerosol condensation nuclei counter (CNC) protocol (QNFT).** (1) The ambient aerosol condensation nuclei counter (CNC) quantitative fit testing (Portacount™) protocol uses a probe to quantitatively fit tests respirators. A probed respirator has a special sampling device, installed on the respirator, that allows the probe to sample the air from inside the mask.

(2) The probed respirator is only used for quantitative fit tests.

(3) A probed respirator is required for each make, style, model, and size that the employer uses and can be obtained from the respirator manufacturer or distributor.

(4) The CNC instrument manufacturer, TSI Inc., also provides probe attachments (TSI sampling adapters) that permit fit testing in an employee's own respirator.

#### NEW SECTION

**WAC 296-62-07240 What are the general requirements for ambient aerosol condensation nuclei counter (CNC) protocol (QNFT)?** (1) A minimum fit factor pass level of at least 100 is necessary for a half-mask respirator.

(2) A minimum fit factor pass level of at least 500 is required for a full facepiece negative pressure respirator.

(3) The entire screening and testing procedure must be explained to the employee prior to the conduct of the screening test.

NEW SECTION

**WAC 296-62-07242 What are the Portacount fit testing procedures?** (1) Check the respirator to make sure the:

- Sampling probe and line are properly attached to the facepiece; and
- Respirator is fitted with a particulate filter capable of preventing significant penetration by the ambient particles used for the fit test (for example, NIOSH 42 CFR 82 series 100, series 99, or series 95 particulate filter) per manufacturer's instruction.

(2) Instruct the employee to put on the respirator for five minutes before the fit test starts. This purges the ambient particles trapped inside the respirator and permits the employee to make certain the respirator is comfortable. Before fit testing, train the employee on how to wear the respirator properly.

(3) Check the following conditions for the adequacy of the respirator fit:

- Chin properly placed;
- Adequate strap tension, not overly tightened;
- Fit across nose bridge;
- Respirator of proper size to span distance from nose to chin;
- Tendency of the respirator to slip;
- Self-observation in a mirror to evaluate fit and respirator position.

(4) Have the employee do a user seal check. If leakage is detected, determine the cause. If leakage is from a poorly fitting facepiece, try another size of the same model respirator, or another model of respirator.

(5) Follow the manufacturer's instructions for operating the Portacount and begin the test.

(6) Have the employee perform the exercises in WAC 296-62-07203.

(7) After the test exercises, ask the employee about comfort of the respirator. If the respirator is unacceptable, try another model of respirator.

NEW SECTION

**WAC 296-62-07243 How is the Portacount test instrument used?** (1) The Portacount will automatically stop and calculate the overall fit factor for the entire set of exercises. The overall fit factor is what counts. The pass or fail message will indicate whether or not the test was successful. If the test was a pass, the fit test is over.

(2) Since the pass or fail criterion of the Portacount is user programmable, you must make sure that the pass or fail criterion meets the requirements for minimum respirator performance in WAC 296-62-07235.

(3) Keep a record of successful fit tests on file. The record must contain:

- The employee's name;
- Overall fit factor;
- Make, model, style, and size of respirator used; and
- Date tested.

NEW SECTION

**WAC 296-62-07245 Controlled negative pressure (CNP) quantitative fit testing protocol (QNFT).** The CNP protocol provides an alternative to aerosol fit test methods.

NEW SECTION

**WAC 296-62-07246 How does controlled negative pressure (CNP) fit testing work (QNFT)?** (1) The CNP fit test method technology is based on exhausting air from a temporarily sealed respirator facepiece to generate and then maintain a constant negative pressure inside the facepiece. The rate of air exhaust is controlled so that a constant negative pressure is maintained in the respirator during the fit test. The level of pressure is selected to replicate the mean inspiratory pressure that causes leakage into the respirator under normal use conditions. With pressure held constant, air flow out of the respirator is equal to air flow into the respirator. Therefore, measurement of the exhaust stream that is required to hold the pressure in the temporarily sealed respirator constant yields a direct measure of leakage air flow into the respirator.

(2) The CNP-fit test method measures leak rates through the facepiece as a method for determining the facepiece fit for negative pressure respirators.

(3) Manufacturer attachments. The CNP instrument manufacturer Dynatech Nevada also provides attachments (sampling manifolds) that replace the filter cartridges to permit fit testing in an employee's own respirator.

(4) Performing the test. To perform the test, the employees close their mouths and hold their breath, after which an air pump removes air from the respirator facepiece at a preselected constant pressure.

(5) Facepiece fit. The facepiece fit is expressed as the leak rate through the facepiece, expressed as milliliters per minute.

(6) The quality and validity of the CNP fit tests are determined by the degree to which the in-mask pressure tracks the test pressure during the system measurement time of approximately five seconds. Instantaneous feedback in the form of a real-time pressure trace of the in-mask pressure is provided and used to determine test validity and quality.

NEW SECTION

**WAC 296-62-07247 What are the controlled negative pressure (CNP) fit testing requirements and procedures (QNFT)?** (1) Fit factor.

- A minimum fit factor pass level of 100 is necessary for a half-mask respirator.
- A minimum fit factor of at least 500 is required for a full facepiece respirator.

(2) The entire screening and testing procedure must be explained to the employee prior to the conduct of the screening test.

(3) The instrument must have a nonadjustable test pressure of 15.0 mm water pressure.

(4) When performing fit tests, set the CNP system defaults at:

- 15 mm of water (-0.58 inches of water) test pressure and
- 53.8 liters per minute for the modeled inspiratory flow rate.

Note: CNP systems have built-in capability to conduct fit testing that is specific to unique work rate, mask, and gender situations that might apply in a specific workplace. Use of system default values, which were selected to represent respirator wear with medium cartridge resistance at a low-moderate work rate, will allow inter-test comparison of the respirator fit.

(5) The person conducting the CNP fit testing must be thoroughly trained to perform the test.

(6) Replace the respirator filter or cartridge with the CNP test manifold. Temporarily remove or prop open the inhalation valve downstream from the manifold.

(7) Train employees to hold their breath for at least 20 seconds.

(8) Have the employee put on the test respirator without any assistance from the individual who conducts the CNP fit test.

(9) The QNFT protocol must be followed according to WAC 296-62-07231 with an exception for the CNP test.

(10) The test instrument must have an effective audio warning device when the employee fails to hold his or her breath during the test.

(11) Stop the test whenever the employees fail to hold their breath. The employees must be refitted and retested.

(12) A record of the test must be kept on file, assuming the fit test was successful. The record must contain the employee's name; overall fit factor; make, model, style and size of respirator used; and date tested.

### NEW SECTION

**WAC 296-62-07248 What test exercises are required for controlled negative pressure (CNP) fit testing (QNFT)?** (1) Normal breathing. In a normal standing position, without talking, the employees must breathe normally for 1 minute. After the normal breathing exercise, the employees must hold their head straight ahead and hold their breath for 10 seconds during the test measurement.

(2) Deep breathing. In a normal standing position, the employees must breathe slowly and deeply for 1 minute, being careful not to hyperventilate. After the deep breathing exercise, the employees must hold their head straight ahead and hold their breath for 10 seconds during test measurement.

(3) Turning head side to side.

- Standing in place, the employees must slowly turn their heads from side to side between the extreme positions on each side for 1 minute, holding their heads each extreme momentarily so they can inhale at each side.
- After the turning head side to side exercise, have the employees hold their heads full left and hold their breath for 10 seconds during test measurement.
- Next, have the employees need to hold their head full right and hold their breath for 10 seconds during test measurement.

(4) Moving head up and down.

- Standing in place, the employees must slowly move their heads up and down for 1 minute.
- Instruct the employee to inhale in the up position (when looking toward the ceiling).
- After the moving head up and down exercise, the employees must hold their heads full up and hold their breath for 10 seconds during test measurement.
- Next, the employees must hold their heads full down and hold their breath for 10 seconds during test measurement.

(5) Talking. The employee must talk out loud slowly and loud enough so as to be heard clearly by the test conductor. The employee can read from a prepared text such as the Rainbow Passage, count backward from 100, or recite a memorized poem or song for 1 minute. After the talking exercise, the employee must hold his or her head straight ahead and hold his or her breath for 10 seconds during the test measurement.

(6) Grimace. The employee must grimace by smiling or frowning for 15 seconds.

(7) Bending over. Employees must bend at the waist as if they were touching their toes for 1 minute. Jogging in place must be substituted for this exercise in those test environments such as shroud-type QNFT units that prohibit bending at the waist. After the bending over exercise, the employees must hold their head straight ahead and hold their breath for 10 seconds during the test measurement.

(8) Normal Breathing.

- The employee must remove and put on the respirator again within a one-minute period.
- Then, in a normal standing position, without talking, the employee must breathe normally for 1 minute.
- After the normal breathing exercise, the employee must hold his or her head straight ahead and hold his or her breath for 10 seconds during the test measurement.

(9) After the test exercises, question the employee about the comfort of the respirator. If the respirator has become unacceptable, another model of a respirator must be tried.

### NEW SECTION

**WAC 296-62-07251 Appendix B-1: User Seal Check Procedures—Mandatory.** This is a mandatory appendix to chapter 296-62 WAC, Part E.

The individual who uses a tight-fitting respirator must perform a user seal check to make sure that the respirator makes an adequate seal each time it is put on. Either the positive and negative pressure checks listed in this appendix, or the respirator manufacturer's recommended user seal check method must be used. User seal checks are not substitutes for qualitative or quantitative fit tests.

(1) Facepiece positive and/or negative pressure checks.

(a) Positive pressure check. Close off the exhalation valve and exhale gently into the facepiece. For most respirators this method of leak testing requires the wearer to first remove the exhalation valve cover before closing off the exhalation valve. The face fit is considered adequate if a slight positive pressure (inflation) can be built up inside the facepiece without any evidence of outward leakage of air at

the seal. Carefully replace the exhalation valve cover, if it was removed, after the test.

(b) Negative pressure check. Close off the inlet opening of the canister or cartridge(s) by covering with the palm of the hand(s) or by replacing the filter seal(s), inhale gently so that the facepiece collapses slightly, and hold the breath for ten seconds. If the design of the inlet opening of the cartridges cannot be effectively covered with the palm of the hand, cover the inlet opening of the cartridge with a thin latex or nitrile glove. If the facepiece remains in its slightly collapsed condition and no inward leakage of air is detected, the tightness of the respirator is considered satisfactory.

(2) Manufacturer's recommended user seal check procedures. The respirator manufacturer's recommended procedures for performing a user seal check may be used instead of the positive and/or negative pressure check procedures describe above provided that you demonstrate that the manufacturer's procedures are equally effective.

**NEW SECTION**

**WAC 296-62-07253 Appendix B-2: Respirator Cleaning Procedures—Mandatory.** This is a mandatory appendix to chapter 296-62 WAC, Part E.

(1) These procedures are provided for you to use when cleaning respirators. They are general in nature, and as an alternative you may use the cleaning recommendations provided by the manufacturer of the respirators used by your employees, if the manufacturer's procedures are as effective as those listed here in Appendix B-2. Procedures are as effective when they meet the requirements in Appendix B-2, i.e., that must make sure that the respirator is properly cleaned and disinfected so that the respirator is not damaged and does no harm to the user.

(2) Procedures for cleaning respirators.

(a) Remove filters, cartridges, or canisters. Remove speaking diaphragms, demand and pressure-demand valve assemblies, hoses, or any components recommended by the manufacturer. Discard or repair any defective parts.

(b) Wash components in warm (43°C [110°F] maximum) water with a mild detergent or with a cleaner recommended by the manufacturer. A stiff bristle (not wire) brush may be used to facilitate the removal of dirt.

(c) Rinse components thoroughly in clean, warm (43°C [110°F] maximum), preferably running water. Drain.

(d) When the cleaner used does not contain a disinfecting agent, respirator components should be immersed for two minutes in one of the following:

(i) Hypochlorite solution (50 ppm of chlorine) made by adding approximately one milliliter of laundry bleach to one liter of water at 43°C (110°F); or,

(ii) Aqueous solution of iodine (50 ppm iodine) made by adding approximately 0.8 milliliters of tincture of iodine (6-8 grams ammonium and/or potassium iodide/100 cc of 45% alcohol) to one liter of water at 43°C (110°F); or,

(iii) Other commercially available cleansers of equivalent disinfectant quality when used as directed, if their use is recommended or approved by the respirator manufacturer.

(e) Rinse components thoroughly in clean, warm (43°C [110°F] maximum), preferably running water. Drain. The importance of thorough rinsing cannot be overemphasized. Detergents or disinfectants that dry on facepieces may result in dermatitis. In addition, some disinfectants may cause deterioration of rubber or corrosion of metal parts if not completely removed.

(f) Components should be hand-dried with a clean lint-free cloth or air-dried.

(g) Reassemble facepiece, replacing filters, cartridges, and canisters where necessary.

(h) Test the respirator to make sure that all components work properly.

**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 296-62-07255 Appendix C: WISHA Respirator Medical Evaluation Questionnaire—Mandatory.** This is a mandatory appendix to chapter 296-62 WAC, Part E.

**To the employer:**

Answers to questions in Section 1, and to question 9 in Section 2 of Part A, do not require a medical examination.

**To the employee:**

Can you read (circle one): Yes/No

Your employer must allow you to answer this questionnaire during normal working hours, or at a time and place that is convenient to you. To maintain your confidentiality, your employer or supervisor must not look at or review your answers, and your employer must tell you how to deliver or send this questionnaire to the health care professional who will review it.

**Part A. Section 1. (Mandatory)**

The following information must be provided by every employee who has been selected to use any type of respirator (please print).

1. Today's date: \_\_\_\_\_
2. Your name: \_\_\_\_\_
3. Your age (to nearest year): \_\_\_\_\_
4. Sex (circle one): Male/Female
5. Your height: \_\_\_\_\_ ft. in.
6. Your weight: \_\_\_\_\_ lbs.
7. Your job title: \_\_\_\_\_
8. A phone number where you can be reached by the health care professional who reviews this questionnaire (include the Area Code): \_\_\_\_\_
9. The best time to phone you at this number: \_\_\_\_\_
10. Has your employer told you how to contact the health care professional who will review this questionnaire (circle one): Yes/No
11. Check the type of respirator you will use (you can check more than one category):
  - a. N, R, or P disposable respirator (filter-mask, non-cartridge type only).

PROPOSED

b. Other type (for example, half- or full-facepiece type, powered-air purifying, supplied-air, self-contained breathing apparatus).

12. Have you worn a respirator (circle one): Yes/No

If "yes," what type(s): \_\_\_\_\_

### Part A. Section 2. (Mandatory)

Questions 1 through 9 below must be answered by every employee who has been selected to use any type of respirator (please circle "yes" or "no").

1. Do you *currently* smoke tobacco, or have you smoked tobacco in the last month: Yes/No

2. Have you *ever had* any of the following conditions?

a. Seizures (fits): Yes/No

b. Diabetes (sugar disease): Yes/No

c. Allergic reactions that interfere with your breathing: Yes/No

d. Claustrophobia (fear of closed-in places): Yes/No

e. Trouble smelling odors: Yes/No

3. Have you *ever had* any of the following pulmonary or lung problems?

a. Asbestosis: Yes/No

b. Asthma: Yes/No

c. Chronic bronchitis: Yes/No

d. Emphysema: Yes/No

e. Pneumonia: Yes/No

f. Tuberculosis: Yes/No

g. Silicosis: Yes/No

h. Pneumothorax (collapsed lung): Yes/No

i. Lung cancer: Yes/No

j. Broken ribs: Yes/No

k. Any chest injuries or surgeries: Yes/No

l. Any other lung problem that you've been told about: Yes/No

4. Do you *currently* have any of the following symptoms of pulmonary or lung illness?

a. Shortness of breath: Yes/No

b. Shortness of breath when walking fast on level ground or walking up a slight hill or incline: Yes/No

c. Shortness of breath when walking with other people at an ordinary pace on level ground: Yes/No

d. Have to stop for breath when walking at your own pace on level ground: Yes/No

e. Shortness of breath when washing or dressing yourself: Yes/No

f. Shortness of breath that interferes with your job: Yes/No

g. Coughing that produces phlegm (thick sputum): Yes/No

h. Coughing that wakes you early in the morning: Yes/No

i. Coughing that occurs mostly when you are lying down: Yes/No

j. Coughing up blood in the last month: Yes/No

k. Wheezing: Yes/No

l. Wheezing that interferes with your job: Yes/No

m. Chest pain when you breathe deeply: Yes/No

n. Any other symptoms that you think may be related to lung problems: Yes/No

5. Have you *ever had* any of the following cardiovascular or heart problems?

a. Heart attack: Yes/No

b. Stroke: Yes/No

c. Angina: Yes/No

d. Heart failure: Yes/No

e. Swelling in your legs or feet (not caused by walking): Yes/No

f. Heart arrhythmia (heart beating irregularly): Yes/No

g. High blood pressure: Yes/No

h. Any other heart problem that you've been told about: Yes/No

6. Have you *ever had* any of the following cardiovascular or heart symptoms?

a. Frequent pain or tightness in your chest: Yes/No

b. Pain or tightness in your chest during physical activity: Yes/No

c. Pain or tightness in your chest that interferes with your job: Yes/No

d. In the past two years, have you noticed your heart skipping or missing a beat: Yes/No

e. Heartburn or indigestion that is not related to eating: Yes/No

f. Any other symptoms that you think may be related to heart or circulation problems: Yes/No

7. Do you *currently* take medication for any of the following problems?

a. Breathing or lung problems: Yes/No

b. Heart trouble: Yes/No

c. Blood pressure: Yes/No

d. Seizures (fits): Yes/No

8. If you've used a respirator, have you *ever had* any of the following problems? (If you've never used a respirator, check the following space and go to question 9:)

a. Eye irritation: Yes/No

b. Skin allergies or rashes: Yes/No

c. Anxiety: Yes/No

d. General weakness or fatigue: Yes/No

e. Any other problem that interferes with your use of a respirator: Yes/No

9. Would you like to talk to the health care professional who will review this questionnaire about your answers to this questionnaire: Yes/No

Questions 10 to 15 below must be answered by every employee who has been selected to use either a full-facepiece respirator or a self-contained breathing apparatus (SCBA). For employees who have been selected to use other types of respirators, answering these questions is voluntary.

10. Have you *ever lost* vision in either eye (temporarily or permanently): Yes/No

11. Do you *currently* have any of the following vision problems?

a. Wear contact lenses: Yes/No

b. Wear glasses: Yes/No

c. Color blind: Yes/No

d. Any other eye or vision problem: Yes/No

PROPOSED

PROPOSED

- 12. Have you *ever had* an injury to your ears, including a broken ear drum: Yes/No
- 13. Do you *currently* have any of the following hearing problems?
  - a. Difficulty hearing: Yes/No
  - b. Wear a hearing aid: Yes/No
  - c. Any other hearing or ear problem: Yes/No
- 14. Have you *ever had* a back injury: Yes/No
- 15. Do you *currently* have any of the following musculoskeletal problems?
  - a. Weakness in any of your arms, hands, legs, or feet: Yes/No
  - b. Back pain: Yes/No
  - c. Difficulty fully moving your arms and legs: Yes/No
  - d. Pain or stiffness when you lean forward or backward at the waist: Yes/No
  - e. Difficulty fully moving your head up or down: Yes/No
  - f. Difficulty fully moving your head side to side: Yes/No
  - g. Difficulty bending at your knees: Yes/No
  - h. Difficulty squatting to the ground: Yes/No
  - i. Climbing a flight of stairs or a ladder carrying more than 25 lbs: Yes/No
  - j. Any other muscle or skeletal problem that interferes with using a respirator: Yes/No

**Part B**

Any of the following questions, and other questions not listed, may be added to the questionnaire at the discretion of the health care professional who will review the questionnaire.

1. In your present job, are you working at high altitudes (over 5,000 feet) or in a place that has lower than normal amounts of oxygen: Yes/No

If "yes," do you have feelings of dizziness, shortness of breath, pounding in your chest, or other symptoms when you're working under these conditions: Yes/No

2. At work or at home, have you ever been exposed to hazardous solvents, hazardous airborne chemicals (for example, gases, fumes, or dust), or have you come into skin contact with hazardous chemicals: Yes/No

If "yes," name the chemicals if you know them: \_\_\_\_\_

3. Have you ever worked with any of the materials, or under any of the conditions, listed below:

- a. Asbestos: Yes/No
- b. Silica (for example, in sandblasting): Yes/No
- c. Tungsten/cobalt (for example, grinding or welding this material): Yes/No
- d. Beryllium: Yes/No
- e. Aluminum: Yes/No
- f. Coal (for example, mining): Yes/No
- g. Iron: Yes/No
- h. Tin: Yes/No
- i. Dusty environments: Yes/No

j. Any other hazardous exposures: Yes/No

If "yes," describe these exposures: \_\_\_\_\_

4. List any second jobs or side businesses you have:

5. List your previous occupations: \_\_\_\_\_

6. List your current and previous hobbies: \_\_\_\_\_

7. Have you been in the military services? Yes/No

If "yes," were you exposed to biological or chemical agents (either in training or combat): Yes/No

8. Have you ever worked on a HAZMAT team? Yes/No

9. Other than medications for breathing and lung problems, heart trouble, blood pressure, and seizures mentioned earlier in this questionnaire, are you taking any other medications for any reason (including over-the-counter medications): Yes/No

If "yes," name the medications if you know them: \_\_\_\_\_

10. Will you be using any of the following items with your respirator(s)?

- a. HEPA Filters: Yes/No
- b. Canisters (for example, gas masks): Yes/No
- c. Cartridges: Yes/No

11. How often are you expected to use the respirator(s) (circle "yes" or "no" for all answers that apply to you)?:

- a. Escape only (no rescue): Yes/No
- b. Emergency rescue only: Yes/No
- c. Less than 5 hours *per week*: Yes/No
- d. Less than 2 hours *per day*: Yes/No
- e. 2 to 4 hours per day: Yes/No
- f. Over 4 hours per day: Yes/No

12. During the period you are using the respirator(s), is your work effort:

a. *Light* (less than 200 kcal per hour): Yes/No

If "yes," how long does this period last during the average shift: \_\_\_\_\_ hrs. \_\_\_\_\_ mins.

Examples of a light work effort are *sitting* while writing, typing, drafting, or performing light assembly work; or *standing* while operating a drill press (1-3 lbs.) or controlling machines.

b. *Moderate* (200 to 350 kcal per hour): Yes/No

If "yes," how long does this period last during the average shift: \_\_\_\_\_ hrs. \_\_\_\_\_ mins.

Examples of moderate work effort are sitting while nailing or filing; driving a truck or bus in urban traffic; standing while drilling, nailing, performing assembly work, or transferring a moderate load (about 35 lbs.) at trunk level; walking on a level surface about 2 mph or down a 5-degree grade about 3 mph; or pushing a wheelbarrow with a heavy load (about 100 lbs.) on a level surface.

c. Heavy (above 350 kcal per hour): Yes/No

If "yes," how long does this period last during the average shift: \_\_\_\_\_ hrs. \_\_\_\_\_ mins.

Examples of heavy work are lifting a heavy load (about 50 lbs.) from the floor to your waist or shoulder; working on a loading dock; shoveling; standing while bricklaying or chipping castings; walking up an 8-degree grade about 2 mph; climbing stairs with a heavy load (about 50 lbs.).

13. Will you be wearing protective clothing and/or equipment (other than the respirator) when you're using your respirator: Yes/No

If "yes," describe this protective clothing and/or equipment: \_\_\_\_\_

14. Will you be working under hot conditions (temperature exceeding 77°F): Yes/No

15. Will you be working under humid conditions: Yes/No

16. Describe the work you'll be doing while you're using your respirator(s): \_\_\_\_\_

17. Describe any special or hazardous conditions you might encounter when you're using your respirator(s) (for example, confined spaces, life-threatening gases): \_\_\_\_\_

18. Provide the following information, if you know it, for each toxic substance that you'll be exposed to when you're using your respirator(s):

Name of the first toxic substance: \_\_\_\_\_  
Estimated maximum exposure level per shift: \_\_\_\_\_  
Duration of exposure per shift: \_\_\_\_\_

Name of the second toxic substance: \_\_\_\_\_  
Estimated maximum exposure level per shift: \_\_\_\_\_  
Duration of exposure per shift: \_\_\_\_\_

Name of the third toxic substance: \_\_\_\_\_  
Estimated maximum exposure level per shift: \_\_\_\_\_  
Duration of exposure per shift: \_\_\_\_\_

The name of any other toxic substances that you'll be exposed to while using your respirator: \_\_\_\_\_

19. Describe any special responsibilities you'll have while using your respirator(s) that may affect the safety and well-being of others (for example, rescue, security): \_\_\_\_\_

**NEW SECTION**

**WAC 296-62-07257 Appendix D: Health Care Provider Respirator Recommendation Form—Non-mandatory** This is a non-mandatory appendix to chapter 296-62 WAC, Part E.

This form is for the use of PLHCPs who are providing recommendations to employers regarding employee clearance for respirator use. Completion of this form satisfies the requirement for PLHCP's recommendations as detailed in WAC 296-62-07155. The following information is purposely limited in order to maintain employee confidentiality.

<b>Employee Name:</b>	<b>Health Care Professional Name:</b>
<b>Employer Name:</b>	
Address:	Address:
Phone:	Phone:

**Type of Respirator This Individual is Medically Cleared to Use**

Check all that apply.

Half-mask  Full facepiece mask  Helmet Hood  Escape

Non-powered cartridge or canister  Powered air-purifying cartridge respirator (PAPR)

Supplied-air or Air-line  Disposable filtering facepiece (for example N-95)

Self contained

breathing apparatus (SCBA):  Demand or  Pressure demand

Other: \_\_\_\_\_

**Respirator Clearance**

Under the conditions described in the supplemental information provided by the employer, this individual: (please check one)

\_\_\_\_\_ is medically cleared for use of the respirator(s) without limitations.

\_\_\_\_\_ is medically cleared for use of the respirator(s) with the following limitations: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ is not medically cleared for use of a respirator.

**Workload Limitations**

unrestricted  heavy  medium  light

**Follow-up Medical Evaluations**

This individual will/will not (circle one) require additional follow-up medical evaluation(s). The recommended schedule for follow-up medical evaluations, if necessary, is as follows: \_\_\_\_\_

\_\_\_\_\_

**Employee Notification**

I certify that the above named individual for whom this respirator clearance form is provided has received a copy of this recommendation.

Signature \_\_\_\_\_ Date \_\_\_\_\_  
(Physician or other Licensed Health Care Professional)

**NEW SECTION**

**WAC 296-62-07260 Appendix E: Additional Information Regarding Respirator Selection—Non-Mandatory.** This is a non-mandatory appendix to chapter 296-62 WAC, Part E, which includes WAC 296-62-07260 through 296-62-07295.

PROPOSED

**NEW SECTION**

**WAC 296-62-07261 How do you classify respiratory hazards?** Respiratory hazards are classified into three categories according to their biological effects. The categories include:

- Oxygen deficient;
- Physical properties (gas, vapor, biological aerosols, and particulate contaminants, which include dust, fog, fume, mist, smoke, and spray);
- Physiological effects on the body (for example, asphyxiant, carcinogenic, or toxic);
- Concentration of toxic material or radioactivity level;
- Established exposure limits; and
- Established immediately dangerous to life or health concentrations.

When selecting a respirator, you must determine which of the categories listed above apply to your workplace.

**NEW SECTION**

**WAC 296-62-07263 What are oxygen deficient respiratory hazards?** (1) The oxygen content of normal air at sea-level conditions is 20.9%.

(2) Minimum legal requirements: An oxygen deficient atmosphere is one that has 19.5% or less oxygen by volume for respirable air at sea-level conditions.

(3) They commonly occur in confined or unventilated cellars, wells, mines, ship holds, tanks, burning buildings, and enclosures containing inert atmospheres.

**NEW SECTION**

**WAC 296-62-07265 What needs to be considered when combinations of gas, vapor, and particulate contaminants occur in the workplace?** Combinations of contaminants may occur simultaneously in the atmosphere. Contaminants may be entirely different substances (dusts and gases from blasting) or the particulate and vapor forms of the same substance. Synergistic effects (joint action of two or more agents that results in an effect that is greater than the sum of their individual effects) may occur. Such effects may require extraordinary protective measures.

**NEW SECTION**

**WAC 296-62-07267 What are the two major types of respirators?** Respirators are classified into the following categories:

(1) Air-purifying respirators. The following types of air-purifying respirators are available:

- Particulate-removing;
- Gas- and vapor-removing; and
- Combination particulate- and either gas- or vapor-removing.

(2) Atmosphere-supplying respirators. The following types of atmosphere-supplying respirators are available:

- Supplied-air;
- Combination supplied-air and air-purifying;

- Combination supplied-air with auxiliary self-contained air supply; and
- Self-contained breathing apparatus (SCBA).

**AIR-PURIFYING RESPIRATORS (APRS)****NEW SECTION**

**WAC 296-62-07269 What are air-purifying respirators (APRs)?** (1) Air-purifying respirators remove particles, vapors, gases, or a combination of these contaminants by passing ambient air through a filter, cartridge, or canister. The breathing action of the wearer operates the nonpowered type of respirator. The powered type contains a blower (usually carried by the wearer), that pulls ambient air through an air-purifying component and then blows the purified air to the respirator-inlet covering. The nonpowered type is equipped with a tight-fitting facepiece or without one (for example, mouthpiece/nose clamp types). The powered type is equipped with a tight-fitting facepiece, helmet, hood, or suit.

(2) Air-purifying respirators are classified into the following categories:

- Particulate-removing respirators; and
- Vapor- and gas-removing respirators.

(3) Air-purifying respirators (APRs) are available as nonpowered, tight-fitting respirators, powered-air-purifying respirators (PAPRs) and mouthpiece respirators.

(4) A variety of tight-fitting APR styles are available ranging from half facepiece to full facepiece masks, including "P" APRs. APRs are also available in loose-fitting styles, featuring a hood or helmet instead of a tight-fitting facepiece. Gas masks are only available in the full-facepiece style and some may be classified as PAPRs.

(5) Mouthpiece respirators do not provide for a mask-to-face seal and are designed to be worn with a mouth bit and nose clamp.

(6) The most commonly used type of APR is a nonpowered, tight-fitting half-mask. The facepieces available for this type of respirator may be composed of silicone or other elastomeric materials if a cartridge type respirator is needed. Noncartridge types are called filtering facepiece respirators and are primarily composed of fibrous materials.

(7) Disposable options are available for either elastomeric or filtering facepiece type half-masks. Some disposables may last for only a brief period of use while others are designed for prolonged use (designed to have nonreplaceable parts), sometimes referred to as low maintenance respirators. Disposables are generally less expensive than nondisposable type half-masks.

(8) In addition, special cartridge-type half facepiece models may also be available with features designed for specific work operations. For example, low profile type half-masks are available to be worn under welding hoods.

**NEW SECTION**

**WAC 296-62-07271 What are the general limitations for air-purifying respirators (APRs)?** (1) Air-purifying respirators do not protect against oxygen-deficient atmo-



spheres nor against skin irritation by, or sorption through the skin of, airborne contaminants.

(2) The maximum contaminant concentration against which an air-purifying respirator will protect is determined by the design efficiency and capacity of the cartridge, canister, or filter and the facepiece-to-face seal on the user. For gases and vapors, the maximum concentration for which the air-purifying element is designed is specified by the manufacturer or is listed on labels of cartridges and canisters.

(3) Nonpowered air-purifying respirators may not provide the assigned level of protection specified unless the facepiece is carefully fitted to the wearer's face to prevent inward leakage. The time period over which protection is provided is dependent on:

- Canister, cartridge, or filter capacity;
- Concentration of contaminant(s);
- Humidity levels in the ambient atmosphere; and
- The wearer's respiratory rate.

(4) The proper type of canister, cartridge, or filter must be selected for the particular atmosphere and conditions. Nonpowered air-purifying respirators may cause discomfort due to a noticeable resistance to inhalation. This problem is minimized with use of powered respirators. Respirator facepieces present special problems to individuals required to wear prescription lenses (spectacle kits are available from some manufacturers). These devices do have the advantage of being small, light, and simple in operation.

#### NEW SECTION

**WAC 296-62-07273 What are particulate-removing respirators?** Particulate-removing respirators are equipped with filter(s) to remove a single type of particulate matter (for example, dust) or a combination of two or more types of particulate matter (for example, dust and fume) from air. The filter may be a replaceable part or a permanent part of the respirator. It may also be a single-use or reusable type of filter.

(1) General limitations. Particulate-removing respirators provide protection against nonvolatile particles only. They do not protect against gases and vapors. They are not for use in atmospheres immediately dangerous to life or health (see WAC 296-62-07132).

(2) Full facepiece particulate respirators provide protection against eye irritation in addition to respiratory protection.

(3) Mouthpiece respirators must be used only for escape. Mouth breathing prevents detection of contaminant by odor. The nose clamp must be securely in place to prevent nasal breathing. A small, lightweight device that can be donned quickly.

(4) In environments with oil aerosols, you must not use "N" type particulate respirators.

(5) Combination particulate- and vapor- and gas-removing respirators are subject to the advantages and disadvantages of the component sections of the combination respirator as described above.

#### NEW SECTION

**WAC 296-62-07275 What are vapor- and gas-removing respirators?** Vapor- and gas-removing respirators are

equipped with cartridge(s) or canister(s) to remove a single vapor or gas (for example, chlorine gas); a single class of vapors or gases (for example, organic vapors); or a combination of two or more classes or gases (for example, organic vapors, and acidic gases) from air.

(1) General limitations. Vapor and gas removing respirators do not provide protection against particulate contaminants. A rise in canister or cartridge temperature indicates that a gas or vapor is being removed from the inspired air. An uncomfortably high temperature indicates a high concentration of gas or vapor and requires immediate return to fresh air. Use must be avoided unless an ESLI or a change out schedule is available. They are not for use in atmospheres immediately dangerous to life or health.

(2) Full facepiece vapor- and gas-removing respirators provide protection against eye irritation in addition to respiratory protection.

(3) Mouthpiece respirators must be used only for escape. Mouth breathing prevents detection of contaminant by odor. The nose clamp must be securely in place to prevent nasal breathing. These are small lightweight devices that can be put on quickly.

#### NEW SECTION

**WAC 296-62-07277 What are combination particulate- and vapor-and gas-removing respirators?** Combination particulate- and vapor-and gas-removing respirators are equipped with cartridge(s) or canister(s) to remove particulate matter, vapors and gases from air. The filter may be a permanent part or a replaceable part of a cartridge or canister.

#### NEW SECTION

**WAC 296-62-07279 What types of filters, canisters and cartridges are available for air-purifying respirators (APRs)?** (1) Filters. Filters currently available for use against particulate contaminants are appropriate for solid particulates such as dusts or fumes, as well as being appropriate for nonvolatile, liquid particles such as sprays, mists and fogs.

(a) Cartridges or canister filters are available in addition to separate filter pads that can be added to some manufacturers' cartridges. They also may be formed into a filtering facepiece mask or as a wafer-like attachment. Regardless of how they are constructed, particulate filters are classified according to standard efficiencies (95%, 99% and 100%) and physical limitations (designated as "N," "R," "P").

(i) Filters that are classified as 100% efficient are also referred to as HEPA filters. Filters that are 95% or 99% efficient are more effective than older type of filters referred to as:

- Dust;
- Dust/mist; or
- Dust/fume/mist filters.

These older types of filters have highly variable efficiency ratings and are no longer being manufactured and sold.

(ii) Any filter designated with "N" is appropriate for use in environments that do not contain oil. If you have oil aerosols, "R" or "P" designated filters are appropriate for use.

(b) Combination filters. Some vapor and gas cartridges and canisters have an added filter component for particulates. These are available as combination cartridges and will have a separate certification number listed on the respirator, packaging or in the operations manual for each type of contaminant.

(2) Canisters. Gas mask canisters are available for specific contaminants including ammonia, carbon monoxide, chlorine, phosphine and sulfur dioxide. Canisters are also available for general categories of chemical contaminants including acid gases, organic vapors, and pesticides. Canister attachment options available are chin-, belt- or chest-mounted and a variety of canister sizes are available.

(3) Cartridges (nongas mask canisters). Cartridges are available for protection against specific contaminants and combinations of specific contaminants, including ammonia, chlorine, chlorine dioxide, formaldehyde, hydrogen chloride, hydrogen fluoride, hydrogen sulfide, mercury, methylamine, sulfur dioxide and vinyl chloride. Cartridges are also available for protection against general categories of chemical contaminants, including organic vapors, paints/lacquers/enamels and pesticides. Cartridge attachment options available include face-, chin-, belt- or helmet-mounted.

## ATMOSPHERE-SUPPLYING RESPIRATORS

### NEW SECTION

**WAC 296-62-07281 How do atmosphere-supplying respirators work?** (1) Atmosphere-supplying respirators supply a respirable atmosphere to the wearer.

(2) The two types of atmosphere-supplying respirators are:

- Self-contained breathing apparatus (SCBA); and
- Supplied-air respirators.

### NEW SECTION

**WAC 296-62-07283 What are the capabilities and limitations of atmosphere-supplying respirators?** See WAC 296-62-07180 for the requirements on breathing gases used with atmosphere-supplying respirators.

(1) Capabilities. Atmosphere-supplying respirators provide protection against oxygen deficient and toxic atmospheres. The breathing atmosphere is independent of contaminated atmospheric conditions.

(2) General limitations. Except for some supplied-air suits, no protection is provided against skin irritation by materials such as ammonia and hydrogen chloride, or against sorption of materials such as hydrogen cyanide, tritium, or organic phosphate pesticides through the skin. Facepieces present special problems to individuals required to wear prescription lenses. Use of atmosphere-supplying respirators in atmospheres immediately dangerous to life or health is limited to specific devices under specified conditions (see WAC 296-62-07132).

### NEW SECTION

**WAC 296-62-07285 What is a supplied-air respirator?** A supplied-air (or air-line) respirator provides respirable air through a small-diameter hose from a compressor or compressed-air cylinder(s). The hose is attached to the wearer by a belt or other suitable means and can be detached rapidly in an emergency. A flow-control valve or orifice is provided to govern the rate of air flow to the wearer. Exhaled air passes to the ambient atmosphere through a valve(s) or opening(s) in the enclosure (facepiece, helmet, hood, or suit). Up to 300 feet (91 meters) of hose length is permissible. Hose supplied by the manufacturer and recommended operating pressures and hose lengths must be used.

Supplied-air respirators are classified in the following ways:

(1) Continuous-flow respirators, which are equipped with a facepiece, hood, helmet, or suit. At least 115 liters (four cubic feet) of air per minute to tight-fitting facepieces and 170 liters (six cubic feet) of air per minute to loose fitting helmets, hoods and suits are required. Air is supplied to a suit through a system of internal tubes to the head, trunk and extremities through valves located in appropriate parts of the suit.

(2) Demand type (negative pressure) respirators, which are only equipped with a facepiece. The demand valve permits flow of air only during inhalation.

(3) Pressure-demand type (positive pressure) respirators, which are only equipped with a facepiece. A positive pressure is maintained in the facepiece.

### NEW SECTION

**WAC 296-62-07287 What are the general capabilities and limitations of supplied-air respirators?** (1) Capabilities. The respirable air supply is not limited to the quantity the individual can carry, and the devices are lightweight and simple. The demand type produces a negative pressure in the facepiece on inhalation, whereas continuous-flow and pressure-demand types maintain a positive-pressure in the respirator-inlet covering and are less apt to permit inward leakage of contaminants. Supplied-air suits may protect against atmospheres that irritate the skin or that may be absorbed through the unbroken skin.

(2) Limitations. Employees are restricted in movement by the hose and must return to a respirable atmosphere by retracing their route of entry. The hose may be severed or pinched off. Supplied-air respirators provide no protection if the air supply fails. Some contaminants, such as tritium, may penetrate the material of an supplied-air suit and limit its effectiveness. Other contaminants, such as fluorine, may react chemically with the material of a supplied-air suit and damage it.

### NEW SECTION

**WAC 296-62-07289 What are combination supplied-air and air-purifying respirators?** Combination supplied-air and air-purifying respirators provide the wearer with the option of using either of two different modes of operation:

(1) A supplied-air respirator with an auxiliary air-purifying attachment which provides protection in the event the air supply fails; or

(2) The advantages and disadvantages previously described for supplied-air and air-purifying respirators apply when these respirators are used in combination. The mode with the greater limitations (air-purifying mode) will generally determine the overall capabilities and limitations of the respirator, since the wearer may for some reason fail to change the mode of operation even though conditions require such a change.

#### NEW SECTION

**WAC 296-62-07291 What are combination supplied-air respirators with auxiliary self-contained air supply?** Some combination supplied-air respirators have an auxiliary self-contained air supply. To escape from a hazardous atmosphere in the event the primary air supply fails to operate, the wearer switches to the auxiliary self-contained air supply. Devices approved for both entry into and escape from dangerous atmospheres have a low-pressure warning alarm and contain at least a 5-minute self-contained air supply. The auxiliary self-contained air supply on this type of device allows the wearer to escape from a dangerous atmosphere. This device with auxiliary self-contained air supply is approved for escape and may be used for entry when it contains at least a 15-minute auxiliary self-contained air supply and not more than 20 percent of the rated self-contained air supply is used during entry (see WAC 296-62-07132).

#### NEW SECTION

**WAC 296-62-07293 What is a self-contained breathing apparatus respirator (SCBA)?** SCBAs are respirators designed so that the supply of air, oxygen, or oxygen-generated material is carried by the wearer. They are normally equipped with a full facepiece, but may be equipped with a half-mask facepiece, helmet, hood or mouthpiece and nose clamp.

SCBAs are classified in the following ways:

(1) Closed-circuit SCBA (oxygen only, negative pressure or positive pressure). There are two types of closed-circuit SCBAs. They are:

(a) Compressed liquid oxygen respirators, which are equipped with a facepiece or mouthpiece and nose clamp. High-pressure oxygen from a gas cylinder passes through a high-pressure reducing valve and, in some designs, through a low-pressure admission valve to a breathing bag or container. Liquid oxygen is converted to low-pressure gaseous oxygen and delivered to the breathing bag. The wearer inhales from the bag through a corrugated tube connected to a mouthpiece or facepiece and a one-way check valve. Exhaled air passes through another check valve and tube into a container of carbon-dioxide removing chemical and reenters the breathing bag. Make-up oxygen enters the bag continuously or as the bag deflates sufficiently to actuate an admission valve. A pressure-relief system is provided, and a manual bypass and saliva trap may be provided depending upon the design.

(b) Oxygen-generating respirators, which are equipped with a facepiece or mouthpiece and nose clamp. Water vapor in the exhaled breath reacts with the chemical in the canister to release oxygen to the breathing bag. The wearer inhales from the bag through a corrugated tube and one-way check valve at the facepiece. Exhaled air passes through a second check valve/breathing tube assembly into the canister. The oxygen-release rate is governed by the volume of exhaled air. Carbon dioxide in the exhaled breath is removed by the canister fill.

(2) Open-circuit (SCBA) (compressed air, compressed oxygen, liquid air, liquid oxygen). A bypass system is provided in case of regulator failure except on escape-type units. There are two types of open-circuit SCBAs. They are:

(a) Demand-type respirators, which are equipped with a facepiece or mouthpiece and nose clamp. The demand valve permits oxygen or air flow only during inhalation. Exhaled breath passes to ambient atmosphere through a valve(s) in the facepiece.

(b) Pressure-demand type respirators, which are equipped with a facepiece only. Positive pressure is maintained in the facepiece. The apparatus may have provision for the wearer to select the demand or pressure-demand mode of operation, in which case only the demand mode must be used when putting on or removing the apparatus.

#### NEW SECTION

**WAC 296-62-07295 What are the limitations for self-contained breathing apparatus respirators (SCBA)?** (1) The period over which the SCBAs will provide protection is limited by the amount of air or oxygen in the apparatus, the ambient atmospheric pressure (service life of open-circuit devices is cut in half by a doubling of the atmospheric pressure), and the type of work being performed. Some SCBA devices have a short service life (less than 15 minutes) and are suitable only for escape (self-rescue) from an irreparable atmosphere. Chief limitations of SCBA devices are their weight, bulk, limited service life, and the training requirements for their maintenance and safe use.

(2) What are the limitations for closed-circuit SCBAs?

The closed-circuit operation conserves oxygen and permits longer service life at reduced weight. The negative-pressure type produces a negative pressure in the respiratory-inlet covering during inhalation, and this may permit inward leakage of contaminants; the positive-pressure type always maintains a positive pressure in the respiratory-inlet covering and is less apt to permit inward leakage of contaminants.

(3) What are the limitations for open circuit SCBAs?

The demand type produces a negative pressure in the respiratory-inlet covering during inhalation, whereas the pressure-demand type maintains a positive pressure in the respiratory-inlet covering during inhalation and is less apt to permit inward leakage of contaminants.

#### REPEALER

The following sections of the Washington Administrative Code are repealed:

PROPOSED

- WAC 296-62-07119 Identification of air-purifying respirator canisters.
- WAC 296-62-07121 Effective date.

AMENDATORY SECTION (Amending WSR 96-09-030, filed 4/10/96, effective 6/1/96)

**WAC 296-62-07306 Requirements for areas containing carcinogens listed in WAC 296-62-07302.** (1) A regulated area shall be established by an employer where listed carcinogens are manufactured, processed, used, repackaged, released, handled or stored.

(2) All such areas shall be controlled in accordance with the requirements for the following category or categories describing the operation involved:

(a) Isolated systems. Employees working with carcinogens within an isolated system such as a "glove box" shall wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.

(b) Closed system operation. Within regulated areas where carcinogens are stored in sealed containers, or contained in a closed system including piping systems with any sample ports or openings closed while carcinogens are contained within:

(i) Access shall be restricted to authorized employees only;

(ii) Employees shall be required to wash hands, forearms, face and neck upon each exit from the regulated areas, close to the point of exit and before engaging in other activities.

(c) Open vessel system operations. Open vessel system operations as defined in WAC 296-62-07304(12) are prohibited.

(d) Transfer from a closed system. Charging or discharging point operations, or otherwise opening a closed system. In operations involving "laboratory-type hoods," or in locations where a carcinogen is contained in an otherwise "closed system," but is transferred, charged, or discharged into other normally closed containers, the provisions of this section shall apply.

(i) Access shall be restricted to authorized employees only;

(ii) Each operation shall be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation. Exhaust air shall not be discharged to regulated areas, nonregulated areas or the external environment unless decontaminated. Clean makeup air shall be introduced in sufficient volume to maintain the correct operation of the local exhaust system.

(iii) Employees shall be provided with, and required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area.

(iv) Employees engaged in ~~((operations))~~ handling operations involving the following carcinogens ~~((shall))~~ must be provided with and required to wear and use a full-face, supplied-air respirator, of the continuous flow or pressure-

demand type ~~((in accordance with WAC 296-62-071))~~ as required in chapter 296-62 WAC, Part E:

- Methyl Chloromethyl Ether;
- bis-Chloromethyl Ether;
- Ethylenemine;
- beta-Propiolactone;
- 4-Amino Diphenyl.

~~((v))~~ Employees engaged in ~~((operations))~~ handling ~~((the following carcinogens shall be provided with and required to wear and use (not less than) a half-face, filter-type respirator for dusts, mists, and fumes in accordance with WAC 296-62-071))~~ operations involving:

~~((4-Nitrobiphenyl; Alpha-Naphthylamine; 4,4'Methylene bis(2-Chloroaniline); 3,3'Dichlorobenzidine (and its salts); Beta-Naphthylamine; Benzidine; 2-Acetylamino Fluorene; 4-Dimethylaminoazobenzene; N-Nitrosodimethylamine:))~~

- 4-nitrobiphenyl;
- alpha-naphthylamine;
- 4-4'methylene bis(2-chloroaniline);
- 3-3'dichlorobenzidine (and its salts);
- beta-naphthylamine;
- benzidine;
- 2-acetylamino fluorene;
- 4-dimethylaminobenzene;
- n-nitrosodimethylamine

must be provided with, and required to wear and use, a half-face, filter-type respirator certified for solid or liquid particulates with minimum efficiency rating of 95% as required in chapter 296-62 WAC, Part E. A respirator affording higher levels of protection than this respirator may be substituted.

(vi) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified, as required under WAC 296-62-07310 (2), (3) and (4).

(vii) Employees shall be required to wash hands, forearms, face and neck on each exit from the regulated area, close to the point of exit, and before engaging in other activities.

(viii) Employees shall be required to shower after the last exit of the day.

(ix) Drinking fountains are prohibited in the regulated area.

(e) Maintenance and decontamination activities. In clean up of leaks or spills, maintenance or repair operations on contaminated systems or equipment, or any operations involving work in an area where direct contact with carcinogens could result, each authorized employee entering the area shall:

PROPOSED

(i) Be provided with and required to wear, clean, impervious garments, including gloves, boots and continuous-air supplied hood in accordance with chapter 296-24 WAC, the general safety and health standards, and respiratory protective equipment required by this chapter 296-62 WAC;

(ii) Be decontaminated before removing the protective garments and hood;

(iii) Be required to shower upon removing the protective garments and hood.

(f) Laboratory activities. The requirements of this subdivision shall apply to research and quality control activities involving the use of carcinogens listed in WAC 296-62-07302.

(i) Mechanical pipetting aids shall be used for all pipetting procedures.

(ii) Experiments, procedures and equipment which could produce aerosols shall be confined to laboratory-type hoods or glove boxes.

(iii) Surfaces on which carcinogens are handled shall be protected from contamination.

(iv) Contaminated wastes and animal carcasses shall be collected in impervious containers which are closed and decontaminated prior to removal from the work area. Such wastes and carcasses shall be incinerated in such a manner that no carcinogenic products are released.

(v) All other forms of listed carcinogens shall be inactivated prior to disposal.

(vi) Laboratory vacuum systems shall be protected with high efficiency scrubbers or with disposable absolute filters.

(vii) Employees engaged in animal support activities shall be:

(A) Provided with, and required to wear, a complete protective clothing change, clean each day, including coveralls or pants and shirt, foot covers, head covers, gloves, and appropriate respiratory protective equipment or devices; and

(B) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified as required under WAC 296-62-07310 (2), (3) and (4).

(C) Required to wash hands, forearms, face and neck upon each exit from the regulated area close to the point of exit, and before engaging in other activities; and

(D) Required to shower after the last exit of the day.

(viii) Employees, other than those engaged only in animal support activities, each day shall be:

(A) Provided with and required to wear a clean change of appropriate laboratory clothing, such as a solid front gown, surgical scrub suit, or fully buttoned laboratory coat.

(B) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified as required under WAC 296-62-07310 (2), (3) and (4).

(C) Required to wash hands, forearms, face and neck upon each exit from the regulated area close to the point of exit, and before engaging in other activities.

(ix) Air pressure in laboratory areas and animal rooms where carcinogens are handled and bioassay studies are performed shall be negative in relation to the pressure in surrounding areas. Exhaust air shall not be discharged to regulated areas, nonregulated areas or the external environment unless decontaminated.

(x) There shall be no connection between regulated areas and any other areas through the ventilation system.

(xi) A current inventory of the carcinogens shall be maintained.

(xii) Ventilated apparatus such as laboratory-type hoods, shall be tested at least semi-annually or immediately after ventilation modification or maintenance operations, by personnel fully qualified to certify correct containment and operation.

**AMENDATORY SECTION** (Amending Order 83-34, filed 11/30/83)

**WAC 296-62-07308 General regulated area requirements.** (1) Respirator program. The employer must implement a respiratory protection program as required in chapter 296-62 WAC, Part E (except WAC 296-62-07130 (1) and (5) and 296-62-07131).

(2) **Emergencies.** In an emergency, immediate measures including, but not limited to, the requirements of (a), (b), (c), (d) and (e) of this subsection shall be implemented.

(a) The potentially affected area shall be evacuated as soon as the emergency has been determined.

(b) Hazardous conditions created by the emergency shall be eliminated and the potentially affected area shall be decontaminated prior to the resumption of normal operations.

(c) Special medical surveillance by a physician shall be instituted within twenty-four hours for employees present in the potentially affected area at the time of the emergency. A report of the medical surveillance and any treatment shall be included in the incident report, in accordance with WAC 296-62-07312(2).

(d) Where an employee has a known contact with a listed carcinogen, such employee shall be required to shower as soon as possible, unless contraindicated by physical injuries.

(e) An incident report on the emergency shall be reported as provided in WAC 296-62-07312(2).

~~((2))~~ (3) Hygiene facilities and practices.

(a) Storage or consumption of food, storage or use of containers of beverages, storage or application of cosmetics, smoking, storage of smoking materials, tobacco products or other products for chewing, or the chewing of such products, are prohibited in regulated areas.

(b) Where employees are required by this section to wash, washing facilities shall be provided in accordance with WAC 296-24-12009, of the general safety and health standards.

(c) Where employees are required by this section to shower, shower facilities shall be provided.

(i) One shower shall be provided for each ten employees of each sex, or numerical fraction thereof, who are required to shower during the same shift.

(ii) Body soap or other appropriate cleansing agents convenient to the showers shall be provided as specified in WAC 296-24-12009, of the general safety and health standards.

(iii) Showers shall be provided with hot and cold water feeding a common discharge line.

(iv) Employees who use showers shall be provided with individual clean towels.

(d) Where employees wear protective clothing and equipment, clean change rooms shall be provided and shall be equipped with storage facilities for street clothes and separate storage facilities for the protective clothing for the number of such employees required to change clothes.

(e) Where toilets are in regulated areas, such toilets shall be in a separate room.

~~((3))~~ (4) Contamination control.

(a) Regulated areas, except for outdoor systems, shall be maintained under pressure negative with respect to nonregulated areas. Local exhaust ventilation may be used to satisfy this requirement. Clean makeup air in equal volume shall replace air removed.

(b) Any equipment, material, or other item taken into or removed from a regulated area shall be done so in a manner that does not cause contamination in nonregulated areas or the external environment.

(c) Decontamination procedures shall be established and implemented to remove carcinogens from the surfaces of materials, equipment and the decontamination facility.

(d) Dry sweeping and dry mopping are prohibited.

**AMENDATORY SECTION** (Amending Order 94-07, filed 7/20/94, effective 9/20/94)

**WAC 296-62-07329 Vinyl chloride.** (1) Scope and application.

(a) This section includes requirements for the control of employee exposure to vinyl chloride (chloroethene), Chemical Abstracts Service Registry No. 75014.

(b) This section applies to the manufacture, reaction, packaging, repackaging, storage, handling or use of vinyl chloride or polyvinyl chloride, but does not apply to the handling or use of fabricated products made of polyvinyl chloride.

(c) This section applies to the transportation of vinyl chloride or polyvinyl chloride except to the extent that the department of transportation may regulate the hazards covered by this section.

(2) Definitions.

(a) "Action level" means a concentration of vinyl chloride of 0.5 ppm averaged over an 8-hour work day.

(b) "Authorized person" means any person specifically authorized by the employer whose duties require him/her to enter a regulated area or any person entering such an area as a designated representative of employees for the purpose of exercising an opportunity to observe monitoring and measuring procedures.

(c) "Director" means the director of department of labor and industries or his/her designated representative.

(d) "Emergency" means any occurrence such as, but not limited to, equipment failure, or operation of a relief device which is likely to, or does, result in massive release of vinyl chloride.

(e) "Fabricated product" means a product made wholly or partly from polyvinyl chloride, and which does not require further processing at temperatures, and for times, sufficient to cause mass melting of the polyvinyl chloride resulting in the release of vinyl chloride.

(f) "Hazardous operation" means any operation, procedure, or activity where a release of either vinyl chloride liquid or gas might be expected as a consequence of the operation or because of an accident in the operation, which would result in an employee exposure in excess of the permissible exposure limit.

(g) "Polyvinyl chloride" means polyvinyl chloride homopolymer or copolymer before such is converted to a fabricated product.

(h) "Vinyl chloride" means vinyl chloride monomer.

(3) Permissible exposure limit.

(a) No employee may be exposed to vinyl chloride at concentrations greater than 1 ppm averaged over any 8-hour period, and

(b) No employee may be exposed to vinyl chloride at concentrations greater than 5 ppm averaged over any period not exceeding 15 minutes.

(c) No employee may be exposed to vinyl chloride by direct contact with liquid vinyl chloride.

(4) Monitoring.

(a) A program of initial monitoring and measurement shall be undertaken in each establishment to determine if there is any employee exposed, without regard to the use of respirators, in excess of the action level.

(b) Where a determination conducted under subdivision (a) of this subsection shows any employee exposures without regard to the use of respirators, in excess of the action level, a program for determining exposures for each such employee shall be established. Such a program:

(i) Shall be repeated at least monthly where any employee is exposed, without regard to the use of respirators, in excess of the permissible exposure limit.

(ii) Shall be repeated not less than quarterly where any employee is exposed, without regard to the use of respirators, in excess of the action level.

(iii) May be discontinued for any employee only when at least two consecutive monitoring determinations, made not less than 5 working days apart, show exposures for that employee at or below the action level.

(c) Whenever there has been a production, process or control change which may result in an increase in the release of vinyl chloride, or the employer has any other reason to suspect that any employee may be exposed in excess of the action level, a determination of employee exposure under subdivision (a) of this subsection shall be performed.

(d) The method of monitoring and measurement shall have an accuracy (with a confidence level of 95 percent) of not less than plus or minus 50 percent from 0.25 through 0.5 ppm, plus or minus 35 percent from over 0.5 ppm through 1.0 ppm, plus or minus 25 percent over 1.0 ppm, (methods meet-

ing these accuracy requirements are available from the director).

(e) Employees or their designated representatives shall be afforded reasonable opportunity to observe the monitoring and measuring required by this subsection.

(5) Regulated area.

(a) A regulated area shall be established where:

(i) Vinyl chloride or polyvinyl chloride is manufactured, reacted, repackaged, stored, handled or used; and

(ii) Vinyl chloride concentrations are in excess of the permissible exposure limit.

(b) Access to regulated areas shall be limited to authorized persons.

(6) Methods of compliance. Employee exposures to vinyl chloride shall be controlled to at or below the permissible exposure limit provided in subsection (3) of this section by engineering, work practice, and personal protective controls as follows:

(a) Feasible engineering and work practice controls shall immediately be used to reduce exposures to at or below the permissible exposure limit.

(b) Wherever feasible engineering and work practice controls which can be instituted immediately are not sufficient to reduce exposures to at or below the permissible exposure limit, they shall nonetheless be used to reduce exposures to the lowest practicable level, and shall be supplemented by respiratory protection in accordance with subsection (7) of this section. A program shall be established and implemented to reduce exposures to at or below the permissible exposure limit, or to the greatest extent feasible, solely by means of engineering and work practice controls, as soon as feasible.

(c) Written plans for such a program shall be developed and furnished upon request for examination and copying to the director. Such plans shall be updated at least every six months.

(7) Respiratory protection. (~~Where respiratory protection is required under this section:~~)

(a) General. For employees who use respirators required by this section, the employer (~~shall~~) must provide (~~(a)~~) respirators (~~(which meets)~~) that comply with the requirements of this (~~subdivision and shall assure that the employee uses such respirator~~) section.

(b) (~~Respirators shall be selected from among those jointly approved by the Mine Safety and Health Administration, and the National Institute for Occupational Safety and Health under the provisions of 30 CFR Part 11.~~)

Note: The Department of Interior published an article in Federal Register in April 1976 which extended time requirement for respirators used for protection against vinyl chloride to have a cartridge or canister with an end-of-service-life indicator. The indicator is an additional safety feature but does not adversely affect the effectiveness of currently approved respirator cartridges or canisters. Until approved end-of-service-life indicators are available, the respirators, cartridges, or canisters presently approved are considered to meet requirements for vinyl chloride when used per manufacturer's instructions.)

Respirator program. The employer must establish, implement, and maintain a respiratory protection program as required in chapter 296-62 WAC, Part E (except WAC 296-

62-07130(1), 296-62-07131 (4)(b)(i) and (ii), and 296-62-07150 through 296-62-17156).

(c) (~~A respiratory protection program meeting the requirements of chapter 296-62 WAC shall be established and maintained.~~)

(d) ~~Selection of respirators for vinyl chloride shall be as follows:~~

	Atmospheric concentration of Vinyl Chloride	Required Apparatus
(i)	Unknown, or above 3,600 ppm	Open circuit, self contained breathing apparatus, pressure demand type, with full facepiece.
(ii)	Not over 3,600 ppm	Combination Type C supplied air respirator, pressure demand type, with full or half facepiece, and auxiliary self contained air supply.
(iii)	Not over 250 ppm	Type C, supplied air respirator, continuous flow type, with full or half facepiece, helmet or hood.
(iv)	Not over 100 ppm	Supplied air respirator demand type, with full facepiece.
(v)	Not over 25 ppm	(A) A powered air purifying respirator with hood, helmet, full or half facepiece, and a canister which provides a service life of at least 4 hours for concentrations of vinyl chloride up to 25 ppm, or (B) Gas mask, front or back mounted canister which provides a service life of at least 4 hours for concentrations of vinyl chloride up to 25 ppm.
(vi)	Not over 10 ppm	Any chemical cartridge respirator with a vinyl chloride cartridge which provides a service life of at least 1 hour for concentrations of vinyl chloride up to 10 ppm.

(e)(i) ~~Entry into unknown concentrations or concentrations greater than 36,000 ppm (lower explosive limit) may be made only for purposes of life rescue, and~~

(ii) ~~Entry into concentrations of less than 36,000 ppm, but greater than 3,600 ppm may be made only for purposes of life rescue, fire fighting, or securing equipment so as to prevent a greater hazard from release of vinyl chloride.~~

(f) Respirator selection. Respirators must be selected from the following table.

	Atmospheric concentration of Vinyl Chloride	Apparatus
(i)	Not over 10 ppm	<u>Any chemical cartridge respirator with a vinyl chloride cartridge which provides a service life of at least 1 hour for concentrations of vinyl chloride up to 10 ppm.</u>

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**Atmospheric concentration of Vinyl Chloride**

**Apparatus**

- (ii) Not over 25 ppm (A) A powered air-purifying respirator with hood, helmet, full or half facepiece, and a canister which provides a service life of at least 4 hours for concentrations of vinyl chloride up to 25 ppm, or  
(B) Gas mask, front or back-mounted canister which provides a service life of at least 4 hours for concentrations of vinyl chloride up to 25 ppm.
- (iii) Not over 100 ppm Supplied air respirator demand type, with full facepiece.
- (iv) Not over 250 ppm Type C, supplied air respirator, continuous flow type, with full or half facepiece, helmet or hood.
- (v) Not over 3,600 ppm Combination Type C supplied air respirator, pressure demand type, with full or half facepiece and auxiliary self-contained air supply.
- (vi) Unknown, or above 3,600 ppm Open-circuit, self-contained breathing apparatus, pressure demand type, with full facepiece.

(d) Where air-purifying respirators are used:

(i) Air-purifying canisters or cartridges ~~((shall))~~ **must** be replaced prior to the expiration of their service life or the end of the shift in which they are first used, whichever occurs first, and

(ii) A continuous monitoring and alarm system ~~((shall))~~ **must** be provided ~~((where))~~ **when** concentrations of vinyl chloride could reasonably exceed the allowable concentrations for the devices in use. Such system shall be used to alert employees when vinyl chloride concentrations exceed the allowable concentrations for the devices in use~~((;-))~~, **and**

~~((g) Apparatus prescribed))~~ (iii) **Respirators specified** for higher concentrations may be used for ~~((any))~~ lower concentration.

(8) Hazardous operations.

(a) Employees engaged in hazardous operations, including entry of vessels to clean polyvinyl chloride residue from vessel walls, shall be provided and required to wear and use;

(i) Respiratory protection in accordance with subsections (3) and (7) of this section; and

(ii) Protective garments to prevent skin contact with liquid vinyl chloride or with polyvinyl chloride residue from vessel walls. The protective garments shall be selected for the operation and its possible exposure conditions.

(b) Protective garments shall be provided clean and dry for each use.

(c) Emergency situations. A written operational plan for emergency situations shall be developed for each facility storing, handling, or otherwise using vinyl chloride as a liquid or compressed gas. Appropriate portions of the plan shall be implemented in the event of an emergency. The plan shall specifically provide that:

(i) Employees engaged in hazardous operations or correcting situations of existing hazardous releases shall be equipped as required in subdivisions (a) and (b) of this subsection;

(ii) Other employees not so equipped shall evacuate the area and not return until conditions are controlled by the methods required in subsection (6) of this section and the emergency is abated.

(9) Training. Each employee engaged in vinyl chloride or polyvinyl chloride operations shall be provided training in a program relating to the hazards of vinyl chloride and precautions for its safe use.

(a) The program shall include:

(i) The nature of the health hazard from chronic exposure to vinyl chloride including specifically the carcinogenic hazard;

(ii) The specific nature of operations which could result in exposure to vinyl chloride in excess of the permissible limit and necessary protective steps;

(iii) The purpose for, proper use, and limitations of respiratory protective devices;

(iv) The fire hazard and acute toxicity of vinyl chloride, and the necessary protective steps;

(v) The purpose for and a description of the monitoring program;

(vi) The purpose for and a description of, the medical surveillance program;

(vii) Emergency procedures:

(A) Specific information to aid the employee in recognition of conditions which may result in the release of vinyl chloride; and

(B) A review of this standard at the employee's first training and indoctrination program, and annually thereafter.

(b) All materials relating to the program shall be provided upon request to the director.

(10) Medical surveillance. A program of medical surveillance shall be instituted for each employee exposed, without regard to the use of respirators, to vinyl chloride in excess of the action level. The program shall provide each such employee with an opportunity for examinations and tests in accordance with this subsection. All medical examinations and procedures shall be performed by or under the supervision of a licensed physician and shall be provided without cost to the employee.

(a) At the time of initial assignment, or upon institution of medical surveillance;

(i) A general physical examination shall be performed with specific attention to detecting enlargement of liver,



spleen or kidneys, or dysfunction in these organs, and for abnormalities in skin, connective tissues and the pulmonary system (see Appendix A).

(ii) A medical history shall be taken, including the following topics:

- (A) Alcohol intake,
- (B) Past history of hepatitis,
- (C) Work history and past exposure to potential hepatotoxic agents, including drugs and chemicals,
- (D) Past history of blood transfusions, and
- (E) Past history of hospitalizations.

(iii) A serum specimen shall be obtained and determinations made of:

- (A) Total bilirubin,
- (B) Alkaline phosphatase,
- (C) Serum glutamic oxalacetic transaminase (SGOT),
- (D) Serum glutamic pyruvic transaminase (SGPT), and
- (E) Gamma glutamyl transpeptidase.

(b) Examinations provided in accordance with this subdivision shall be performed at least:

(i) Every 6 months for each employee who has been employed in vinyl chloride or polyvinyl chloride manufacturing for 10 years or longer; and

(ii) Annually for all other employees.

(c) Each employee exposed to an emergency shall be afforded appropriate medical surveillance.

(d) A statement of each employee's suitability for continued exposure to vinyl chloride including use of protective equipment and respirators, shall be obtained from the examining physician promptly after any examination. A copy of the physician's statement shall be provided each employee.

(e) If any employee's health would be materially impaired by continued exposure, such employee shall be withdrawn from possible contact with vinyl chloride.

(f) Laboratory analyses for all biological specimens included in medical examinations shall be performed in laboratories licensed under 42 CFR Part 74.

(g) If the examining physician determines that alternative medical examinations to those required by subdivision

(a) of this subsection will provide at least equal assurance of detecting medical conditions pertinent to the exposure to vinyl chloride, the employer may accept such alternative examinations as meeting the requirements of subdivision (a) of this subsection, if the employer obtains a statement from the examining physician setting forth the alternative examinations and the rationale for substitution. This statement shall be available upon request for examination and copying to authorized representatives of the director.

(11) Signs and labels.

(a) Entrances to regulated areas shall be posted with legible signs bearing the legend:

CANCER-SUSPECT AGENT  
AREA AUTHORIZED PERSONNEL ONLY

(b) Areas containing hazardous operations or where an emergency currently exists shall be posted with legible signs bearing the legend:

CANCER-SUSPECT AGENT IN THIS AREA PROTECTIVE EQUIPMENT REQUIRED AUTHORIZED PERSONNEL ONLY

(c) Containers of polyvinyl chloride resin waste from reactors or other waste contaminated with vinyl chloride shall be legibly labeled:

CONTAMINATED WITH VINYL  
CHLORIDE CANCER-SUSPECT AGENT

(d) Containers of polyvinyl chloride shall be legibly labeled:

POLYVINYL CHLORIDE (OR TRADE NAME) CONTAINS VINYL  
CHLORIDE VINYL CHLORIDE IS A CANCER-SUSPECT AGENT

(e) Containers of vinyl chloride shall be legibly labeled either:

VINYL CHLORIDE EXTREMELY FLAMMABLE  
GAS UNDER PRESSURE CANCER-SUSPECT AGENT

(or)

(f) In accordance with 49 CFR Part 173, Subpart H, with the additional legends:

CANCER-SUSPECT AGENT

Applied near the label or placard.

(g) No statement shall appear on or near any required sign, label or instruction which contradicts or detracts from the effect of any required warning, information or instruction.

(12) Records.

(a) All records maintained in accordance with this section shall include the name and social security number of each employee where relevant.

(b) Records of required monitoring and measuring and medical records shall be provided upon request to employees, designated representatives, and the director in accordance with WAC 296-62-05201 through 296-62-05209; and 296-62-05213 through 296-62-05217. These records shall be provided upon request to the director. Authorized personnel rosters shall also be provided upon request to the director.

(i) Monitoring and measuring records shall:

(A) State the date of such monitoring and measuring and the concentrations determined and identify the instruments and methods used;

(B) Include any additional information necessary to determine individual employee exposures where such exposures are determined by means other than individual monitoring of employees; and

(C) Be maintained for not less than 30 years.

(ii) Medical records shall be maintained for the duration of the employment of each employee plus 20 years, or 30 years, whichever is longer.

(c) In the event that the employer ceases to do business and there is no successor to receive and retain his/her records for the prescribed period, these records shall be transmitted by registered mail to the director, and each employee individ-

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ually notified in writing of this transfer. The employer shall also comply with any additional requirements set forth in WAC 296-62-05215.

(d) Employees or their designated representatives shall be provided access to examine and copy records of required monitoring and measuring.

(e) Former employees shall be provided access to examine and copy required monitoring and measuring records reflecting their own exposures.

(f) Upon written request of any employee, a copy of the medical record of that employee shall be furnished to any physician designated by the employee.

#### (13) Reports.

(a) Not later than 1 month after the establishment of a regulated area, the following information shall be reported to the director. Any changes to such information shall be reported within 15 days.

(i) The address and location of each establishment which has one or more regulated areas; and

(ii) The number of employees in each regulated area during normal operations, including maintenance.

(b) Emergencies and the facts obtainable at that time, shall be reported within 24 hours to the director. Upon request of the director, the employer shall submit additional information in writing relevant to the nature and extent of employee exposures and measures taken to prevent future emergencies of similar nature.

(c) Within 10 working days following any monitoring and measuring which discloses that any employee has been exposed, without regard to the use of respirators, in excess of the permissible exposure limit, each such employee shall be notified in writing of the results of the exposure measurement and the steps being taken to reduce the exposure to within the permissible exposure limit.

(14) ~~(Effective January 1, 1975, the provisions set forth in WAC 296-62-07329 shall apply.)~~ Appendix A supplementary medical information.

When required tests under subsection (10)(a) of this section show abnormalities, the tests should be repeated as soon as practicable, preferably within 3 to 4 weeks. If tests remain abnormal, consideration should be given to withdrawal of the employee from contact with vinyl chloride, while a more comprehensive examination is made.

Additional tests which may be useful:

(A) For kidney dysfunction: Urine examination for albumin, red blood cells, and exfoliative abnormal cells.

(B) Pulmonary system: Forced vital capacity, forced expiratory volume at 1 second, and chest roentgenogram (posterior-anterior, 14 x 17 inches).

(C) Additional serum tests: Lactic acid dehydrogenase, lactic acid dehydrogenase isoenzyme, protein determination, and protein electrophoresis.

(D) For a more comprehensive examination on repeated abnormal serum tests: Hepatitis B antigen, and liver scanning.

#### AMENDATORY SECTION (Amending Order 88-04, filed 5/11/88)

**WAC 296-62-07336 Acrylonitrile.** (1) Scope and application.

(a) This section applies to all occupational exposure to acrylonitrile (AN), Chemical Abstracts Service Registry No. 000107131, except as provided in (b) and (c) of this subsection.

(b) This section does not apply to exposures which result solely from the processing, use, and handling of the following materials:

(i) ABS resins, SAN resins, nitrile barrier resins, solid nitrile elastomers, and acrylic and modacrylic fibers, when these listed materials are in the form of finished polymers, and products fabricated from such finished polymers;

(ii) Materials made from and/or containing AN for which objective data is reasonably relied upon to demonstrate that the material is not capable of releasing AN in airborne concentrations in excess of 1 ppm as an eight-hour time-weighted average, under the expected conditions of processing, use, and handling which will cause the greatest possible release; and

(iii) Solid materials made from and/or containing AN which will not be heated above 170°F during handling, use, or processing.

(c) An employer relying upon exemption under (1)(b)(ii) shall maintain records of the objective data supporting that exemption, and of the basis of the employer's reliance on the data as provided in subsection (17) of this section.

(2) Definitions, as applicable to this section:

(a) "Acrylonitrile" or "AN" - acrylonitrile monomer, chemical formula  $\text{CH}_2=\text{CHCN}$ .

(b) "Action level" - a concentration of AN of 1 ppm as an eight-hour time-weighted average.

(c) "Authorized person" - any person specifically authorized by the employer whose duties require the person to enter a regulated area, or any person entering such an area as a designated representative of employees for the purpose of exercising the opportunity to observe monitoring procedures under subsection (18) of this section.

(d) "Decontamination" means treatment of materials and surfaces by water washdown, ventilation, or other means, to assure that the materials will not expose employees to airborne concentrations of AN above 1 ppm as an eight-hour time-weighted average.

(e) "Director" - the director of labor and industries, or his authorized representative.

(f) "Emergency" - any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment, which is likely to, or does, result in unexpected exposure to AN in excess of the ceiling limit.

(g) "Liquid AN" means AN monomer in liquid form, and liquid or semiliquid polymer intermediates, including slurries, suspensions, emulsions, and solutions, produced during the polymerization of AN.

(h) "Polyacrylonitrile" or "PAN" - polyacrylonitrile homopolymers or copolymers, except for materials as exempted under subsection (1)(b) of this section.

(3) Permissible exposure limits.

## (a) Inhalation.

(i) Time-weighted average limit (TWA). The employer shall assure that no employee is exposed to an airborne concentration of acrylonitrile in excess of two parts acrylonitrile per million parts of air (2 ppm), as an eight-hour time-weighted average.

(ii) Ceiling limit. The employer shall assure that no employee is exposed to an airborne concentration of acrylonitrile in excess of 10 ppm as averaged over any fifteen-minute period during the working day.

(b) Dermal and eye exposure. The employer shall assure that no employee is exposed to skin contact or eye contact with liquid AN or PAN.

## (4) Notification of use and emergencies.

(a) Use. Within ten days of the effective date of this standard, or within fifteen days following the introduction of AN into the workplace, every employer shall report, unless he has done so pursuant to the emergency temporary standard, the following information to the director for each such workplace:

(i) The address and location of each workplace in which AN is present;

(ii) A brief description of each process of operation which may result in employee exposure to AN;

(iii) The number of employees engaged in each process or operation who may be exposed to AN and an estimate of the frequency and degree of exposure that occurs; and

(iv) A brief description of the employer's safety and health program as it relates to limitation of employee exposure to AN. Whenever there has been a significant change in the information required by this subsection, the employer shall promptly amend such information previously provided to the director.

(b) Emergencies and remedial action. Emergencies, and the facts obtainable at that time, shall be reported within 24 hours of the initial occurrence to the director. Upon request of the director, the employer shall submit additional information in writing relevant to the nature and extent of employee exposures and measures taken to prevent future emergencies of a similar nature.

## (5) Exposure monitoring.

## (a) General.

(i) Determinations of airborne exposure levels shall be made from air samples that are representative of each employee's exposure to AN over an eight-hour period.

(ii) For the purposes of this section, employee exposure is that which would occur if the employee were not using a respirator.

(b) Initial monitoring. Each employer who has a place of employment in which AN is present shall monitor each such workplace and work operation to accurately determine the airborne concentrations of AN to which employees may be exposed. Such monitoring may be done on a representative basis, provided that the employer can demonstrate that the determinations are representative of employee exposures.

## (c) Frequency.

(i) If the monitoring required by this section reveals employee exposure to be below the action level, the employer may discontinue monitoring for that employee. The employer shall continue these quarterly measurements until at least two

consecutive measurements taken at least seven days apart, are below the action level, and thereafter the employer may discontinue monitoring for that employee.

(ii) If the monitoring required by this section reveals employee exposure to be at or above the action level but below the permissible exposure limits, the employer shall repeat such monitoring for each such employee at least quarterly.

(iii) If the monitoring required by this section reveals employee exposure to be in excess of the permissible exposure limits, the employer shall repeat these determinations for each such employee at least monthly. The employer shall continue these monthly measurements until at least two consecutive measurements, taken at least seven days apart, are below the permissible exposure limits, and thereafter the employer shall monitor at least quarterly.

(d) Additional monitoring. Whenever there has been a production, process, control or personnel change which may result in new or additional exposure to AN, or whenever the employer has any other reason to suspect a change which may result in new or additional exposures to AN, additional monitoring which complies with this subsection shall be conducted.

## (e) Employee notification.

(i) Within five working days after the receipt of monitoring results, the employer shall notify each employee in writing of the results which represent that employee's exposure.

(ii) Whenever the results indicate that the representative employee exposure exceeds the permissible exposure limits, the employer shall include in the written notice a statement that the permissible exposure limits were exceeded and a description of the corrective action being taken to reduce exposure to or below the permissible exposure limits.

(f) Accuracy of measurement. The method of measurement of employee exposures shall be accurate, to a confidence level of 95 percent, to within plus or minus 25 percent for concentrations of AN at or above the permissible exposure limits, and plus or minus 35 percent for concentrations of AN between the action level and the permissible exposure limits.

(g) Weekly survey of operations involving liquid AN. In addition to monitoring of employee exposures to AN as otherwise required by this subsection, the employer shall survey areas of operations involving liquid AN at least weekly to detect points where AN liquid or vapor are being released into the workplace. The survey shall employ an infra-red gas analyzer calibrated for AN, a multipoint gas chromatographic monitor, or comparable system for detection of AN. A listing of levels detected and areas of AN release, as determined from the survey, shall be posted prominently in the workplace, and shall remain posted until the next survey is completed.

## (6) Regulated areas.

(a) The employer shall establish regulated areas where AN concentrations are in excess of the permissible exposure limits.

(b) Regulated areas shall be demarcated and segregated from the rest of the workplace, in any manner that minimizes the number of persons who will be exposed to AN.

(c) Access to regulated areas shall be limited to authorized persons or to persons otherwise authorized by the act or regulations issued pursuant thereto.

(d) The employer shall assure that in the regulated area, food or beverages are not present or consumed, smoking products are not present or used, and cosmetics are not applied, (except that these activities may be conducted in the lunchrooms, change rooms and showers required under subsections (13)(a)-(13)(c) of this section.

(7) Methods of compliance.

(a) Engineering and work practice controls.

(i) The employer shall institute engineering or work practice controls to reduce and maintain employee exposures to AN, to or below the permissible exposure limits, except to the extent that the employer establishes that such controls are not feasible.

(ii) Wherever the engineering and work practice controls which can be instituted are not sufficient to reduce employee exposures to or below the permissible exposure limits, the employer shall nonetheless use them to reduce exposures to the lowest levels achievable by these controls and shall supplement them by the use of respiratory protection which complies with the requirements of subsection (8) of this section.

(b) Compliance program.

(i) The employer shall establish and implement a written program to reduce employee exposures to or below the permissible exposure limits solely by means of engineering and work practice controls, as required by subsection (7)(a) of this section.

(ii) Written plans for these compliance programs shall include at least the following:

(A) A description of each operation or process resulting in employee exposure to AN above the permissible exposure limits;

(B) Engineering plans and other studies used to determine the controls for each process;

(C) A report of the technology considered in meeting the permissible exposure limits;

(D) A detailed schedule for the implementation of engineering or work practice controls; and

(E) Other relevant information.

(iii) The employer shall complete the steps set forth in the compliance program by the dates in the schedule.

(iv) Written plans for such a program shall be submitted upon request to the director, and shall be available at the worksite for examination and copying by the director, or any affected employee or representative.

(v) The plans required by this subsection shall be revised and updated at least every six months to reflect the current status of the program.

(8) Respiratory protection.

(a) General. ~~((The employer shall assure that respirators are used where required pursuant to this section to reduce employee exposure to within the permissible exposure limits and in emergencies. Compliance with the permissible exposure limits may not be achieved by the use of respirators except))~~ For employees who use respirators required by this section, the employer must provide respirators that comply with the requirements of this subsection. Respirators must be used during:

(i) ~~((During the time period))~~ Periods necessary to install or implement feasible engineering and work-practice controls; ~~((or))~~

(ii) ~~((In))~~ Work operations, such as maintenance and repair activities ~~((in))~~ or reactor cleaning, for which the employer establishes that engineering and work-practice controls are not feasible; ~~((or))~~

(iii) ~~((In work situations where))~~ Work operations for which feasible engineering and work-practice controls are not yet sufficient to reduce employee exposure to or below the permissible exposure limits; ~~((or))~~

(iv) In emergencies.

(b) Respirator ~~((selection))~~ program.

~~((Where respiratory protection is required under this section, the employer shall select and provide at no cost to the employee, the appropriate type of respirator from Table I and shall assure that the employee wears the respirator provided.))~~

The employer must implement a respiratory protection program in accordance with chapter 296-62 WAC, Part E (except WAC 296-62-07130(1) and 296-62-07150 through 296-62-07156).

(c) Respirator selection. The employer must select the appropriate respirator from Table I of this subsection.

TABLE I  
RESPIRATORY PROTECTION FOR ACRYLONITRILE (AN)

Concentration of AN or Condition of Use		Respirator Type	
(a)	Less than or equal to 25 x permissible exposure limits.	(i)	Any Type C supplied air respirator.
(b)	Less than or equal to 100 x permissible exposure limits.	(i)	Any supplied air respirator with full facepiece; or
		(ii)	Any self-contained breathing apparatus with full facepiece.
(c)	Less than or equal to 250 x permissible exposure limits	(i)	Supplied air respirator in positive pressure mode with full facepiece, helmet, hood, or suit.
(d)	Greater than 250 x permissible exposure limits.	(i)	Supplied air respirator with full facepiece and an auxiliary self-contained air supply, operated in pressure demand mode; or
		(ii)	Open circuit self-contained breathing apparatus with full facepiece in positive pressure mode.
(e)	Emergency entry into unknown concentration or firefighting	(i)	Any self-contained breathing apparatus with full facepiece in positive pressure mode.
(f)	Escape.	(i)	Any organic vapor gas mask; or
		(ii)	Any self-contained breathing.

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~~((ii) The employer shall select respirators from those approved for use with AN by the National Institute for Occupational Safety and Health under the provisions of WAC 296-62-071.~~

~~(e) Respirator program.~~

~~(i) The employer shall institute a respiratory protection program in accordance with WAC 296-62-071.~~

~~(ii) Testing. Fit testing of respirators shall be performed to assure that the respirator selected provides the protection required by Table I.~~

~~(A) Qualitative fit. The employer shall perform qualitative fit tests at the time of initial fitting and at least semiannually thereafter for each employee wearing respirators.~~

~~(B) Quantitative fit. Each employer with more than ten employees wearing negative pressure respirators shall perform quantitative fit testing at the time of initial fitting and at least semiannually thereafter for each such employee.~~

~~(iii) Employees who wear respirators shall be allowed to wash their faces and respirator facepieces to prevent potential skin irritation associated with respirator use.)~~

(9) Emergency situations.

(a) Written plans.

(i) A written plan for emergency situations shall be developed for each workplace where AN is present. Appropriate portions of the plan shall be implemented in the event of an emergency.

(ii) The plan shall specifically provide that employees engaged in correcting emergency conditions shall be equipped as required in subsection (8) of this section until the emergency is abated.

(b) Alerting employees.

(i) Where there is the possibility of employee exposure to AN in excess of the ceiling limit due to the occurrence of an emergency, a general alarm shall be installed and maintained to promptly alert employees of such occurrences.

(ii) Employees not engaged in correcting the emergency shall be evacuated from the area and shall not be permitted to return until the emergency is abated.

(10) Protective clothing and equipment.

(a) Provision and use. Where eye or skin contact with liquid AN or PAN may occur, the employer shall provide at no cost to the employee, and assure that employees wear, appropriate protective clothing or other equipment in accordance with WAC 296-24-07501 and 296-24-07801 to protect any area of the body which may come in contact with liquid AN or PAN.

(b) Cleaning and replacement.

(i) The employer shall clean, launder, maintain, or replace protective clothing and equipment required by this subsection, as needed to maintain their effectiveness. In addition, the employer shall provide clean protective clothing and equipment at least weekly to each affected employee.

(ii) The employer shall assure that impermeable protective clothing which contacts or is likely to have contacted liquid AN shall be decontaminated before being removed by the employee.

(iii) The employer shall assure that AN- or PAN-contaminated protective clothing and equipment is placed and stored in closable containers which prevent dispersion of the AN or PAN outside the container.

(iv) The employer shall assure that an employee whose nonimpermeable clothing becomes wetted with liquid AN shall immediately remove that clothing and proceed to shower. The clothing shall be decontaminated before it is removed from the regulated area.

(v) The employer shall assure that no employee removes AN- or PAN-contaminated protective equipment or clothing from the change room, except for those employees authorized to do so for the purpose of laundering, maintenance, or disposal.

(vi) The employer shall inform any person who launders or cleans AN- or PAN-contaminated protective clothing or equipment of the potentially harmful effects of exposure to AN.

(vii) The employer shall assure that containers of contaminated protective clothing and equipment which are to be removed from the workplace for any reason are labeled in accordance with subsection (16)(c)(ii) of this section, and that such labels remain affixed when such containers leave the employer's workplace.

(11) Housekeeping.

(a) All surfaces shall be maintained free of accumulations of liquid AN and of PAN.

(b) For operations involving liquid AN, the employer shall institute a program for detecting leaks and spills of liquid AN, including regular visual inspections.

(c) Where spills of liquid AN are detected, the employer shall assure that surfaces contacted by the liquid AN are decontaminated. Employees not engaged in decontamination activities shall leave the area of the spill, and shall not be permitted in the area until decontamination is completed.

(d) Liquids. Where AN is present in a liquid form, or as a resultant vapor, all containers or vessels containing AN shall be enclosed to the maximum extent feasible and tightly covered when not in use, with adequate provision made to avoid any resulting potential explosion hazard.

(e) Surfaces.

(i) Dry sweeping and the use of compressed air for the cleaning of floors and other surfaces where AN and PAN are found is prohibited.

(ii) Where vacuuming methods are selected, either portable units or a permanent system may be used.

(A) If a portable unit is selected, the exhaust shall be attached to the general workplace exhaust ventilation system or collected within the vacuum unit, equipped with high efficiency filters or other appropriate means of contaminant removal, so that AN is not reintroduced into the workplace air; and

(B) Portable vacuum units used to collect AN may not be used for other cleaning purposes and shall be labeled as prescribed by subsection (16)(c)(ii) of this section.

(iii) Cleaning of floors and other contaminated surfaces may not be performed by washing down with a hose, unless a fine spray has first been laid down.

(12) Waste disposal. AN and PAN waste, scrap, debris, bags, containers or equipment, shall be disposed of in sealed bags or other closed containers which prevent dispersion of AN outside the container, and labeled as prescribed in subsection (16)(c)(ii) of this section.

(13) Hygiene facilities and practices. Where employees are exposed to airborne concentrations of AN above the permissible exposure limits, or where employees are required to wear protective clothing or equipment pursuant to subsection (11) of this section, or where otherwise found to be appropriate, the facilities required by WAC 296-24-12009 shall be provided by the employer for the use of those employees, and the employer shall assure that the employees use the facilities provided. In addition, the following facilities or requirements are mandated.

(a) Change rooms. The employer shall provide clean change rooms in accordance with WAC 296-24-12011.

(b) Showers.

(i) The employer shall provide shower facilities in accordance with WAC 296-24-12009(3).

(ii) In addition, the employer shall also assure that employees exposed to liquid AN and PAN shower at the end of the work shift.

(iii) The employer shall assure that, in the event of skin or eye exposure to liquid AN, the affected employee shall shower immediately to minimize the danger of skin absorption.

(c) Lunchrooms.

(i) Whenever food or beverages are consumed in the workplace, the employer shall provide lunchroom facilities which have a temperature controlled, positive pressure, filtered air supply, and which are readily accessible to employees exposed to AN above the permissible exposure limits.

(ii) In addition, the employer shall also assure that employees exposed to AN above the permissible exposure limits wash their hands and face prior to eating.

(14) Medical surveillance.

(a) General.

(i) The employer shall institute a program of medical surveillance for each employee who is or will be exposed to AN above the action level. The employer shall provide each such employee with an opportunity for medical examinations and tests in accordance with this subsection.

(ii) The employer shall assure that all medical examinations and procedures are performed by or under the supervision of a licensed physician, and shall be provided without cost to the employee.

(b) Initial examinations. At the time of initial assignment, or upon institution of the medical surveillance program, the employer shall provide each affected employee an opportunity for a medical examination, including at least the following elements:

(i) A work history and medical history with special attention to skin, respiratory, and gastrointestinal systems, and those non-specific symptoms, such as headache, nausea, vomiting, dizziness, weakness, or other central nervous system dysfunctions that may be associated with acute or chronic exposure to AN.

(ii) A physical examination giving particular attention to central nervous system, gastrointestinal system, respiratory system, skin and thyroid.

(iii) A 14" x 17" posteroanterior chest x-ray.

(iv) Further tests of the intestinal tract, including fecal occult blood screening, and proctosigmoidoscopy, for all workers 40 years of age or older, and for any other affected

employees for whom, in the opinion of the physician, such testing is appropriate.

(c) Periodic examinations.

(i) The employer shall provide examinations specified in this subsection at least annually for all employees specified in subsection (14)(a) of this section.

(ii) If an employee has not had the examinations prescribed in subsection (14)(b) of this section within six months of termination of employment, the employer shall make such examination available to the employee upon such termination.

(d) Additional examinations. If the employee for any reason develops signs or symptoms commonly associated with exposure to AN, the employer shall provide appropriate examination and emergency medical treatment.

(e) Information provided to the physician. The employer shall provide the following information to the examining physician:

(i) A copy of this standard and its appendices;

(ii) A description of the affected employee's duties as they relate to the employee's exposure;

(iii) The employee's representative exposure level;

(iv) The employee's anticipated or estimated exposure level (for replacement examinations or in cases of exposure due to an emergency);

(v) A description of any personal protective equipment used or to be used; and

(vi) Information from previous medical examinations of the affected employee, which is not otherwise available to the examining physician.

(f) Physician's written opinion.

(i) The employer shall obtain a written opinion from the examining physician which shall include:

(A) The results of the medical examination and test performed;

(B) The physician's opinion as to whether the employee has any detected medical condition which would place the employee at an increased risk of material impairment of the employee's health from exposure to AN;

(C) Any recommended limitations upon the employee's exposure to AN or upon the use of protective clothing and equipment such as respirators; and

(D) A statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions which require further examination or treatment.

(ii) The employer shall instruct the physician not to reveal in the written opinion specific findings or diagnoses unrelated to occupational exposure to AN.

(iii) The employer shall provide a copy of the written opinion to the affected employee.

(15) Employee information and training.

(a) Training program.

(i) The employer shall institute a training program for all employees where there is occupational exposure to AN and shall assure their participation in the training program.

(ii) The training program shall be provided at the time of initial assignment, or upon institution of the training program, and at least annually thereafter, and the employer shall assure that each employee is informed of the following:

C; (A) The information contained in Appendices A, B and

(B) The quantity, location, manner of use, release or storage of AN and the specific nature of operations which could result in exposure to AN, as well as any necessary protective steps;

(C) The purpose, proper use, and limitations of respirators and protective clothing;

(D) The purpose and a description of the medical surveillance program required by subsection (14) of this section;

(E) The emergency procedures developed, as required by subsection (9) of this section; and

(F) The engineering and work practice controls, their function and the employee's relationship thereto; and

(G) A review of this standard.

(b) Access to training materials.

(i) The employer shall make a copy of this standard and its appendices readily available to all affected employees.

(ii) The employer shall provide, upon request, all materials relating to the employee information and training program to the director.

(16) Signs and labels.

(a) General.

(i) The employer may use labels or signs required by other statutes, regulations, or ordinances in addition to, or in combination with, signs and labels required by this subsection.

(ii) The employer shall assure that no statement appears on or near any sign or label, required by this subsection, which contradicts or detracts from such effects of the required sign or label.

(b) Signs.

(i) The employer shall post signs to clearly indicate all workplaces where AN concentrations exceed the permissible exposure limits. The signs shall bear the following legend:

DANGER  
ACRYLONITRILE (AN)  
CANCER HAZARD  
AUTHORIZED PERSONNEL ONLY  
RESPIRATORS REQUIRED

(ii) The employer shall assure that signs required by this subsection are illuminated and cleaned as necessary so that the legend is readily visible.

(c) Labels.

(i) The employer shall assure that precautionary labels are affixed to all containers of AN, and to containers of PAN and products fabricated from PAN, except for those materials for which objective data is provided as to the conditions specified in subsection (1)(b) of this section. The employer shall assure that the labels remain affixed when the AN or PAN are sold, distributed or otherwise leave the employer's workplace.

(ii) The employer shall assure that the precautionary labels required by this subsection are readily visible and legible. The labels shall bear the following legend:

DANGER  
CONTAINS ACRYLONITRILE (AN)  
CANCER HAZARD

(17) Recordkeeping.

(a) Objective data for exempted operations.

(i) Where the processing, use, and handling of products fabricated from PAN are exempted pursuant to subsection (1)(b) of this section, the employer shall establish and maintain an accurate record of objective data reasonably relied upon in support of the exemption.

(ii) This record shall include the following information:

(A) The relevant condition in subsection (1)(b) upon which exemption is based;

(B) The source of the objective data;

(C) The testing protocol, results of testing, and/or analysis of the material for the release of AN;

(D) A description of the operation exempted and how the data supports the exemption; and

(E) Other data relevant to the operations, materials, and processing covered by the exemption.

(iii) The employer shall maintain this record for the duration of the employer's reliance upon such objective data.

(b) Exposure monitoring.

(i) The employer shall establish and maintain an accurate record of all monitoring required by subsection (5) of this section.

(ii) This record shall include:

(A) The dates, number, duration, and results of each of the samples taken, including a description of the sampling procedure used to determine representative employee exposure;

(B) A description of the sampling and analytical methods used and the data relied upon to establish that the methods used meet the accuracy and precision requirements of subsection (5)(f) of this section;

(C) Type of respiratory protective devices worn, if any; and

(D) Name, social security number and job classification of the employee monitored and of all other employees whose exposure the measurement is intended to represent.

(iii) The employer shall maintain this record for at least 40 years or the duration of employment plus 20 years, whichever is longer.

(c) Medical surveillance.

(i) The employer shall establish and maintain an accurate record for each employee subject to medical surveillance as required by subsection (14) of this section.

(ii) This record shall include:

(A) A copy of the physicians' written opinions;

(B) Any employee medical complaints related to exposure to AN;

(C) A copy of the information provided to the physician as required by subsection (14)(f) of this section; and

(D) A copy of the employee's medical and work history.

(iii) The employer shall assure that this record be maintained for at least forty years or for the duration of employment plus twenty years, whichever is longer.

(d) Availability.

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(i) The employer shall assure that all records required to be maintained by this section be made available upon request to the director for examination and copying.

(ii) Records required by subdivisions (a) through (c) of this subsection shall be provided upon request to employees, designated representatives, and the assistant director in accordance with WAC 296-62-05201 through 296-62-05209 and 296-62-05213 through 296-62-05217. Records required by subdivision (a) of this section shall be provided in the same manner as exposure monitoring records.

(iii) The employer shall assure that employee medical records required to be maintained by this section, be made available, upon request, for examination and copying, to the affected employee or former employee, or to a physician designated by the affected employee, former employee, or designated representative.

(e) Transfer of records.

(i) Whenever the employer ceases to do business, the successor employer shall receive and retain all records required to be maintained by this section.

(ii) Whenever the employer ceases to do business and there is no successor employer to receive and retain the records for the prescribed period, these records shall be transmitted to the director.

(iii) At the expiration of the retention period for the records required to be maintained pursuant to this section, the employer shall transmit these records to the director.

(iv) The employer shall also comply with any additional requirements involving transfer of records set forth in WAC 296-62-05215.

(18) Observation of monitoring.

(a) Employee observation. The employer shall provide affected employees, or their designated representatives, an opportunity to observe any monitoring of employee exposure to AN conducted pursuant to subsection (5) of this section.

(b) Observation procedures.

(i) Whenever observation of the monitoring of employee exposure to AN requires entry into an area where the use of protective clothing or equipment is required, the employer shall provide the observer with personal protective clothing or equipment required to be worn by employees working in the area, assure the use of such clothing and equipment, and require the observer to comply with all other applicable safety and health procedures.

(ii) Without interfering with the monitoring, observers shall be entitled:

(A) To receive an explanation of the measurement procedures;

(B) To observe all steps related to the measurement of airborne concentrations of AN performed at the place of exposure; and

(C) To record the results obtained.

(19) ~~(Effective date. This standard will become effective July 28, 1978.~~

~~(20))~~ Appendices. The information contained in the appendices is not intended, by itself, to create any additional obligation not otherwise imposed, or to detract from any obligation.

**AMENDATORY SECTION** (Amending Order 94-07, filed 7/20/94, effective 9/20/94)

**WAC 296-62-07337 Appendix A—Substance safety data sheet for acrylonitrile.** (1) Substance identification.

(a) Substance: Acrylonitrile (CH<sub>2</sub> CHCN).

(b) Synonyms: Propenenitrile; vinyl cyanide; cyanoethylene; AN; VCN; acylon; carbacryl; fumigian; ventox.

(c) Acrylonitrile can be found as a liquid or vapor, and can also be found in polymer resins, rubbers, plastics, polyols, and other polymers having acrylonitrile as a raw or intermediate material.

(d) AN is used in the manufacture of acrylic and modiacrylic fibers, acrylic plastics and resins, speciality polymers, nitrile rubbers, and other organic chemicals. It has also been used as a fumigant.

(e) Appearance and odor: Colorless to pale yellow liquid with a pungent odor which can only be detected at concentrations above the permissible exposure level, in a range of 13-19 parts AN per million parts of air (13-19 ppm).

(f) Permissible exposure: Exposure may not exceed either:

(i) Two parts AN per million parts of air (2 ppm) averaged over the eight-hour workday; or

(ii) Ten parts AN per million parts of air (10 ppm) averaged over any fifteen-minute period in the workday.

(iii) In addition, skin and eye contact with liquid AN is prohibited.

(2) Health hazard data.

(a) Acrylonitrile can affect your body if you inhale the vapor (breathing), if it comes in contact with your eyes or skin, or if you swallow it. It may enter your body through your skin.

(b) Effects of overexposure:

(i) Short-term exposure: Acrylonitrile can cause eye irritation, nausea, vomiting, headache, sneezing, weakness, and light-headedness. At high concentrations, the effects of exposure may go on to loss of consciousness and death. When acrylonitrile is held in contact with the skin after being absorbed into shoe leather or clothing, it may produce blisters following several hours of no apparent effect. Unless the shoes or clothing are removed immediately and the area washed, blistering will occur. Usually there is no pain or inflammation associated with blister formation.

(ii) Long-term exposure: Acrylonitrile has been shown to cause cancer in laboratory animals and has been associated with higher incidences of cancer in humans. Repeated or prolonged exposure of the skin to acrylonitrile may produce irritation and dermatitis.

(iii) Reporting signs and symptoms: You should inform your employer if you develop any signs or symptoms and suspect they are caused by exposure to acrylonitrile.

(3) Emergency first aid procedures.

(a) Eye exposure: If acrylonitrile gets into your eyes, wash your eyes immediately with large amounts of water, lifting the lower and upper lids occasionally. Get medical attention immediately. Contact lenses should not be worn when working with this chemical.

(b) Skin exposure: If acrylonitrile gets on your skin, immediately wash the contaminated skin with water. If acry-



lonitrile soaks through your clothing, especially your shoes, remove the clothing immediately and wash the skin with water. If symptoms occur after washing, get medical attention immediately. Thoroughly wash the clothing before reusing. Contaminated leather shoes or other leather articles should be discarded.

(c) Inhalation: If you or any other person breathes in large amounts of acrylonitrile, move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. Keep the affected person warm and at rest. Get medical attention as soon as possible.

(d) Swallowing: When acrylonitrile has been swallowed, give the person large quantities of water immediately. After the water has been swallowed, try to get the person to vomit by having him touch the back of his throat with his finger. Do not make an unconscious person vomit. Get medical attention immediately.

(e) Rescue: Move the affected person from the hazardous exposure. If the exposed person has been overcome, notify someone else and put into effect the established emergency procedures. Do not become a casualty yourself. Understand your emergency rescue procedures and know the location of the emergency equipment before the need arises.

(f) Special first aid procedures: First aid kits containing an adequate supply (at least two dozen) of amyl nitrite pearls, each containing 0.3 ml, should be maintained at each site where acrylonitrile is used. When a person is suspected of receiving an overexposure to acrylonitrile, immediately remove that person from the contaminated area using established rescue procedures. Contaminated clothing must be removed and the acrylonitrile washed from the skin immediately. Artificial respiration should be started at once if breathing has stopped. If the person is unconscious, amyl nitrite may be used as an antidote by a properly trained individual in accordance with established emergency procedures. Medical aid should be obtained immediately.

#### (4) Respirators and protective clothing.

(a) Respirators: ((+)) You may be required to wear a respirator for nonroutine activities, in emergencies, while your employer is in the process of reducing acrylonitrile exposures through engineering controls, and in areas where engineering controls are not feasible. If respirators are worn, they must have a (Mine Safety and Health Administration (MSHA) or MESA) or National Institute for Occupational Safety and Health (NIOSH) label of approval) label issued by the National Institute for Occupational Safety and Health under the provisions of 42 CFR part 84 stating that the respirators have been certified for use with organic vapors. ~~((Older respirators may have a Bureau of Mines approval label.))~~ For effective protection, respirators must fit your face and head snugly. Respirators should not be loosened or removed in work situations where their use is required.

~~((ii) Acrylonitrile does not have a detectable odor except at levels above the permissible exposure limits. Do not depend on odor to warn you when a respirator cartridge or canister is exhausted. Cartridges or canisters must be changed daily or before the end of service life, whichever comes first. Reuse of these may allow acrylonitrile to gradually filter through the cartridge and cause exposures which you cannot detect by odor. If you can smell acrylonitrile while wearing a~~

~~respirator, proceed immediately to fresh air. If you experience difficulty breathing while wearing a respirator, tell your employer.))~~

(b) Supplied-air suits: In some work situations, the wearing of supplied-air suits may be necessary. Your employer must instruct you in their proper use and operation.

#### (c) Protective clothing:

(i) You must wear impervious clothing, gloves, face shield, or other appropriate protective clothing to prevent skin contact with liquid acrylonitrile. Where protective clothing is required, your employer is required to provide clean garments to you as necessary to assume that the clothing protects you adequately.

(ii) Replace or repair impervious clothing that has developed leaks.

(iii) Acrylonitrile should never be allowed to remain on the skin. Clothing and shoes which are not impervious to acrylonitrile should not be allowed to become contaminated with acrylonitrile, and if they do the clothing and shoes should be promptly removed and decontaminated. The clothing should be laundered or discarded after the AN is removed. Once acrylonitrile penetrates shoes or other leather articles, they should not be worn again.

(d) Eye protection: You must wear splashproof safety goggles in areas where liquid acrylonitrile may contact your eyes. In addition, contact lenses should not be worn in areas where eye contact with acrylonitrile can occur.

#### (5) Precautions for safe use, handling, and storage.

(a) Acrylonitrile is a flammable liquid, and its vapors can easily form explosive mixtures in air.

(b) Acrylonitrile must be stored in tightly closed containers in a cool, well-ventilated area, away from heat, sparks, flames, strong oxidizers (especially bromine), strong bases, copper, copper alloys, ammonia, and amines.

(c) Sources of ignition such as smoking and open flames are prohibited wherever acrylonitrile is handled, used, or stored in a manner that could create a potential fire or explosion hazard.

(d) You should use nonsparking tools when opening or closing metal containers of acrylonitrile, and containers must be bonded and grounded when pouring or transferring liquid acrylonitrile.

(e) You must immediately remove any nonimpervious clothing that becomes wetted with acrylonitrile, and this clothing must not be reworn until the acrylonitrile is removed from the clothing.

(f) Impervious clothing wet with liquid acrylonitrile can be easily ignited. This clothing must be washed down with water before you remove it.

(g) If your skin becomes wet with liquid acrylonitrile, you must promptly and thoroughly wash or shower with soap or mild detergent to remove any acrylonitrile from your skin.

(h) You must not keep food, beverages, or smoking materials, nor are you permitted to eat or smoke in regulated areas where acrylonitrile concentrations are above the permissible exposure limits.

(i) If you contact liquid acrylonitrile, you must wash your hands thoroughly with soap or mild detergent and water before eating, smoking, or using toilet facilities.

(j) Fire extinguishers and quick drenching facilities must be readily available, and you should know where they are and how to operate them.

(k) Ask your supervisor where acrylonitrile is used in your work area and for any additional plant safety and health rules.

(6) Access to information.

(a) Each year, your employer is required to inform you of the information contained in this Substance Safety Data Sheet for acrylonitrile. In addition, your employer must instruct you in the proper work practices for using acrylonitrile, emergency procedures, and the correct use of protective equipment.

(b) Your employer is required to determine whether you are being exposed to acrylonitrile. You or your representative has the right to observe employee measurements and to record the results obtained. Your employer is required to inform you of your exposure. If your employer determines that you are being overexposed, he or she is required to inform you of the actions which are being taken to reduce your exposure to within permissible exposure limits.

(c) Your employer is required to keep records of your exposures and medical examinations. These records must be kept by the employer for at least forty years or for the period of your employment plus twenty years, whichever is longer.

(d) Your employer is required to release your exposure and medical records to you or your representative upon your request.

**AMENDATORY SECTION** (Amending WSR 96-09-030, filed 4/10/96, effective 6/1/96)

**WAC 296-62-07342 1,2-Dibromo-3-chloropropane.**

(1) Scope and application.

(a) This section applies to occupational exposure to 1,2-dibromo-3-chloropropane (DBCP).

(b) This section does not apply to:

(i) Exposure to DBCP which results solely from the application and use of DBCP as a pesticide; or

(ii) The storage, transportation, distribution or sale of DBCP in intact containers sealed in such a manner as to prevent exposure to DBCP vapors or liquids, except for the requirements of subsections (11), (16) and (17) of this section.

(2) Definitions applicable to this section:

(a) "Authorized person" - any person specifically authorized by the employer and whose duties require the person to be present in areas where DBCP is present; and any person entering this area as a designated representative of employees exercising an opportunity to observe employee exposure monitoring.

(b) "DBCP" - 1,2-dibromo-3-chloropropane, Chemical Abstracts Service Registry Number 96-12-8, and includes all forms of DBCP.

(c) "Director" - the director of labor and industries, or his authorized representative.

(d) "Emergency" - any occurrence such as, but not limited to equipment failure, rupture of containers, or failure of control equipment which may, or does, result in unexpected release of DBCP.

(3) Permissible exposure limits.

(a) Inhalation.

(i) Time-weighted average limit (TWA). The employer shall assure that no employee is exposed to an airborne concentration in excess of 1 part DBCP per billion part of air (ppb) as an eight-hour time-weighted average.

(ii) Ceiling limit. The employer shall assure that no employee is exposed to an airborne concentration in excess of 5 parts DBCP per billion parts of air (ppb) as averaged over any 15 minutes during the working day.

(b) Dermal and eye exposure. The employer shall assure that no employee is exposed to eye or skin contact with DBCP.

(4) Notification of use. Within ten days of the effective date of this section or within ten days following the introduction of DBCP into the workplace, every employer who has a workplace where DBCP is present shall report the following information to the director for each such workplace:

(a) The address and location of each workplace in which DBCP is present;

(b) A brief description of each process or operation which may result in employee exposure to DBCP;

(c) The number of employees engaged in each process or operation who may be exposed to DBCP and an estimate of the frequency and degree of exposure that occurs;

(d) A brief description of the employer's safety and health program as it relates to limitation of employee exposure to DBCP.

(5) Regulated areas. The employer shall establish, within each place of employment, regulated areas wherever DBCP concentrations are in excess of the permissible exposure limit.

(a) The employer shall limit access to regulated areas to authorized persons.

(b) All employees entering or working in a regulated area shall wear respiratory protection in accordance with Table I.

(6) Exposure monitoring.

(a) General. Determinations of airborne exposure levels shall be made from air samples that are representative of each employee's exposure to DBCP over an eight-hour period. (For the purposes of this section, employee exposure is that exposure which would occur if the employee were not using a respirator.)

(b) Initial. Each employer who has a place of employment in which DBCP is present shall monitor each workplace and work operation to accurately determine the airborne concentrations of DBCP to which employees may be exposed.

(c) Frequency.

(i) If the monitoring required by this section reveals employee exposures to be below the permissible exposure limits, the employer shall repeat these determinations at least quarterly.

(ii) If the monitoring required by this section reveals employee exposure to be in excess of the permissible exposure limits, the employer shall repeat these determinations for each such employee at least monthly. The employer shall continue these monthly determinations until at least two consecutive measurements, taken at least seven days apart, are

below the permissible exposure limit, thereafter the employer shall monitor at least quarterly.

(d) Additional. Whenever there has been a production process, control or personnel change which may result in any new or additional exposure to DBCP, or whenever the employer has any other reason to suspect a change which may result in new or additional exposure to DBCP, additional monitoring which complies with subsection (6) shall be conducted.

(e) Employee notification.

(i) Within five working days after the receipt of monitoring results, the employer shall notify each employee in writing of results which represent the employee's exposure.

(ii) Whenever the results indicate that employee exposure exceeds the permissible exposure limit, the employer shall include in the written notice a statement that the permissible exposure limit was exceeded and a description of the corrective action being taken to reduce exposure to or below the permissible exposure limits.

(f) Accuracy of measurement. The method of measurement shall be accurate, to a confidence level of 95 percent, to within plus or minus 25 percent for concentrations of DBCP at or above the permissible exposure limits.

(7) Methods of compliance.

(a) Priority of compliance methods. The employer shall institute engineering and work practice controls to reduce and maintain employee exposures to DBCP at or below the permissible exposure limit, except to the extent that the employer establishes that such controls are not feasible. Where feasible engineering and work practice controls are not sufficient to reduce employee exposures to within the permissible exposure limit, the employer shall nonetheless use them to reduce exposures to the lowest level achievable by these controls, and shall supplement them by use of respiratory protection.

(b) Compliance program.

(i) The employer shall establish and implement a written program to reduce employee exposure to DBCP to or below the permissible exposure limit solely by means of engineering and work practice controls as required by this section.

(ii) The written program shall include a detailed schedule for development and implementation of the engineering and work practice controls. These plans shall be revised at least every six months to reflect the current status of the program.

(iii) Written plans for these compliance programs shall be submitted upon request to the director, and shall be available at the worksite for examination and copying by the director, and any affected employee or designated representative of employees.

(iv) The employer shall institute and maintain at least the controls described in his most recent written compliance program.

(8) ~~((Respirators))~~ Respiratory protection.

(a) General. ~~((Where respiratory protection is required under this section, the employer shall select, provide and assure the proper use of respirators.~~

~~((b) Respirators shall be used in the following circumstances))~~ For employees who are required to use respirators under this section, the employer must provide respirators that

comply with the requirements of this subsection. Respirators must be used during:

(i) ~~((During the))~~ Period necessary to install or implement feasible engineering and work-practice controls; ~~((or))~~

(ii) ~~((During))~~ Maintenance and repair activities ~~((that))~~ for which engineering and work-practice controls are not feasible; ~~((or))~~

(iii) ~~((In work situations where))~~ Work operations for which feasible engineering and work-practice controls are not yet sufficient to reduce employee exposure to or below the permissible exposure limit; ~~((or))~~

(iv) ~~((In))~~ Emergencies.

(b) The employer must establish, implement, and maintain a respiratory protection program as required by chapter 296-62 WAC, Part E (except WAC 296-62-07130(1) and 296-62-07150 through 296-62-07156).

(9) ~~((Respirator selection:~~

~~((a) Where respirators are required under this section, the employer shall select and provide, at no cost to the employee, the appropriate respirator from Table I of this section and shall assure that the employee uses the respirator provided.~~

~~((b) The employer shall select respirators from among those approved by the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR Part 11.))~~ (c) Respirator selection. The employer must select the appropriate respirator from Table I of this subsection.

TABLE I

RESPIRATORY PROTECTION FOR DBCP

Concentration Not Greater Than	Respirator Type
(a) 10 ppb:	(i) Any supplied-air respirator.
	(ii) Any self-contained breathing apparatus.
(b) 50 ppb:	(i) Any supplied-air respirator with full facepiece, helmet or hood.
	(ii) Any self-contained breathing apparatus with full facepiece.
(c) 250 ppb:	(i) A Type C supplied-air respirator operated in pressure-demand or other positive pressure or continuous flow mode.
(d) 500 ppb:	(i) A Type C supplied-air respirator with full facepiece operated in pressure-demand mode with full facepiece.

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**TABLE I**  
RESPIRATORY PROTECTION FOR DBCP

Concentration Not Greater Than	Respirator Type
(e) Greater than 500 ppb or entry into unknown concentrations:	(i) A combination respirator which includes a Type C supplied-air respirator with full facepiece operated in pressure-demand mode and an auxiliary self-contained breathing apparatus. (ii) A self-contained breathing apparatus with full facepiece operated in pressure-demand mode.
(f) Firefighting:	(i) A self-contained breathing apparatus with full facepiece operated in pressure-demand mode.

~~((e) Respirator program:~~

~~(i) The employer shall institute a respiratory protection program in accordance with WAC 296-62-071.~~

~~(ii) Employees who wear respirators shall be allowed to wash their face and respirator facepieces to prevent potential skin irritation associated with respirator use.)) Reserved.~~

(10) Emergency situations.

(a) Written plans.

(i) A written plan for emergency situations shall be developed for each workplace in which DBCP is present.

(ii) Appropriate portions of the plan shall be implemented in the event of an emergency.

(b) Employees engaged in correcting conditions shall be equipped as required in subsection (11) of this section until the emergency is abated.

(c) Evacuation. Employees not engaged in correcting the emergency shall be removed and restricted from the area and normal operations in the affected area shall not be resumed until the emergency is abated.

(d) Alerting employees. Where there is a possibility of employee exposure to DBCP due to the occurrence of an emergency, a general alarm shall be installed and maintained to promptly alert employees of such occurrences.

(e) Medical surveillance. For any employee exposed to DBCP in an emergency situation, the employer shall provide medical surveillance in accordance with subsection (14) of this section.

(f) Exposure monitoring.

(i) Following an emergency, the employer shall conduct monitoring which complies with subsection (6) of this section.

(ii) In workplaces not normally subject to periodic monitoring, the employer may terminate monitoring when two consecutive measurements indicate exposures below the permissible exposure limit.

(11) Protective clothing and equipment.

(a) Provision and use. Where eye or skin contact with liquid or solid DBCP may occur, employers shall provide at no cost to the employee, and assure that employees wear impermeable protective clothing and equipment in accordance with WAC 296-24-07501 and 296-24-07801 to protect the area of the body which may come in contact with DBCP.

(b) Cleaning and replacement.

(i) The employer shall clean, launder, maintain, or replace protective clothing and equipment required by this subsection to maintain their effectiveness. In addition, the employer shall provide clean protective clothing and equipment at least daily to each affected employee.

(ii) Removal and storage.

(A) The employer shall assure that employees remove DBCP contaminated work clothing only in change rooms provided in accordance with subsection (13) of this section.

(B) The employer shall assure that employees promptly remove any protective clothing and equipment which becomes contaminated with DBCP-containing liquids and solids. This clothing shall not be reworn until the DBCP has been removed from the clothing or equipment.

(C) The employer shall assure that no employee takes DBCP contaminated protective devices and work clothing out of the change room, except those employees authorized to do so for the purpose of laundering, maintenance, or disposal.

(iii) The employer shall assure that DBCP-contaminated protective work clothing and equipment is placed and stored in closed containers which prevent dispersion of DBCP outside the container.

(iv) The employer shall inform any person who launders or cleans DBCP-contaminated protective clothing or equipment of the potentially harmful effects of exposure to DBCP.

(v) The employer shall assure that the containers of contaminated protective clothing and equipment which are to be removed from the workplace for any reason are labeled in accordance with subsection (16)(c) of this section.

(vi) The employer shall prohibit the removal of DBCP from protective clothing and equipment by blowing or shaking.

(12) Housekeeping.

(a) Surfaces.

(i) All surfaces shall be maintained free of accumulations of DBCP.

(ii) Dry sweeping and the use of air for the cleaning of floors and other surfaces where DBCP dust or liquids are found is prohibited.

(iii) Where vacuuming methods are selected, either portable units or a permanent system may be used.

(A) If a portable unit is selected, the exhaust shall be attached to the general workplace exhaust ventilation system or collected within the vacuum unit, equipped with high efficiency filters or other appropriate means of contaminant removal, so that DBCP is not reintroduced into the workplace air; and

(B) Portable vacuum units used to collect DBCP may not be used for other cleaning purposes and shall be labeled as prescribed by subsection (16)(c) of this section.

(iv) Cleaning of floors and other contaminated surfaces may not be performed by washing down with a hose, unless a fine spray has first been laid down.

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(b) Liquids. Where DBCP is present in a liquid form, or as a resultant vapor, all containers or vessels containing DBCP shall be enclosed to the maximum extent feasible and tightly covered when not in use.

(c) Waste disposal. DBCP waste, scrap, debris, bags, containers or equipment, shall be disposed in sealed bags or other closed containers which prevent dispersion of DBCP outside the container.

(13) Hygiene facilities and practices.

(a) Change rooms. The employer shall provide clean change rooms equipped with storage facilities for street clothes and separate storage facilities for protective clothing and equipment whenever employees are required to wear protective clothing and equipment in accordance with subsections (8), (9) and (11) of this section.

(b) Showers.

(i) The employer shall assure that employees working in the regulated area shower at the end of the work shift.

(ii) The employer shall assure that employees whose skin becomes contaminated with DBCP-containing liquids or solids immediately wash or shower to remove any DBCP from the skin.

(iii) The employer shall provide shower facilities in accordance with WAC 296-24-12009 (3)(c).

(c) Lunchrooms. The employer shall provide lunchroom facilities which have a temperature controlled, positive pressure, filtered air supply, and which are readily accessible to employees working in regulated areas.

(d) Lavatories.

(i) The employer shall assure that employees working in the regulated area remove protective clothing and wash their hands and face prior to eating.

(ii) The employer shall provide a sufficient number of lavatory facilities which comply with WAC 296-24-12009 (1) and (2).

(e) Prohibition of activities in regulated areas. The employer shall assure that, in regulated areas, food or beverages are not present or consumed, smoking products and implements are not present or used, and cosmetics are not present or applied.

(14) Medical surveillance.

(a) General. The employer shall institute a program of medical surveillance for each employee who is or will be exposed, without regard to the use of respirators, to DBCP. The employer shall provide each such employee with an opportunity for medical examinations and tests in accordance with this subsection. All medical examinations and procedures shall be performed by or under the supervision of a licensed physician, and shall be provided without cost to the employee.

(b) Frequency and content. At the time of initial assignment, annually thereafter, and whenever exposure to DBCP occurs, the employer shall provide a medical examination for employees who work in regulated areas, which includes at least the following:

(i) A complete medical and occupational history with emphasis on reproductive history.

(ii) A complete physical examination with emphasis on the genito-urinary tract, testicle size, and body habitus including the following tests:

- (A) Sperm count;
- (B) Complete urinalysis (U/A);
- (C) Complete blood count; and
- (D) Thyroid profile.

(iii) A serum specimen shall be obtained and the following determinations made by radioimmunoassay techniques utilizing National Institutes of Health (NIH) specific antigen or one of equivalent sensitivity:

- (A) Serum multiphasic analysis (SMA 12);
- (B) Serum follicle stimulating hormone (FSH);
- (C) Serum luteinizing hormone (LH); and
- (D) Serum estrogen (females).

(iv) Any other tests deemed appropriate by the examining physician.

(c) Additional examinations. If the employee for any reason develops signs or symptoms commonly associated with exposure to DBCP, the employer shall provide the employee with a medical examination which shall include those elements considered appropriate by the examining physician.

(d) Information provided to the physician. The employer shall provide the following information to the examining physician:

- (i) A copy of this standard and its appendices;
- (ii) A description of the affected employee's duties as they relate to the employee's exposure;
- (iii) The level of DBCP to which the employee is exposed; and
- (iv) A description of any personal protective equipment used or to be used.

(e) Physician's written opinion.

(i) For each examination under this section, the employer shall obtain and provide the employee with a written opinion from the examining physician which shall include:

- (A) The results of the medical tests performed;
- (B) The physician's opinion as to whether the employee has any detected medical condition which would place the employee at an increased risk of material impairment of health from exposure to DBCP;

(C) Any recommended limitations upon the employee's exposure to DBCP or upon the use of protective clothing and equipment such as respirators; and

(D) A statement that the employee was informed by the physician of the results of the medical examination, and any medical conditions which require further examination or treatment.

(ii) The employer shall instruct the physician not to reveal in the written opinion specific findings or diagnoses unrelated to occupational exposure to DBCP.

(iii) The employer shall provide a copy of the written opinion to the affected employee.

(f) Emergency situations. If the employee is exposed to DBCP in an emergency situation, the employer shall provide the employee with a sperm count test as soon as practicable, or, if the employee is unable to produce a semen specimen, the hormone tests contained in subsection (14)(b) of this section. The employer shall provide these same tests three months later.

(15) Employee information and training.

- (a) Training program.

(i) Within thirty days of the effective date of this standard, the employer shall institute a training program for all employees who may be exposed to DBCP and shall assure their participation in such training program.

(ii) The employer shall assure that each employee is informed of the following:

(A) The information contained in Appendices A, B and C;

(B) The quantity, location, manner of use, release or storage of DBCP and the specific nature of operations which could result in exposure to DBCP as well as any necessary protective steps;

(C) The purpose, proper use, ~~((and))~~ limitations ~~((of respirators))~~, and other training requirements covering respiratory protection as required in chapter 296-62 WAC, Part E;

(D) The purpose and description of the medical surveillance program required by subsection (14) of this section; and

(E) A review of this standard.

(b) Access to training materials.

(i) The employer shall make a copy of this standard and its appendices readily available to all affected employees.

(ii) The employer shall provide, upon request, all materials relating to the employee information and training program to the director.

(16) Signs and labels.

(a) General.

(i) The employer may use labels or signs required by other statutes, regulations, or ordinances in addition to or in combination with, signs and labels required by this subsection.

(ii) The employer shall assure that no statement appears on or near any sign or label required by this subsection which contradicts or detracts from the required sign or label.

(b) Signs.

(i) The employer shall post signs to clearly indicate all work areas where DBCP may be present. These signs shall bear the legend:

DANGER  
1,2-Dibromo-3-chloropropane

(Insert appropriate trade or common names)

CANCER HAZARD

AUTHORIZED PERSONNEL ONLY

(ii) Where airborne concentrations of DBCP exceed the permissible exposure limits, the signs shall bear the additional legend:

RESPIRATOR REQUIRED

(c) Labels.

(i) The employer shall assure that precautionary labels are affixed to all containers of DBCP and of products containing DBCP, and that the labels remain affixed when the DBCP or products containing DBCP are sold, distributed, or otherwise leave the employer's workplace. Where DBCP or products containing DBCP are sold, distributed or otherwise leave the employer's workplace bearing appropriate labels

required by EPA under the regulations in 40 CFR Part 162, the labels required by this subsection need not be affixed.

(ii) The employer shall assure that the precautionary labels required by this subsection are readily visible and legible. The labels shall bear the following legend:

DANGER  
1,2-Dibromo-3-chloropropane  
CANCER HAZARD

(17) Recordkeeping.

(a) Exposure monitoring.

(i) The employer shall establish and maintain an accurate record of all monitoring required by subsection (6) of this section.

(ii) This record shall include:

(A) The dates, number, duration and results of each of the samples taken, including a description of the sampling procedure used to determine representative employee exposure;

(B) A description of the sampling and analytical methods used;

(C) Type of respiratory worn, if any; and

(D) Name, Social Security number, and job classification of the employee monitored and of all other employees whose exposure the measurement is intended to represent.

(iii) The employer shall maintain this record for at least forty years or the duration of employment plus twenty years, whichever is longer.

(b) Medical surveillance.

(i) The employer shall establish and maintain an accurate record for each employee subject to medical surveillance required by subsection (14) of this section.

(ii) This record shall include:

(A) The name and Social Security number of the employee;

(B) A copy of the physician's written opinion;

(C) Any employee medical complaints related to exposure to DBCP;

(D) A copy of the information provided the physician as required by subsection (14)(c) of this section; and

(E) A copy of the employee's medical and work history.

(iii) The employer shall maintain this record for at least forty years or the duration of employment plus twenty years, whichever is longer.

(c) Availability.

(i) The employer shall assure that all records required to be maintained by this section be made available upon request to the director for examination and copying.

(ii) Employee exposure monitoring records and employee medical records required by this subsection shall be provided upon request to employees' designated representatives and the assistant director in accordance with WAC 296-62-05201 through 296-62-05209; and 296-62-05213 through 296-62-05217.

(d) Transfer of records.

(i) If the employer ceases to do business, the successor employer shall receive and retain all records required to be maintained by this section for the prescribed period.

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(ii) If the employer ceases to do business and there is no successor employer to receive and retain the records for the prescribed period, the employer shall transmit these records by mail to the director.

(iii) At the expiration of the retention period for the records required to be maintained under this section, the employer shall transmit these records by mail to the director.

(iv) The employer shall also comply with any additional requirements involving transfer of records set forth in WAC 296-62-05215.

(18) Observation of monitoring.

(a) Employee observation. The employer shall provide affected employees, or their designated representatives, an opportunity to observe any monitoring of employee exposure to DBCP conducted under subsection (6) of this section.

(b) Observation procedures.

(i) Whenever observation of the measuring or monitoring of employee exposure to DBCP requires entry into an area where the use of protective clothing or equipment is required, the employer shall provide the observer with personal protective clothing or equipment required to be worn by employees working in the area, assure the use of such clothing and equipment, and require the observer to comply with all other applicable safety and health procedures.

(ii) Without interfering with the monitoring or measurement, observers shall be entitled to:

(A) Receive an explanation of the measurement procedures;

(B) Observe all steps related to the measurement of airborne concentrations of DBCP performed at the place of exposure; and

(C) Record the results obtained.

(19) Effective date. This standard will become effective July 28, 1978.

(20) Appendices. The information contained in the appendices is not intended, by itself, to create any additional obligations not otherwise imposed or to detract from any existing obligation.

**AMENDATORY SECTION** (Amending Order 94-07, filed 7/20/94, effective 9/20/94)

**WAC 296-62-07343 Appendix A—Substance safety data sheet for DBCP.** (1) Substance identification.

(a) Synonyms and trades names: DBCP; Dibromochloropropane; Fumazone (Dow Chemical Company TM); Nemaflume; Nemaflon (Shell Chemical Co. TM); Nemaflon; BBC 12; and OS 1879.

(b) Permissible exposure:

(i) Airborne. 1 part DBCP vapor per billion parts of air (1 ppb); time-weighted average (TWA) for an eight-hour workday.

(ii) Dermal. Eye contact and skin contact with DBCP are prohibited.

(c) Appearance and odor: Technical grade DBCP is a dense yellow or amber liquid with a pungent odor. It may also appear in granular form, or blended in varying concentrations with other liquids.

(d) Uses: DBCP is used to control nematodes, very small worm-like plant parasites, on crops including cotton, soybeans, fruits, nuts, vegetables and ornamentals.

(2) Health hazard data.

(a) Routes of entry: Employees may be exposed:

(i) Through inhalation (breathing);

(ii) Through ingestion (swallowing);

(iii) Skin contact; and

(iv) Eye contact.

(b) Effects of exposure:

(i) Acute exposure. DBCP may cause drowsiness, irritation of the eyes, nose, throat and skin, nausea and vomiting. In addition, overexposure may cause damage to the lungs, liver or kidneys.

(ii) Chronic exposure. Prolonged or repeated exposure to DBCP has been shown to cause sterility in humans. It also has been shown to produce cancer and sterility in laboratory animals and has been determined to constitute an increased risk of cancer in people.

(iii) Reporting signs and symptoms. If you develop any of the above signs or symptoms that you think are caused by exposure to DBCP, you should inform your employer.

(3) Emergency first-aid procedures.

(a) Eye exposure. If DBCP liquid or dust containing DBCP gets into your eyes, wash your eyes immediately with large amounts of water, lifting the lower and upper lids occasionally. Get medical attention immediately. Contact lenses should not be worn when working with DBCP.

(b) Skin exposure. If DBCP liquids or dusts containing DBCP get on your skin, immediately wash using soap or mild detergent and water. If DBCP liquids or dusts containing DBCP penetrate through your clothing, remove the clothing immediately and wash. If irritation is present after washing get medical attention.

(c) Breathing. If you or any person breathe in large amounts of DBCP, move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. Do not use mouth-to-mouth. Keep the affected person warm and at rest. Get medical attention as soon as possible.

(d) Swallowing. When DBCP has been swallowed and the person is conscious, give the person large amounts of water immediately. After the water has been swallowed, try to get the person to vomit by having him touch the back of his throat with his finger. Do not make an unconscious person vomit. Get medical attention immediately.

(e) Rescue. Notify someone. Put into effect the established emergency rescue procedures. Know the locations of the emergency rescue equipment before the need arises.

(4) Respirators and protective clothing.

(a) Respirators. You may be required to wear a respirator in emergencies and while your employer is in the process of reducing DBCP exposures through engineering controls. If respirators are worn, they must have a label issued by the National Institute for Occupational Safety and Health (NIOSH) ((approval label (older respirators may have a Bureau of Mines Approval label))) under the provisions of 42 CFR part 84 stating that the respirators have been certified for use with organic vapors. For effective protection, a respirator must fit your face and head snugly. The respirator should not be loosened or removed in work situations where its use is

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required. (~~DBCP does not have a detectable odor except at 1,000 times or more above the permissible exposure limit. If you can smell DBCP while wearing a respirator, the respirator is not working correctly; go immediately to fresh air. If you experience difficulty breathing while wearing a respirator, tell your employer.~~) Respirators must not be loosened or removed in work situations where their use is required.

(b) Protective clothing. When working with DBCP you must wear for your protection impermeable work clothing provided by your employer. (Standard rubber and neoprene protective clothing do not offer adequate protection). DBCP must never be allowed to remain on the skin. Clothing and shoes must not be allowed to become contaminated with DBCP, and if they do, they must be promptly removed and not worn again until completely free of DBCP. Turn in impermeable clothing that has developed leaks for repair or replacement.

(c) Eye protection. You must wear splashproof safety goggles where there is any possibility of DBCP liquid or dust contacting your eyes.

(5) Precautions for safe use, handling, and storage.

(a) DBCP must be stored in tightly closed containers in a cool, well-ventilated area.

(b) If your work clothing may have become contaminated with DBCP, or liquids or dusts containing DBCP, you must change into uncontaminated clothing before leaving the work premises.

(c) You must promptly remove any protective clothing that becomes contaminated with DBCP. This clothing must not be reworn until the DBCP is removed from the clothing.

(d) If your skin becomes contaminated with DBCP, you must immediately and thoroughly wash or shower with soap or mild detergent and water to remove any DBCP from your skin.

(e) You must not keep food, beverages, cosmetics, or smoking materials, nor eat or smoke, in regulated areas.

(f) If you work in a regulated area, you must wash your hands thoroughly with soap or mild detergent and water, before eating, smoking or using toilet facilities.

(g) If you work in a regulated area, you must remove any protective equipment or clothing before leaving the regulated area.

(h) Ask your supervisor where DBCP is used in your work area and for any additional safety and health rules.

(6) Access to information.

(a) Each year, your employer is required to inform you of the information contained in this substance safety data sheet for DBCP. In addition, your employer must instruct you in the safe use of DBCP, emergency procedures, and the correct use of protective equipment.

(b) Your employer is required to determine whether you are being exposed to DBCP. You or your representative have the right to observe employee exposure measurements and to record the result obtained. Your employer is required to inform you of your exposure. If your employer determines that you are being overexposed, they are required to inform you of the actions which are being taken to reduce your exposure.

(c) Your employer is required to keep records of your exposure and medical examinations. Your employer is

required to keep exposure and medical data for at least forty years or the duration of your employment plus twenty years, whichever is longer.

(d) Your employer is required to release exposure and medical records to you, your physician, or other individual designated by you upon your written request.

AMENDATORY SECTION (Amending WSR 98-02-030, filed 12/31/97, effective 1/31/98)

**WAC 296-62-07347 Inorganic arsenic.** (1) Scope and application. This section applies to all occupational exposures to inorganic arsenic except that this section does not apply to employee exposures in agriculture or resulting from pesticide application, the treatment of wood with preservatives or the utilization of arsenically preserved wood.

(2) Definitions.

(a) "Action level" - a concentration of inorganic arsenic of 5 micrograms per cubic meter of air ( $5 \mu\text{g}/\text{m}^3$ ) averaged over any eight-hour period.

(b) "Authorized person" - any person specifically authorized by the employer whose duties require the person to enter a regulated area, or any person entering such an area as a designated representative of employees for the purpose of exercising the right to observe monitoring and measuring procedures under subsection (5) of this section.

(c) "Director" - the director of the department of labor and industries, or his/her designated representative.

(d) "Inorganic arsenic" - copper aceto-arsenite and all inorganic compounds containing arsenic except arsine, measured as arsenic (As).

(3) Permissible exposure limit. The employer shall assure that no employee is exposed to inorganic arsenic at concentrations greater than 10 micrograms per cubic meter of air ( $10 \mu\text{g}/\text{m}^3$ ), averaged over any eight-hour period.

(4) Notification of use.

(a) (~~By October 1, 1978, or~~) Within sixty days after the introduction of inorganic arsenic into the workplace, every employer who is required to establish a regulated area in his/her workplaces shall report in writing to the department of labor and industries for each such workplace:

(i) The address of each such workplace;

(ii) The approximate number of employees who will be working in regulated areas; and

(iii) A brief summary of the operations creating the exposure and the actions which the employer intends to take to reduce exposures.

(b) Whenever there has been a significant change in the information required by subsection (4)(a) of this section, the employer shall report the changes in writing within sixty days to the department of labor and industries.

(5) Exposure monitoring.

(a) General.

(i) Determinations of airborne exposure levels shall be made from air samples that are representative of each employee's exposure to inorganic arsenic over an eight-hour period.

(ii) For the purposes of this section, employee exposure is that exposure which would occur if the employee were not using a respirator.



(iii) The employer shall collect full shift (for at least seven continuous hours) personal samples including at least one sample for each shift for each job classification in each work area.

(b) Initial monitoring. Each employer who has a workplace or work operation covered by this standard shall monitor each such workplace and work operation to accurately determine the airborne concentration of inorganic arsenic to which employees may be exposed.

(c) Frequency.

(i) If the initial monitoring reveals employee exposure to be below the action level the measurements need not be repeated except as otherwise provided in subsection (5)(d) of this section.

(ii) If the initial monitoring, required by this section, or subsequent monitoring reveals employee exposure to be above the permissible exposure limit, the employer shall repeat monitoring at least quarterly.

(iii) If the initial monitoring, required by this section, or subsequent monitoring reveals employee exposure to be above the action level and below the permissible exposure limit the employee shall repeat monitoring at least every six months.

(iv) The employer shall continue monitoring at the required frequency until at least two consecutive measurements, taken at least seven days apart, are below the action level at which time the employer may discontinue monitoring for that employee until such time as any of the events in subsection (5)(d) of this section occur.

(d) Additional monitoring. Whenever there has been a production, process, control or personal change which may result in new or additional exposure to inorganic arsenic, or whenever the employer has any other reason to suspect a change which may result in new or additional exposures to inorganic arsenic, additional monitoring which complies with subsection (5) of this section shall be conducted.

(e) Employee notification.

(i) Within five working days after the receipt of monitoring results, the employer shall notify each employee in writing of the results which represent that employee's exposures.

(ii) Whenever the results indicate that the representative employee exposure exceeds the permissible exposure limit, the employer shall include in the written notice a statement that the permissible exposure limit was exceeded and a description of the corrective action taken to reduce exposure to or below the permissible exposure limit.

(f) Accuracy of measurement.

(i) The employer shall use a method of monitoring and measurement which has an accuracy (with a confidence level of 95 percent) of not less than plus or minus 25 percent for concentrations of inorganic arsenic greater than or equal to 10  $\mu\text{g}/\text{m}^3$ .

(ii) The employer shall use a method of monitoring and measurement which has an accuracy (with confidence level of 95 percent) of not less than plus or minus 35 percent for concentrations of inorganic arsenic greater than 5  $\mu\text{g}/\text{m}^3$  but less than 10  $\mu\text{g}/\text{m}^3$ .

(6) Regulated area.

(a) Establishment. The employer shall establish regulated areas where worker exposures to inorganic arsenic, without regard to the use of respirators, are in excess of the permissible limit.

(b) Demarcation. Regulated areas shall be demarcated and segregated from the rest of the workplace in any manner that minimizes the number of persons who will be exposed to inorganic arsenic.

(c) Access. Access to regulated areas shall be limited to authorized persons or to persons otherwise authorized by the Act or regulations issued pursuant thereto to enter such areas.

(d) Provision of respirators. All persons entering a regulated area shall be supplied with a respirator, selected in accordance with subsection (8)((b)) (c) of this section.

(e) Prohibited activities. The employer shall assure that in regulated areas, food or beverages are not consumed, smoking products, chewing tobacco and gum are not used and cosmetics are not applied, except that these activities may be conducted in the lunchrooms, change rooms and showers required under subsection (12) of this section. Drinking water may be consumed in the regulated area.

(7) Methods of compliance.

(a) Controls.

(i) The employer shall institute ((at the earliest possible time but not later than December 31, 1979;)) engineering and work practice controls to reduce exposures to or below the permissible exposure limit, except to the extent that the employer can establish that such controls are not feasible.

(ii) Where engineering and work practice controls are not sufficient to reduce exposures to or below the permissible exposure limit, they shall nonetheless be used to reduce exposures to the lowest levels achievable by these controls and shall be supplemented by the use of respirators in accordance with subsection (8) of this section and other necessary personal protective equipment. Employee rotation is not required as a control strategy before respiratory protection is instituted.

(b) Compliance program.

(i) The employer shall establish and implement a written program to reduce exposures to or below the permissible exposure limit by means of engineering and work practice controls.

(ii) Written plans for these compliance programs shall include at least the following:

(A) A description of each operation in which inorganic arsenic is emitted; e.g., machinery used, material processed, controls in place, crew size, operating procedures and maintenance practices;

(B) Engineering plans and studies used to determine methods selected for controlling exposure to inorganic arsenic;

(C) A report of the technology considered in meeting the permissible exposure limit;

(D) Monitoring data;

(E) A detailed schedule for implementation of the engineering controls and work practices that cannot be implemented immediately and for the adaptation and implementation of any additional engineering and work practices necessary to meet the permissible exposure limit;

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(F) Whenever the employer will not achieve the permissible exposure limit with engineering controls and work practices (~~by December 31, 1979~~), the employer shall include in the compliance plan an analysis of the effectiveness of the various controls, shall install engineering controls and institute work practices on the quickest schedule feasible, and shall include in the compliance plan and implement a program to minimize the discomfort and maximize the effectiveness of respirator use; and

(G) Other relevant information.

(iii) Written plans for such a program shall be submitted upon request to the director, and shall be available at the worksite for examination and copying by the director, any affected employee or authorized employee representatives.

(iv) The plans required by this subsection shall be revised and updated at least every six months to reflect the current status of the program.

(8) Respiratory protection.

(a) General. (~~The employer shall assure that respirators are used where required under this section to reduce employee exposures to below the permissible exposure limit and in emergencies. Respirators shall be used in the following circumstances~~) For employees who use respirators required by this section, the employer must provide respirators that comply with the requirements of this subsection. Respirators must be used during:

(i) (~~During the time~~) Period necessary to install or implement feasible engineering or work-practice controls;

(ii) (~~In~~) Work operations, such as maintenance and repair activities, in which the employer establishes that engineering and work-practice controls are not feasible;

(iii) (~~In work situations in~~) Work operations for which engineering (~~controls and supplemental~~) work-practice controls are not yet sufficient to reduce employee exposures to or below the permissible exposure limit; (~~or~~)

(iv) (~~In~~) Emergencies.

(b) Respirator (~~selection~~) program.

(i) (~~Where respirators are required under this section the employer shall select, provide at no cost to the employee and assure the use of the appropriate respirator or combination of respirators from Table I for inorganic arsenic compounds without significant vapor pressure, or Table II for inorganic arsenic compounds which have significant vapor pressure~~) The employer must establish, implement, and maintain a respiratory protection program as required by chapter 296-62 WAC, Part E (except WAC 296-62-07130(1) and 296-62-07150 through 296-62-07156).

(ii) If an employee exhibits breathing difficulty during fit testing or respirator use, they must be examined by a physician trained in pulmonary medicine to determine whether they can use a respirator while performing the required duty.

(c) Respirator selection.

(i) The employer must use Table I of this section to select the appropriate respirator or combination of respirators for inorganic arsenic compounds without significant vapor pressure, and Table II of this section to select the appropriate respirator or combination of respirators for inorganic arsenic compounds that have significant vapor pressure.

(ii) Where employee exposures exceed the permissible exposure limit for inorganic arsenic and also exceed the rele-

vant limit for (~~particular gases such as~~) other gases (for example, sulfur dioxide), any air-purifying respirator (~~supplied~~) provided to the employee as (~~permitted~~) specified by this (~~standard~~) section must have a combination high-efficiency filter with an appropriate gas sorbent. (See footnote in Table I)

(iii) Employees required to use respirators may choose, and the employer must provide, a powered air-purifying respirator if it will provide proper protection. In addition, the employer must provide a combination dust and acid-gas respirator to employees who are exposed to gases over the relevant exposure limits.

TABLE I

RESPIRATORY PROTECTION FOR INORGANIC ARSENIC PARTICULATE EXCEPT FOR THOSE WITH SIGNIFICANT VAPOR PRESSURE

Concentration of Inorganic Arsenic (as As) or Condition of Use	Required Respirator
(i) Unknown or greater or lesser than 20,000 µg/m <sup>3</sup> (20 mg/m <sup>3</sup> ) firefighting.	(A) Any full facepiece self-contained or breathing apparatus operated in positive pressure mode.
(ii) Not greater than 20,000 µg/m <sup>3</sup> (20 mg/m <sup>3</sup> )	(A) Supplied air respirator with full facepiece, hood, or helmet or suit and operated in positive pressure mode.
(iii) Not greater than 10,000 µg/m <sup>3</sup> (10 mg/m <sup>3</sup> )	(A) Powered air-purifying respirators in all inlet face coverings with high-efficiency filters. <sup>1</sup> (B) Half-mask supplied air respirators operated in positive pressure mode.
(iv) Not greater than 500 µg/m <sup>3</sup>	(A) Full facepiece air-purifying respirator equipped with high-efficiency filter. <sup>1</sup> (B) Any full facepiece supplied air respirator. (C) Any full facepiece self-contained breathing apparatus.

Concentration of Inorganic Arsenic (as As) or Condition of Use	Required Respirator
(v) Not greater than 100 µg/m <sup>3</sup>	(A) Half-mask air-purifying respirator equipped with high-efficiency filter. <sup>1</sup> (B) Any half-mask supplied air respirator.

Concentration of Inorganic Arsenic (as As) or Condition of Use	Required Respirator
(v) Not greater than 100 µg/m <sup>3</sup>	(A) Half-mask <sup>2</sup> air-purifying respirator equipped with high-efficiency filter <sup>1</sup> and acid gas cartridge. (B) Any half-mask supplied air respirator.

<sup>1</sup>High-efficiency filter-99.97 pct efficiency against 0.3 micrometer monodisperse diethyl-hexyl phthalate (DOP) particles.

<sup>1</sup>High efficiency filter-99.97 pct efficiency against 0.3 micrometer monodisperse diethyl-hexyl phthalate (DOP) particles.

<sup>2</sup>Half-mask respirators shall not be used for protection against arsenic trichloride, as it is rapidly absorbed through the skin.

TABLE II

RESPIRATORY PROTECTION FOR INORGANIC ARSENICALS (SUCH AS ARSENIC TRICHLORIDE<sup>2</sup> AND ARSENIC PHOSPHIDE) WITH SIGNIFICANT VAPOR PRESSURE

Concentration of Inorganic Arsenic (as As) or Condition of Use	Required Respirator
(i) Unknown or greater or lesser than 20,000 µg/m <sup>3</sup> (20 mg/m <sup>3</sup> ) or firefighting.	(A) Any full facepiece contained breathing apparatus operated in positive pressure mode.
(ii) Not greater than 20,000 µg/m <sup>3</sup> (20 mg/m <sup>3</sup> )	(A) Supplied air respirator with full facepiece hood, or helmet or suit and operated in positive pressure mode.
(iii) Not greater than 10,000 µg/m <sup>3</sup> (10 mg/m <sup>3</sup> )	(A) Half-mask <sup>2</sup> supplied air respirator operated in positive pressure mode.
(iv) Not greater than 500 µg/m <sup>3</sup>	(A) Front or back mounted gas mask equipped with high-efficiency filter <sup>1</sup> and acid gas canister. (B) Any full facepiece supplied air respirator. (C) Any full facepiece self-contained breathing apparatus.

~~((iii) The employer shall select respirators from among those approved for protection against dust, fume, and mist by the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR Part 11.~~

~~(e) Respirator usage:~~

~~(i) The employer shall assure that the respirator issued to the employee exhibits minimum facepiece leakage and that the respirator is fitted properly.~~

~~(ii) The employer shall perform qualitative fit tests at the time of initial fitting and at least semi-annually thereafter for each employee wearing respirators, where quantitative fit tests are not required.~~

~~(iii) Employers with more than twenty employees wearing respirators shall perform a quantitative face fit test at the time of initial fitting and at least semi-annually thereafter for each employee wearing negative pressure respirators. The test shall be used to select facepieces that provide the required protection as prescribed in Table I or II.~~

~~(iv) If an employee has demonstrated difficulty in breathing during the fitting test or during use, he or she shall be examined by a physician trained in pulmonary medicine to determine whether the employee can wear a respirator while performing the required duty.~~

~~(d) Respirator program:~~

~~(i) The employer shall institute a respiratory protection program in accordance with WAC 296-62-071.~~

~~(ii) The employer shall permit each employee who uses a filter respirator to change the filter elements whenever an increase in breathing resistance is detected and shall maintain an adequate supply of filter elements for this purpose.~~

~~(iii) Employees who wear respirators shall be permitted to leave work areas to wash their face and respirator facepiece to prevent skin irritation associated with respirator use.~~

~~(e) Commencement of respirator use:~~

~~(i) The employer's obligation to provide respirators commences on August 1, 1978, for employees exposed over 500 µg/m<sup>3</sup> of inorganic arsenic, as soon as possible but not later than October 1, 1978, for employees exposed to over 50 µg/m<sup>3</sup> of inorganic arsenic, and as soon as possible but not~~

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later than December 1, 1978, for employees exposed between 10 and 50  $\mu\text{g}/\text{m}^3$  of inorganic arsenic:

(ii) Employees with exposures below 50  $\mu\text{g}/\text{m}^3$  of inorganic arsenic may choose not to wear respirators until December 31, 1979.

(iii) After December 1, 1978, any employee required to wear air purifying respirators may choose, and if so chosen the employer must provide, if it will give proper protection, a powered air purifying respirator and in addition if necessary a combination dust and acid gas respirator for times where exposures to gases are over the relevant exposure limits.)

(9) Reserved.

(10) Protective work clothing and equipment.

(a) Provision and use. Where the possibility of skin or eye irritation from inorganic arsenic exists, and for all workers working in regulated areas, the employer shall provide at no cost to the employee and assure that employees use appropriate and clean protective work clothing and equipment such as, but not limited to:

(i) Coveralls or similar full-body work clothing;

(ii) Gloves, and shoes or coverlets;

(iii) Face shields or vented goggles when necessary to prevent eye irritation, which comply with the requirements of WAC 296-24-07801 (1) - (6).

(iv) Impervious clothing for employees subject to exposure to arsenic trichloride.

(b) Cleaning and replacement.

(i) The employer shall provide the protective clothing required in subsection (10)(a) of this section in a freshly laundered and dry condition at least weekly, and daily if the employee works in areas where exposures are over 100  $\mu\text{g}/\text{m}^3$  of inorganic arsenic or in areas where more frequent washing is needed to prevent skin irritation.

(ii) The employer shall clean, launder, or dispose of protective clothing required by subsection (10)(a) of this section.

(iii) The employer shall repair or replace the protective clothing and equipment as needed to maintain their effectiveness.

(iv) The employer shall assure that all protective clothing is removed at the completion of a work shift only in change rooms prescribed in subsection (13)(a) of this section.

(v) The employer shall assure that contaminated protective clothing which is to be cleaned, laundered, or disposed of, is placed in a closed container in the change-room which prevents dispersion of inorganic arsenic outside the container.

(vi) The employer shall inform in writing any person who cleans or launders clothing required by this section, of the potentially harmful affects including the carcinogenic effects of exposure to inorganic arsenic.

(vii) The employer shall assure that the containers of contaminated protective clothing and equipment in the workplace or which are to be removed from the workplace are labeled as follows:

**Caution:** Clothing contaminated with inorganic arsenic; do not remove dust by blowing or shaking. Dispose of inorganic arsenic contaminated wash water in accordance with applicable local, state, or federal regulations.

(viii) The employer shall prohibit the removal of inorganic arsenic from protective clothing or equipment by blowing or shaking.

(11) Housekeeping.

(a) Surfaces. All surfaces shall be maintained as free as practicable of accumulations of inorganic arsenic.

(b) Cleaning floors. Floors and other accessible surfaces contaminated with inorganic arsenic may not be cleaned by the use of compressed air, and shoveling and brushing may be used only where vacuuming or other relevant methods have been tried and found not to be effective.

(c) Vacuuming. Where vacuuming methods are selected, the vacuums shall be used and emptied in a manner to minimize the reentry of inorganic arsenic into the workplace.

(d) Housekeeping plan. A written housekeeping and maintenance plan shall be kept which shall list appropriate frequencies for carrying out housekeeping operations, and for cleaning and maintaining dust collection equipment. The plan shall be available for inspection by the director.

(e) Maintenance of equipment. Periodic cleaning of dust collection and ventilation equipment and checks of their effectiveness shall be carried out to maintain the effectiveness of the system and a notation kept of the last check of effectiveness and cleaning or maintenance.

(12) Reserved.

(13) Hygiene facilities and practices.

(a) Change rooms. The employer shall provide for employees working in regulated areas or subject to the possibility of skin or eye irritation from inorganic arsenic, clean change rooms equipped with storage facilities for street clothes and separate storage facilities for protective clothing and equipment in accordance with WAC 296-24-12011.

(b) Showers.

(i) The employer shall assure that employees working in regulated areas or subject to the possibility of skin or eye irritation from inorganic arsenic shower at the end of the work shift.

(ii) The employer shall provide shower facilities in accordance with WAC 296-24-12009(3).

(c) Lunchrooms.

(i) The employer shall provide for employees working in regulated areas, lunchroom facilities which have a temperature controlled, positive pressure, filtered air supply, and which are readily accessible to employees working in regulated areas.

(ii) The employer shall assure that employees working in the regulated area or subject to the possibility of skin or eye irritation from exposure to inorganic arsenic wash their hands and face prior to eating.

(d) Lavatories. The employer shall provide lavatory facilities which comply with WAC 296-24-12009 (1) and (2).

(e) Vacuuming clothes. The employer shall provide facilities for employees working in areas where exposure, without regard to the use of respirators, exceeds 100  $\mu\text{g}/\text{m}^3$  to vacuum their protective clothing and clean or change shoes worn in such areas before entering change rooms, lunchrooms or shower rooms required by subsection (10) of this section and shall assure that such employees use such facilities.

(f) Avoidance of skin irritation. The employer shall assure that no employee is exposed to skin or eye contact with arsenic trichloride, or to skin or eye contact with liquid or particulate inorganic arsenic which is likely to cause skin or eye irritation.

(14) Medical surveillance.

(a) General.

(i) Employees covered. The employer shall institute a medical surveillance program for the following employees:

(A) All employees who are or will be exposed above the action level, without regard to the use of respirators, at least thirty days per year; and

(B) All employees who have been exposed above the action level, without regard to respirator use, for thirty days or more per year for a total of ten years or more of combined employment with the employer or predecessor employers prior to or after the effective date of this standard. The determination of exposures prior to the effective date of this standard shall be based upon prior exposure records, comparison with the first measurements taken after the effective date of this standard, or comparison with records of exposures in areas with similar processes, extent of engineering controls utilized and materials used by that employer.

(ii) Examination by physician. The employer shall assure that all medical examinations and procedures are performed by or under the supervision of a licensed physician, and shall be provided without cost to the employee, without loss of pay and at a reasonable time and place.

(b) Initial examinations. (~~By December 1, 1978,~~) For employees initially covered by the medical provisions of this section, or thereafter at the time of initial assignment to an area where the employee is likely to be exposed over the action level at least thirty days per year, the employer shall provide each affected employee an opportunity for a medical examination, including at least the following elements:

(i) A work history and a medical history which shall include a smoking history and the presence and degree of respiratory symptoms such as breathlessness, cough, sputum production and wheezing.

(ii) A medical examination which shall include at least the following:

(A) A 14" by 17" posterior-anterior chest x-ray and International Labor Office UICC/Cincinnati (ILO U/C) rating;

(B) A nasal and skin examination; and

(C) Other examinations which the physician believes appropriate because of the employees exposure to inorganic arsenic or because of required respirator use.

(c) Periodic examinations.

(i) The employer shall provide the examinations specified in subsections (14)(b)(i) and (14)(b)(ii)(A), (B) and (C) of this section at least annually for covered employees who are under forty-five years of age with fewer than ten years of exposure over the action level without regard to respirator use.

(ii) The employer shall provide the examinations specified in subsections (14)(b)(i) and (ii)(B) and (C) of this section at least semi-annually for other covered employees.

(iii) Whenever a covered employee has not taken the examinations specified in subsection (14)(b)(i) and (ii)(B)

and (C) of this section within six months preceding the termination of employment, the employer shall provide such examinations to the employee upon termination of employment.

(d) Additional examinations. If the employee for any reason develops signs or symptoms commonly associated with exposure to inorganic arsenic the employer shall provide an appropriate examination and emergency medical treatment.

(e) Information provided to the physician. The employer shall provide the following information to the examining physician:

(i) A copy of this standard and its appendices;

(ii) A description of the affected employee's duties as they relate to the employee's exposure;

(iii) The employee's representative exposure level or anticipated exposure level;

(iv) A description of any personal protective equipment used or to be used; and

(v) Information from previous medical examinations of the affected employee which is not readily available to the examining physician.

(f) Physician's written opinion.

(i) The employer shall obtain a written opinion from the examining physician which shall include:

(A) The results of the medical examination and tests performed;

(B) The physician's opinion as to whether the employee has any detected medical conditions which would place the employee at increased risk of material impairment of the employee's health from exposure to inorganic arsenic;

(C) Any recommended limitations upon the employee's exposure to inorganic arsenic or upon the use of protective clothing or equipment such as respirators; and

(D) A statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions which require further examination or treatment.

(ii) The employer shall instruct the physician not to reveal in the written opinion specific findings or diagnoses unrelated to occupational exposure.

(iii) The employer shall provide a copy of the written opinion to the affected employee.

(15) Employee information and training.

(a) Training program.

(i) The employer shall institute a training program for all employees who are subject to exposure to inorganic arsenic above the action level without regard to respirator use, or for whom there is the possibility of skin or eye irritation from inorganic arsenic. The employer shall assure that those employees participate in the training program.

(ii) The training program shall be provided (~~by October 1, 1978~~) for employees covered by this provision, at the time of initial assignment for those subsequently covered by this provision, and shall be repeated at least quarterly for employees who have optional use of respirators and at least annually for other covered employees thereafter, and the employer shall assure that each employee is informed of the following:

(A) The information contained in Appendix A;

(B) The quantity, location, manner of use, storage, sources of exposure, and the specific nature of operations which could result in exposure to inorganic arsenic as well as any necessary protective steps;

(C) The purpose, proper use, and limitation of respirators;

(D) The purpose and a description of medical surveillance program as required by subsection (14) of this section;

(E) The engineering controls and work practices associated with the employee's job assignment; and

(F) A review of this standard.

(b) Access to training materials.

(i) The employer shall make readily available to all affected employees a copy of this standard and its appendices.

(ii) The employer shall provide, upon request, all materials relating to the employee information and training program to the director.

(16) Signs and labels.

(a) General.

(i) The employer may use labels or signs required by other statutes, regulations, or ordinances in addition to, or in combination with, signs and labels required by this subsection.

(ii) The employer shall assure that no statement appears on or near any sign or label required by this subsection which contradicts or detracts from the meaning of the required sign or label.

(b) Signs.

(i) The employer shall post signs demarcating regulated areas bearing the legend:

DANGER  
INORGANIC ARSENIC  
CANCER HAZARD  
AUTHORIZED PERSONNEL ONLY  
NO SMOKING OR EATING  
RESPIRATOR REQUIRED

(ii) The employer shall assure that signs required by this subsection are illuminated and cleaned as necessary so that the legend is readily visible.

(c) Labels. The employer shall apply precautionary labels to all shipping and storage containers of inorganic arsenic, and to all products containing inorganic arsenic except when the inorganic arsenic in the product is bound in such a manner so as to make unlikely the possibility of airborne exposure to inorganic arsenic. (Possible examples of products not requiring labels are semiconductors, light emitting diodes and glass.) The label shall bear the following legend:

DANGER  
CONTAINS INORGANIC ARSENIC  
CANCER HAZARD

HARMFUL IF INHALED OR  
SWALLOWED

USE ONLY WITH ADEQUATE  
VENTILATION  
OR RESPIRATORY PROTECTION

(17) Recordkeeping.

(a) Exposure monitoring.

(i) The employer shall establish and maintain an accurate record of all monitoring required by subsection (5) of this section.

(ii) This record shall include:

(A) The date(s), number, duration location, and results of each of the samples taken, including a description of the sampling procedure used to determine representative employee exposure where applicable;

(B) A description of the sampling and analytical methods used and evidence of their accuracy;

(C) The ~~((type of respiratory protective devices worn, if any))~~ purpose, proper use, limitations, and other training requirements covering respiratory protection as required in chapter 296-62 WAC, Part E;

(D) Name, Social Security number, and job classification of the employees monitored and of all other employees whose exposure the measurement is intended to represent; and

(E) The environmental variables that could affect the measurement of the employee's exposure.

(iii) The employer shall maintain these monitoring records for at least forty years or for the duration of employment plus twenty years, whichever is longer.

(b) Medical surveillance.

(i) The employer shall establish and maintain an accurate record for each employee subject to medical surveillance as required by subsection (14) of this section.

(ii) This record shall include:

(A) The name, Social Security number, and description of duties of the employee;

(B) A copy of the physician's written opinions;

(C) Results of any exposure monitoring done for that employee and the representative exposure levels supplied to the physician; and

(D) Any employee medical complaints related to exposure to inorganic arsenic.

(iii) The employer shall in addition keep, or assure that the examining physician keeps, the following medical records:

(A) A copy of the medical examination results including medical and work history required under subsection (14) of this section;

(B) A description of the laboratory procedures and a copy of any standards or guidelines used to interpret the test results or references to that information;

(C) The initial x-ray;

(D) The x-rays for the most recent five years;

(E) Any x-rays with a demonstrated abnormality and all subsequent x-rays; and

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(F) Any cytologic examination slides with demonstrated atypia, if such atypia persists for three years, and all subsequent slides and written descriptions.

(iv) The employer shall maintain or assure that the physician maintains those medical records for at least forty years, or for the duration of employment, plus twenty years, whichever is longer.

(c) Availability.

(i) The employer shall make available upon request all records required to be maintained by subsection (17) of this section to the director for examination and copying.

(ii) Records required by this subsection shall be provided upon request to employees, designated representatives, and the assistant director in accordance with WAC 296-62-05201 through 296-62-05209 and 296-62-05213 through 296-62-05217.

(iii) The employer shall make available upon request an employee's medical records and exposure records representative of that employee's exposure required to be maintained by subsection (17) of this section to the affected employee or former employee or to a physician designated by the affected employee or former employee.

(d) Transfer of records.

(i) Whenever the employer ceases to do business, the successor employer shall receive and retain all records required to be maintained by this section.

(ii) Whenever the employer ceases to do business and there is no successor employer to receive and retain the records required to be maintained by this section for the prescribed period, these records shall be transmitted to the director.

(iii) At the expiration of the retention period for the records required to be maintained by this section, the employer shall notify the director at least three months prior to the disposal of such records and shall transmit those records to the director if he requests them within that period.

(iv) The employer shall also comply with any additional requirements involving transfer of records set forth in WAC 296-62-05215.

(18) Observation of monitoring.

(a) Employee observation. The employer shall provide affected employees or their designated representatives an opportunity to observe any monitoring of employee exposure to inorganic arsenic conducted pursuant to subsection (5) of this section.

(b) Observation procedures.

(i) Whenever observation of the monitoring of employee exposure to inorganic arsenic requires entry into an area where the use of respirators, protective clothing, or equipment is required, the employer shall provide the observer with and assure the use of such respirators, clothing, and such equipment, and shall require the observer to comply with all other applicable safety and health procedures.

(ii) Without interfering with the monitoring, observers shall be entitled to;

(A) Receive an explanation of the measurement procedures;

(B) Observe all steps related to the monitoring of inorganic arsenic performed at the place of exposure; and

(C) Record the results obtained or receive copies of the results when returned by the laboratory.

~~(19) ((Effective date. This standard shall become effective thirty days after filing with the code reviser.~~

~~(20)) Appendices. The information contained in the appendices to this section is not intended by itself, to create any additional obligations not otherwise imposed by this standard nor detract from any existing obligation.~~

~~((21) Startup dates.~~

~~(a) General. The startup dates of requirements of this standard shall be the effective date of this standard unless another startup date is provided for, either in other subsections of this section or in this subsection.~~

~~(b) Monitoring. Initial monitoring shall be commenced by August 1, 1978, and shall be completed by September 15, 1978.~~

~~(c) Regulated areas. Regulated areas required to be established as a result of initial monitoring shall be set up as soon as possible after the results of that monitoring is known and no later than October 1, 1978.~~

~~(d) Compliance program. The written program required by subsection (7)(b) as a result of initial monitoring shall be made available for inspection and copying as soon as possible and no later than December 1, 1978.~~

~~(e) Hygiene and lunchroom facilities. Construction plans for change rooms, showers, lavatories, and lunchroom facilities shall be completed no later than December 1, 1978, and these facilities shall be constructed and in use no later than July 1, 1979. However, if as part of the compliance plan it is predicted by an independent engineering firm that engineering controls and work practices will reduce exposures below the permissible exposure limit by December 31, 1979, for affected employees, then such facilities need not be completed until one year after the engineering controls are completed or December 31, 1980, whichever is earlier, if such controls have not in fact succeeded in reducing exposure to below the permissible exposure limit.~~

~~(f) Summary of startup dates set forth elsewhere in this standard:~~

~~STARTUP DATES~~

~~August 1, 1978—Respirator use over 500 µg/m<sup>3</sup>.~~

~~AS SOON AS POSSIBLE BUT NO LATER THAN~~

~~September 15, 1978—Completion of initial monitoring.~~

~~October 1, 1978—Complete establishment of regulated areas.~~

~~Respirator use for employees exposed above 50 µg/m<sup>3</sup>.~~

~~Completion of initial training. Notification of use.~~

~~December 1, 1978—Respirator use over 10 µg/m<sup>3</sup>. Completion of initial medical. Completion of compliance plan.~~

~~Optional use of powered air purifying respirators.~~

~~July 1, 1979—Completion of lunch rooms and hygiene facilities.~~

~~December 31, 1979—Completion of engineering controls.~~

~~December 31, 1979—Completion of engineering controls.~~

~~All other requirements of the standard have as their startup date August 1, 1978.)~~

~~All other requirements of the standard have as their startup date August 1, 1978.)~~

AMENDATORY SECTION (Amending Order 94-16, filed 9/30/94, effective 11/20/94)

**WAC 296-62-07367 Respiratory protection and personal protective equipment.** (1) General. ~~((The employer shall provide respirators, and ensure that they are used, where required by WAC 296-62-07355 through 296-62-07389. Respirators shall be used in the following circumstances:))~~ For employees who use respirators required by this section, the employer must provide respirators that comply with the requirements of WAC 296-62-07355 through 296-62-07389. Respirators must be used during:

- (a) ~~((During the interval))~~ Periods necessary to install or implement feasible engineering and work-practice controls;
  - (b) ~~((In))~~ Work operations, such as maintenance and repair activities, vessel cleaning, or other activities, for which engineering and work-practice controls are not feasible;
  - (c) ~~((In work situations where))~~ Work operations for which feasible engineering and work-practice controls are not yet sufficient to reduce employee exposure to or below the TWA or excursion limit; ~~((and))~~
  - (d) ~~((In))~~ Emergencies.
- (2) Respirator ~~((selection:~~

~~(a) Where respirators are required under WAC 296-62-07355 through 296-62-07389, the employer shall select and provide, at no cost to the employee, the appropriate respirator as specified in Table 1, and shall ensure that the employee uses the respirator provided.~~

~~(b) The employer shall select respirators from among those jointly approved as being acceptable for protection against EtO by the Mine Safety and Health Administration (MSHA) and by the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR Part 11)) program. The employer must establish, implement, and maintain a respiratory protection program as required in chapter 296-62 WAC, Part E (except WAC 296-62-07130(1) and 296-62-07150 through 296-62-07156).~~

~~(3) Respirator ((program. Where respiratory protection is required by WAC 296-62-07355 through 296-62-07389, the employer shall institute a respirator program in accordance with WAC 296-62-071)) selection. The employer must select the appropriate respirator from Table 1 of this section.~~

**Table 1.—Minimum Requirements for Respiratory Protection for Airborne EtO**

<u>Condition of use or concentration of airborne EtO (ppm)</u>	<u>Minimum required respirator</u>
<u>Equal to or less than 50</u>	<u>(a) Full facepiece respirator with EtO approved canister, front-or back-mounted.</u>

<u>Condition of use or concentration of airborne EtO (ppm)</u>	<u>Minimum required respirator</u>
<u>Equal to or less than 2,000</u>	<ul style="list-style-type: none"> <li>(a) <u>Positive-pressure supplied air respirator, equipped with full facepiece, hood or helmet, or</u></li> <li>(b) <u>Continuous-flow supplied air respirator (positive pressure) equipped with hood, helmet or suit.</u></li> </ul>
<u>Concentration above 2,000 or unknown concentration (such as in emergencies)</u>	<ul style="list-style-type: none"> <li>(a) <u>Positive-pressure self-contained breathing apparatus (SCBA), equipped with full facepiece, or</u></li> <li>(b) <u>Positive-pressure full facepiece supplied air respirator equipped with an auxiliary positive-pressure self-contained breathing apparatus.</u></li> </ul>
<u>Firefighting</u>	(a) <u>Positive pressure self-contained breathing apparatus equipped with full facepiece.</u>
<u>Escape</u>	(a) <u>Any respirator described above.</u>

Note: Respirators approved for use in higher concentrations are permitted to be used in lower concentrations.

(4) Protective clothing and equipment. Where employees could have eye or skin contact with ~~((liquid))~~ EtO or EtO solutions ~~((may occur))~~, the employer ~~((shall))~~ must select and provide, at no cost to the employee, appropriate protective clothing or other equipment in accordance with chapter 296-24 WAC, Part A-2, and to protect any area of the body that may come in contact with liquid EtO or EtO in solution, and ~~((shall))~~ must ensure that the employee wears the protective clothing and equipment provided.

AMENDATORY SECTION (Amending Order 87-24, filed 11/30/87)

**WAC 296-62-07369 Emergency situations.** (1) Written plan.

(a) A written plan for emergency situations shall be developed for each workplace where there is a possibility of an emergency. Appropriate portions of the plan shall be implemented in the event of an emergency.

(b) The plan shall specifically provide that employees engaged in correcting emergency conditions shall be equipped with respiratory protection as required by WAC 296-62-07367 until the emergency is abated.

(c) The plan shall include the elements prescribed in WAC 296-24-567, "Employee emergency plans and fire prevention plans."

(2) Alerting employees. Where there is the possibility of employee exposure to EtO due to an emergency, means shall be developed to alert potentially affected employees of such

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occurrences promptly. Affected employees shall be immediately evacuated from the area in the event that an emergency occurs.

((Table 1.—Minimum Requirements for Respiratory Protection for Airborne EtO

Condition of use or concentration of airborne EtO (ppm)	Minimum required respirator
Equal to or less than 50.	(a) Full facepiece respirator with EtO approved canister, front or back mounted.
Equal to or less than 2,000.	(a) Positive pressure supplied air respirator, equipped with full facepiece, hood, or helmet, or
	(b) Continuous flow supplied air respirator (positive pressure) equipped with hood, helmet or suit.
Concentration above 2,000 or unknown concentration (such as in emergencies):	(a) Positive pressure self contained breathing apparatus (SCBA), equipped with full facepiece, or
	(b) Positive pressure full facepiece supplied air respirator equipped with an auxiliary positive pressure self contained breathing apparatus.
Firefighting . . . . .	(a) Positive pressure self contained breathing apparatus equipped with full facepiece.
Escape . . . . .	(a) Any respirator described above.

Note: Respirators approved for use in higher concentrations are permitted to be used in lower concentrations:))

**AMENDATORY SECTION** (Amending Order 88-11, filed 7/6/88)

**WAC 296-62-07383 Appendix A—Substance safety data sheet for ethylene oxide (nonmandatory). (1) Substance identification**

- (a) Substance: Ethylene oxide (C<sub>2</sub>H<sub>4</sub>O).
- (b) Synonyms: Dihydrooxirene, dimethylene oxide, EO, 1,2-epoxyethane, EtO, ETO, oxacyclopropane, oxane, oxidoethane, alpha/beta-oxidoethane, oxiran, oxirane.
- (c) Ethylene oxide can be found as a liquid or vapor.
- (d) EtO is used in the manufacture of ethylene glycol, surfactants, ethanolamines, glycol ethers, and other organic chemicals. EtO is also used as a sterilant and fumigant.
- (e) Appearance and odor: Colorless liquid below 10.7°C (51.3°F) or colorless gas with ether-like odor detected at

approximately 700 parts EtO per million parts of air (700 ppm).  
 (f) Permissible exposure: Exposure may not exceed 1 part EtO per million parts of air averaged over the 8-hour work day.

**(2) Health hazard data**

(a) Ethylene oxide can cause bodily harm if you inhale the vapor, if it comes into contact with your eyes or skin, or if you swallow it.

(b) Effects of overexposure:

(i) Ethylene oxide in liquid form can cause eye irritation and injury to the cornea, frostbite, and severe irritation and blistering of the skin upon prolonged or confined contact. Ingestion of EtO can cause gastric irritation and liver injury. Acute effects from inhalation of EtO vapors include respiratory irritation and lung injury, headache, nausea, vomiting, diarrhea, shortness of breath, and cyanosis (blue or purple coloring of skin). Exposure has also been associated with the occurrence of cancer, reproductive effects, mutagenic changes, neurotoxicity, and sensitization.

(ii) EtO has been shown to cause cancer in laboratory animals and has been associated with higher incidences of cancer in humans. Adverse reproductive effects and chromosome damage may also occur from EtO exposure.

(c) Reporting signs and symptoms: You should inform your employer if you develop any signs or symptoms and suspect that they are caused by exposure to EtO.

**(3) Emergency first aid procedures**

(a) Eye exposure: If EtO gets into your eyes, wash your eyes immediately with large amounts of water, lifting the lower and upper eyelids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical.

(b) Skin exposure: If EtO gets on your skin, immediately wash the contaminated skin with water. If EtO soaks through your clothing, especially your shoes, remove the clothing immediately and wash the skin with water using an emergency deluge shower. Get medical attention immediately. Thoroughly wash contaminated clothing before reusing. Contaminated leather shoes or other leather articles should not be reused and should be discarded.

(c) Inhalation: If large amounts of EtO are inhaled, the exposed person must be moved to fresh air at once. If breathing has stopped, perform cardiopulmonary resuscitation. Keep the affected person warm and at rest. Get medical attention immediately.

(d) Swallowing: When EtO has been swallowed, give the person large quantities of water immediately. After the water has been swallowed, try to get the person to vomit by having him or her touch the back of the throat with his or her finger. Do not make an unconscious person vomit. Get medical attention immediately.

(e) Rescue: Move the affected person from the hazardous exposure. If the exposed person has been overcome, attempt rescue only after notifying at least one other person of the emergency and putting into effect established emergency procedures. Do not become a casualty yourself. Understand your emergency rescue procedures and know the location of the emergency equipment before the need arises.

**(4) Respirators and protective clothing**

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## (a) Respirators:

(i) You may be required to wear a respirator for nonroutine activities, in emergencies, while your employer is in the process of reducing EtO exposure through engineering controls, and in areas where engineering controls are not feasible. ~~((As of the effective date of the standard,))~~ Only air supplied positive-pressure, full-facepiece respirators are approved for protection against EtO. If air-purifying respirators are worn in the future, they must have a ((joint Mine Safety and Health Administration (MSHA) and)) label issued by the National Institute for Occupational Safety and Health (NIOSH) ((label of approval)) under the provisions of 42 CFR part 84 stating that the respirators have been certified for use with ethylene oxide. For effective protection, respirators must fit your face and head snugly. Respirators ((should)) must not be loosened or removed in work situations where their use is required.

(ii) EtO does not have a detectable odor except at levels well above the permissible exposure limits. If you can smell EtO while wearing a respirator, proceed immediately to fresh air. If you experience difficulty breathing while wearing a respirator, tell your employer.

## (b) Protective clothing:

(i) You may be required to wear impermeable clothing, gloves, a face shield, or other appropriate protective clothing to prevent skin contact with liquid EtO or EtO-containing solutions. Where protective clothing is required, your employer must provide clean garments to you as necessary to assure that the clothing protects you adequately.

(ii) Replace or repair protective clothing that has become torn or otherwise damaged.

(iii) EtO must never be allowed to remain on the skin. Clothing and shoes which are not impermeable to EtO should not be allowed to become contaminated with EtO, and if they do, the clothing should be promptly removed and decontaminated. Contaminated leather shoes should be discarded. Once EtO penetrates shoes or other leather articles, they should not be worn again.

(c) Eye protection: You must wear splashproof safety goggles in areas where liquid EtO or EtO-containing solutions may contact your eyes. In addition, contact lenses should not be worn in areas where eye contact with EtO can occur.

## (5) Precautions for safe use, handling, and storage

(a) EtO is a flammable liquid, and its vapors can easily form explosive mixtures in air.

(b) EtO must be stored in tightly closed containers in a cool, well-ventilated area, away from heat, sparks, flames, strong oxidizers, alkalines, and acids, strong bases, acetylide forming metals such as copper, silver, mercury and their alloys.

(c) Sources of ignition such as smoking material, open flames and some electrical devices are prohibited wherever EtO is handled, used, or stored in a manner that could create a potential fire or explosion hazard.

(d) You should use nonsparking tools when opening or closing metal containers of EtO, and containers must be bonded and grounded in the rare instances in which liquid EtO is poured or transferred.

(e) Impermeable clothing wet with liquid EtO or EtO-containing solutions may be easily ignited. If you are wearing

impermeable clothing and are splashed with liquid EtO or EtO-containing solution, you should immediately remove the clothing while under an emergency deluge shower.

(f) If your skin comes into contact with liquid EtO or EtO-containing solutions, you should immediately remove the EtO using an emergency deluge shower.

(g) You should not keep food, beverages, or smoking materials in regulated areas where employee exposures are above the permissible exposure limits.

(h) Fire extinguishers and emergency deluge showers for quick drenching should be readily available, and you should know where they are and how to operate them.

(i) Ask your supervisor where EtO is used in your work area and for any additional plant safety and health rules.

## (6) Access to information

(a) Each year, your employer is required to inform you of the information contained in this standard and appendices for EtO. In addition, your employer must instruct you in the proper work practices for using EtO emergency procedures, and the correct use of protective equipment.

(b) Your employer is required to determine whether you are being exposed to EtO. You or your representative has the right to observe employee measurements and to record the results obtained. Your employer is required to inform you of your exposure. If your employer determines that you are being overexposed, he or she is required to inform you of the actions which are being taken to reduce your exposure to within permissible exposure limits.

(c) Your employer is required to keep records of your exposures and medical examinations. These exposure records must be kept by the employer for at least thirty years. Medical records must be kept for the period of your employment plus thirty years.

(d) Your employer is required to release your exposure and medical records to your physician or designated representative upon your written request.

## (7) Sterilant use of EtO in hospitals and health care facilities.

(a) This section of Appendix A, for informational purposes, sets forth EPA's recommendations for modifications in workplace design and practice in hospitals and health care facilities for which the Environmental Protection Agency has registered EtO for uses as a sterilant or fumigant under the Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. 136 *et seq.* These new recommendations, published in the **Federal Register** by EPA at 49 FR 15268, as modified in today's **Register**, are intended to help reduce the exposure of hospital and health care workers to EtO to 1 ppm. EPA's recommended workplace design and workplace practice are as follows:

## (i) Workplace design

(A) Installation of gas line hand valves. Hand valves must be installed on the gas supply line at the connection to the supply cylinders to minimize leakage during cylinder change.

(B) Installation of capture boxes. Sterilizer operations result in a gas/water discharge at the completion of the process. This discharge is routinely piped to a floor drain which is generally located in an equipment or an adjacent room.

When the floor drain is not in the same room as the sterilizer and workers are not normally present, all that is necessary is that the room be well ventilated.

(C) The installation of a "capture box" will be required for those work place layouts where the floor drain is located in the same room as the sterilizer or in a room where workers are normally present. A "capture box" is a piece of equipment that totally encloses the floor drain where the discharge from the sterilizer is pumped. The "capture box" is to be vented directly to a nonrecirculating or dedicated ventilation system. Sufficient air intake should be allowed at the bottom of the box to handle the volume of air that is ventilated from the top of the box. The "capture box" can be made of metal, plastic, wood or other equivalent material. The box is intended to reduce levels of EtO discharged into the work room atmosphere. The use of a "capture box" is not required if: (I) The vacuum pump discharge floor drain is located in a well ventilated equipment or other room where workers are not normally present or (II) the water sealed vacuum pump discharges directly to a closed sealed sewer line (check local plumbing codes).

(D) If it is impractical to install a vented "capture box" and a well ventilated equipment or other room is not feasible, a box that can be sealed over the floor drain may be used if: (I) The floor drain is located in a room where workers are not normally present and EtO cannot leak into an occupied area, and (II) the sterilizer in use is less than 12 cubic feet in capacity (check local plumbing codes).

(ii) **Ventilation of aeration units.**

(A) Existing aeration units. Existing units must be vented to a nonrecirculating or dedicated system or vented to an equipment or other room where workers are not normally present and which is well ventilated. Aerator units must be positioned as close as possible to the sterilizer to minimize the exposure from the off-gassing of sterilized items.

(B) Installation of new aerator units (where none exist). New aerator units must be vented as described above for existing aerators. Aerators must be in place by July 1, 1986.

(iii) **Ventilation during cylinder change.** Workers may be exposed to short but relatively high levels of EtO during the change of gas cylinders. To reduce exposure from this route, users must select one of three alternatives designed to draw off gas that may be released when the line from the sterilizer to the cylinder is disconnected:

(A) Location of cylinders in a well ventilated equipment room or other room where workers are not normally present.

(B) Installation of a flexible hose (at least four inches in diameter) to a nonrecirculating or dedicated ventilation system and located in the area of cylinder change in such a way that the hose can be positioned at the point where the sterilizer gas line is disconnected from the cylinder.

(C) Installation of a hood that is part of a nonrecirculating or dedicated system and positioned no more than one foot above the point where the change of cylinders takes place.

(iv) **Ventilation of sterilizer door area.** One of the major sources of exposure to EtO occurs when the sterilizer door is opened following the completion of the sterilization process. In order to reduce this avenue of exposure, a hood or metal canopy closed on each end must be installed over the steril-

izer door. The hood or metal canopy must be connected to a nonrecirculating or dedicated ventilation system or one that exhausts gases to a well ventilated equipment or other room where workers are not normally present. A hood or canopy over the sterilizer door is required for use even with those sterilizers that have a purge cycle and must be in place by July 1, 1986.

(v) **Ventilation of sterilizer relief valve.** Sterilizers are typically equipped with a safety relief device to release gas in case of increased pressure in the sterilizer. Generally, such relief devices are used on pressure vessels. Although these pressure relief devices are rarely opened for hospital and health care sterilizers, it is suggested that they be designed to exhaust vapor from the sterilizer by one of the following methods:

(A) Through a pipe connected to the outlet of the relief valve ventilated directly outdoors at a point high enough to be away from passers by, and not near any windows that open, or near any air conditioning or ventilation air intakes.

(B) Through a connection to an existing or new nonrecirculating or dedicated ventilation system.

(C) Through a connection to a well ventilated equipment or other room where workers are not normally present.

(vi) **Ventilation systems.** Each hospital and health care facility affected by this notice that uses EtO for the sterilization of equipment and supplies must have a ventilation system which enables compliance with the requirements of (a)(i)(B) through (v) of this subsection in the manner described in these sections and within the timeframes allowed. Thus, each affected hospital and health care facility must have or install a nonrecirculating or dedicated ventilation equipment or other room where workers are not normally present in which to vent EtO.

(vii) **Installation of alarm systems.** An audible and visual indicator alarm system must be installed to alert personnel of ventilation system failures, i.e., when the ventilation fan motor is not working.

(b) **Workplace practices**

(i) All the workplace practices discussed in this unit must be permanently posted near the door of each sterilizer prior to use by any operator.

(ii) **Changing of supply line filters.**

Filters in the sterilizer liquid line must be changed when necessary, by the following procedure:

(A) Close the cylinder valve and the hose valve.

(B) Disconnect the cylinder hose (piping) from the cylinder.

(C) Open the hose valve and bleed slowly into a proper ventilating system at or near the in-use supply cylinders.

(D) Vacate the area until the line is empty.

(E) Change the filter.

(F) Reconnect the lines and reverse the valve position.

(G) Check hoses, filters, and valves for leaks with a fluorocarbon leak detector (for those sterilizers using the eighty-eight percent chlorofluorocarbon, twelve percent ethylene oxide mixture (12/88)).

(iii) **Restricted access area.**

(A) Areas involving use of EtO must be designated as restricted access areas. They must be identified with signs or

floor marks near the sterilizer door, aerator, vacuum pump floor drain discharge, and in-use cylinder storage.

(B) All personnel must be excluded from the restricted area when certain operations are in progress, such as discharging a vacuum pump, emptying a sterilizer liquid line, or venting a nonpurge sterilizer with the door ajar or other operations where EtO might be released directly into the face of workers.

(iv) **Door opening procedures.**

(A) Sterilizers with purge cycles. A load treated in a sterilizer equipped with a purge cycle should be removed immediately upon completion of the cycle (provided no time is lost opening the door after cycle is completed). If this is not done, the purge cycle should be repeated before opening door.

(B) Sterilizers without purge cycles. For a load treated in a sterilizer not equipped with a purge cycle, the sterilizer door must be ajar six inches for fifteen minutes, and then fully opened for at least another fifteen minutes before removing the treated load. The length of time of the second period should be established by peak monitoring for one hour after the two fifteen-minute periods suggested. If the level is above 10 ppm time-weighted average for eight hours, more time should be added to the second waiting period (door wide open). However, in no case may the second period be shortened to less than fifteen minutes.

(v) **Chamber unloading procedures.**

(A) Procedures for unloading the chamber must include the use of baskets or rolling carts, or baskets and rolling tables to transfer treated loads quickly, thus avoiding excessive contact with treated articles, and reducing the duration of exposures.

(B) If rolling carts are used, they should be pulled not pushed by the sterilizer operators to avoid offgassing exposure.

(vi) Maintenance. A written log should be instituted and maintained documenting the date of each leak detection and any maintenance procedures undertaken. This is a suggested use practice and is not required.

(vii) Leak detection. Sterilizer door gaskets, cylinder and vacuum piping, hoses, filters, and valves must be checked for leaks under full pressure with a Fluorocarbon leak detector (for 12/88 systems only) every two weeks by maintenance personnel. Also, the cylinder piping connections must be checked after changing cylinders. Particular attention in leak detection should be given to the automatic solenoid valves that control the flow of EtO to the sterilizer. Specifically, a check should be made at the EtO gasline entrance port to the sterilizer, while the sterilizer door is open and the solenoid valves are in a closed position.

(viii) Maintenance procedures. Sterilizer/aerator door gaskets, valves, and fittings must be replaced when necessary as determined by maintenance personnel in their biweekly checks; in addition, visual inspection of the door gaskets for cracks, debris, and other foreign substances should be conducted daily by the operator.

**AMENDATORY SECTION** (Amending Order 93-06, filed 10/20/93, effective 12/1/93)

**WAC 296-62-07413 Respirator protection.** (1) General. ~~((Where respirators are required by this section, the employer shall provide them at no cost to the employee and shall assure that they are used in compliance with the requirements of this section. Respirators shall be used in the following circumstances))~~ For employees who use respirators required by this section, the employer must provide respirators that comply with the requirements of this subsection. Respirators must be used during:

(a) ~~((Where exposure levels exceed the PEL, during the time period))~~ Periods necessary to install or implement feasible engineering and work-practice controls when employee exposure levels exceed the PEL;

(b) ~~((In those))~~ Maintenance and repair activities, and ~~((during those))~~ brief or intermittent operations, where employee exposures exceed the PEL and engineering and work-practice controls are not feasible or are not required;

(c) Activities in regulated areas((;)) as ((prescribed)) specified in WAC 296-62-07409;

(d) ~~((Where))~~ Work operations for which the employer has implemented all feasible engineering and work-practice controls and such controls are not sufficient to reduce employee exposures to or below the PEL;

(e) ~~((In emergencies;~~

~~((Wherever))~~ Work operations for which an employee who is exposed to cadmium at or above the action level, and the employee requests a respirator;

~~((g) Wherever))~~ (f) Work operations for which an employee is exposed above the PEL ((in an industry to which a SECAL is applicable;)) and engineering controls are not required by WAC 296-62-07411 (1)(b); and

~~((h) Wherever an employee is exposed to cadmium above the PEL and engineering controls are not required under WAC 296-62-07411 (1)(e);))~~ (g) Emergencies.

(2) Respirator ~~((selection:~~

~~(a) Where respirators are required under this section, the employer shall select and provide the appropriate respirator as specified in Table 2. The employer shall select respirators from among those jointly approved as acceptable protection against cadmium dust, fume, and mist by the Mine Safety and Health Administration (MSHA) and by the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR part 11;))~~ program.

(a) The employer must implement a respiratory protection program as required by chapter 296-62 WAC, Part E (except WAC 296-62-07130(1) and 296-62-07150 through 296-62-07156).

(b) No employees must use a respirator if, based on their recent medical examination, the examining physician determines that they will be unable to continue to function normally while using a respirator. If the physician determines that the employee must be limited in, or removed from, their current job because of their inability to use a respirator, the limitation or removal must be in accordance with WAC 296-62-07423(11) and (12).

(c) If an employee has breathing difficulty during fit testing or respirator use, the employer must provide the

employee with a medical examination as required by WAC 296-62-07423 (6)(b) to determine if the employee can use a respirator while performing the required duties.

(3) Respirator selection.

(a) The employer must select the appropriate respirator from Table 2 of this section.

Table 2.—Respiratory Protection for Cadmium

Airborne concentration or condition of use <sup>a</sup>	Required respirator type <sup>b</sup>
10 x or less	A half mask, air-purifying respirator equipped with a HEPA <sup>c</sup> filter <sup>d</sup> .
25 x or less	A powered air-purifying respirator ("PAPR") with a loose-fitting hood or helmet equipped with a HEPA filter, or a supplied-air respirator with a loose-fitting hood or helmet facepiece operated in the continuous flow mode.
50 x or less	A full facepiece air-purifying respirator equipped with a HEPA filter, or a powered air-purifying respirator with a tight-fitting half mask equipped with a HEPA filter, or a supplied air respirator with a tight-fitting half mask operated in the continuous flow mode.
250 x or less	A powered air-purifying respirator with a tight-fitting full facepiece equipped with a HEPA filter, or a supplied-air respirator with a tight-fitting full facepiece operated in the continuous flow mode.
1000 x or less	A supplied-air respirator with half mask or full facepiece operated in the pressure demand or other positive pressure mode.

Table 2.—Respiratory Protection for Cadmium

>1000 x or unknown concentrations	A self-contained breathing apparatus with a full facepiece operated in the pressure demand or other positive pressure mode, or a supplied-air respirator with a full facepiece operated in the pressure demand or other positive pressure mode and equipped with an auxiliary escape type self-contained breathing apparatus operated in the pressure demand mode.
Fire fighting	A self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

<sup>a</sup> Concentrations expressed as multiple of the PEL.

<sup>b</sup> Respirators assigned for higher environmental concentrations may be used at lower exposure levels. Quantitative fit testing is required for all tight-fitting air purifying respirators where airborne concentration of cadmium exceeds 10 times the TWA PEL (10x5 µg/m<sup>3</sup>=50 µg/m<sup>3</sup>). A full facepiece respirator is required when eye irritation is experienced.

<sup>c</sup> HEPA means High Efficiency Particulate Air.

<sup>d</sup> Fit testing, qualitative or quantitative, is required.

SOURCE: Respiratory Decision Logic, NIOSH, 1987

~~(b) The employer (~~shall~~) must provide an employee with a powered, air-purifying respirator (PAPR) (~~in lieu~~) instead of a negative-pressure respirator (~~wherever~~:~~

~~(i) An)) When an employee who is entitled to a respirator chooses to use this type of respirator(;) and~~

~~((ii) This)) Such a respirator ((will)) provides adequate protection to the employee.~~

~~((3) Respirator program.~~

~~(a) Where respiratory protection is required, the employer shall institute a respirator protection program in accordance with chapter 296-62 WAC, Part E.~~

~~(b) The employer shall permit each employee who is required to use an air purifying respirator to leave the regulated area to change the filter elements or replace the respirator whenever an increase in breathing resistance is detected and shall maintain an adequate supply of filter elements for this purpose.~~

~~(c) The employer shall also permit each employee who is required to wear a respirator to leave the regulated area to wash his or her face and the respirator facepiece whenever necessary to prevent skin irritation associated with respirator use.~~

~~(d) If an employee exhibits difficulty in breathing while wearing a respirator during a fit test or during use, the employer shall make available to the employee a medical examination in accordance with WAC 296-62-07423 (6)(b)~~

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to determine if the employee can wear a respirator while performing the required duties.

~~(e) No employee shall be assigned a task requiring the use of a respirator if, based upon his or her most recent examination, an examining physician determines that the employee will be unable to continue to function normally while wearing a respirator. If the physician determines the employee must be limited in, or removed from his or her current job because of the employee's inability to wear a respirator, the limitation or removal shall be in accordance with WAC 296-62-07423 (11) and (12).~~

~~(4) Respirator fit testing.~~

~~(a) The employer shall assure that the respirator issued to the employee is fitted properly and exhibits the least possible facepiece leakage.~~

~~(b) For each employee wearing a tight-fitting, air purifying respirator (either negative or positive pressure) who is exposed to airborne concentrations of cadmium that do not exceed 10 times the PEL ( $10 \times 5 \mu\text{g}/\text{m}^3 = 50 \mu\text{g}/\text{m}^3$ ), the employer shall perform either quantitative or qualitative fit testing at the time of initial fitting and at least annually thereafter. If quantitative fit testing is used for a negative pressure respirator, a fit factor that is at least 10 times the protection factor for that class of respirators (Table 2 in subsection (2)(a) of this section) shall be achieved at testing.~~

~~(c) For each employee wearing a tight-fitting air purifying respirator (either negative or positive pressure) who is exposed to airborne concentrations of cadmium that exceed 10 times the PEL ( $10 \times 5 \mu\text{g}/\text{m}^3 = 50 \mu\text{g}/\text{m}^3$ ), the employer shall perform quantitative fit testing at the time of initial fitting and at least annually thereafter. For negative pressure respirators, a fit factor that is at least 10 times the protection factor for that class of respirators (Table 2 in subsection (2)(a) of this section) shall be achieved during quantitative fit testing.~~

~~(d) For each employee wearing a tight-fitting, supplied-air respirator or self-contained breathing apparatus, the employer shall perform quantitative fit testing at the time of initial fitting and at least annually thereafter. This shall be accomplished by fit testing an air purifying respirator of identical type facepiece, make, model, and size as the supplied air respirator or self-contained breathing apparatus that is equipped with HEPA filters and tested as a surrogate (substitute) in the negative pressure mode. A fit factor that is at least 10 times the protection factor for that class of respirators (Table 2 in subsection (2)(a) of this section) shall be achieved during quantitative fit testing. A supplied air respirator or self-contained breathing apparatus with the same type facepiece, make, model, and size as the air purifying respirator with which the employee passed the quantitative fit test may then be used by that employee up to the protection factor listed in Table 2 for that class of respirators.~~

~~(e) Fit testing shall be conducted in accordance with WAC 296-62-07445, Appendix C.)~~

AMENDATORY SECTION (Amending Order 93-06, filed 10/20/93, effective 12/1/93)

**WAC 296-62-07425 Communication of cadmium hazards to employees.** (1) General. In communications concerning cadmium hazards, employers shall comply with the requirements of WISHA's Hazard Communication Standard, chapter 296-62 WAC, Part C, including but not limited to the requirements concerning warning signs and labels, material safety data sheets (MSDS), and employee information and training. In addition, employers shall comply with the following requirements:

(2) Warning signs.

(a) Warning signs shall be provided and displayed in regulated areas. In addition, warning signs shall be posted at all approaches to regulated areas so that an employee may read the signs and take necessary protective steps before entering the area.

(b) Warning signs required by (a) of this subsection shall bear the following information:

DANGER CADMIUM CANCER HAZARD CAN CAUSE LUNG AND KIDNEY DISEASE AUTHORIZED PERSONNEL ONLY RESPIRATORS REQUIRED IN THIS AREA

(c) The employer shall assure that signs required by this subsection are illuminated, cleaned, and maintained as necessary so that the legend is readily visible.

(3) Warning labels.

(a) Shipping and storage containers containing cadmium, cadmium compounds, or cadmium contaminated clothing, equipment, waste, scrap, or debris shall bear appropriate warning labels, as specified in (b) of this subsection.

(b) The warning labels shall include at least the following information:

DANGER CONTAINS CADMIUM CANCER HAZARD AVOID CREATING DUST CAN CAUSE LUNG AND KIDNEY DISEASE

(c) Where feasible, installed cadmium products shall have a visible label or other indication that cadmium is present.

(4) Employee information and training.

(a) The employer shall institute a training program for all employees who are potentially exposed to cadmium, assure employee participation in the program, and maintain a record of the contents of such program.

(b) Training shall be provided prior to or at the time of initial assignment to a job involving potential exposure to cadmium and at least annually thereafter.

(c) The employer shall make the training program understandable to the employee and shall assure that each employee is informed of the following:

(i) The health hazards associated with cadmium exposure, with special attention to the information incorporated in WAC 296-62-07441, Appendix A;

(ii) The quantity, location, manner of use, release, and storage of cadmium in the workplace and the specific nature of operations that could result in exposure to cadmium, especially exposures above the PEL;

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(iii) The engineering controls and work practices associated with the employee's job assignment;

(iv) The measures employees can take to protect themselves from exposure to cadmium, including modification of such habits as smoking and personal hygiene, and specific procedures the employer has implemented to protect employees from exposure to cadmium such as appropriate work practices, emergency procedures, and the provision of personal protective equipment;

(v) The purpose, proper selection, fitting, proper use, and limitations of ~~((respirators and))~~ protective clothing;

(vi) The purpose and a description of the medical surveillance program required by WAC 296-62-07423;

(vii) The contents of this section and its appendices; ~~((and))~~

(viii) The employee's rights of access to records under WAC 296-62-05213; and

(ix) The purpose, proper use, limitations, and other training requirements for respiratory protection as required in chapter 296-62 WAC, Part E.

(d) Additional access to information and training program and materials.

(i) The employer shall make a copy of this section and its appendices readily available without cost to all affected employees and shall provide a copy if requested.

(ii) The employer shall provide to the director, upon request, all materials relating to the employee information and the training program.

**AMENDATORY SECTION** (Amending Order 94-07, filed 7/20/94, effective 9/20/94)

**WAC 296-62-07441 Appendix A, substance safety data sheet—Cadmium.** (1) Substance identification.

(a) Substance: Cadmium.

(b) 8-Hour, time-weighted-average, permissible exposure limit (TWA PEL):

(c) TWA PEL: Five micrograms of cadmium per cubic meter of air  $5 \mu\text{g}/\text{m}^3$ , time-weighted average (TWA) for an 8-hour workday.

(d) Appearance: Cadmium metal—soft, blue-white, malleable, lustrous metal or grayish-white powder. Some cadmium compounds may also appear as a brown, yellow, or red powdery substance.

(2) Health hazard data.

(a) Routes of exposure. Cadmium can cause local skin or eye irritation. Cadmium can affect your health if you inhale it or if you swallow it.

(b) Effects of overexposure.

(i) Short-term (acute) exposure: Cadmium is much more dangerous by inhalation than by ingestion. High exposures to cadmium that may be immediately dangerous to life or health occur in jobs where workers handle large quantities of cadmium dust or fume; heat cadmium-containing compounds or cadmium-coated surfaces; weld with cadmium solders or cut cadmium-containing materials such as bolts.

(ii) Severe exposure may occur before symptoms appear. Early symptoms may include mild irritation of the upper respiratory tract, a sensation of constriction of the throat, a metallic taste and/or a cough. A period of one to ten hours

may precede the onset of rapidly progressing shortness of breath, chest pain, and flu-like symptoms with weakness, fever, headache, chills, sweating, and muscular pain. Acute pulmonary edema usually develops within twenty-four hours and reaches a maximum by three days. If death from asphyxia does not occur, symptoms may resolve within a week.

(iii) Long-term (chronic) exposure. Repeated or long-term exposure to cadmium, even at relatively low concentrations, may result in kidney damage and an increased risk of cancer of the lung and of the prostate.

(c) Emergency first aid procedures.

(i) Eye exposure: Direct contact may cause redness or pain. Wash eyes immediately with large amounts of water, lifting the upper and lower eyelids. Get medical attention immediately.

(ii) Skin exposure: Direct contact may result in irritation. Remove contaminated clothing and shoes immediately. Wash affected area with soap or mild detergent and large amounts of water. Get medical attention immediately.

(iii) Ingestion: Ingestion may result in vomiting, abdominal pain, nausea, diarrhea, headache, and sore throat. Treatment for symptoms must be administered by medical personnel. Under no circumstances should the employer allow any person whom he/she retains, employs, supervises, or controls to engage in therapeutic chelation. Such treatment is likely to translocate cadmium from pulmonary or other tissue to renal tissue. Get medical attention immediately.

(iv) Inhalation: If large amounts of cadmium are inhaled, the exposed person must be moved to fresh air at once. If breathing has stopped, perform cardiopulmonary resuscitation. Administer oxygen if available. Keep the affected person warm and at rest. Get medical attention immediately.

(v) Rescue: Move the affected person from the hazardous exposure. If the exposed person has been overcome, attempt rescue only after notifying at least one other person of the emergency and putting into effect established emergency procedures. Do not become a casualty yourself. Understand your emergency rescue procedures and know the location of the emergency equipment before the need arises.

(3) Employee information.

(a) Protective clothing and equipment.

(i) Respirators: You may be required to wear a respirator for nonroutine activities; in emergencies; while your employer is in the process of reducing cadmium exposures through engineering controls; and where engineering controls are not feasible. If air-purifying respirators are worn (~~((in the future))~~), they must have a (~~((Joint Mine Safety and Health Administration (MSHA) and))~~) label issued by the National Institute for Occupational Safety and Health (NIOSH) ((label of approval)) under the provisions of 42 CFR part 84 stating that the respirators have been certified for use with cadmium. Cadmium does not have a detectable odor except at levels well above the permissible exposure limits. If you can smell cadmium while wearing a respirator, proceed immediately to fresh air. If you experience difficulty breathing while wearing a respirator, tell your employer.

(ii) Protective clothing: You may be required to wear impermeable clothing, gloves, foot gear, a face shield, or



other appropriate protective clothing to prevent skin contact with cadmium. Where protective clothing is required, your employer must provide clean garments to you as necessary to assure that the clothing protects you adequately. The employer must replace or repair protective clothing that has become torn or otherwise damaged.

(iii) Eye protection: You may be required to wear splash-proof or dust resistant goggles to prevent eye contact with cadmium.

(b) Employer requirements.

(i) Medical: If you are exposed to cadmium at or above the action level, your employer is required to provide a medical examination, laboratory tests and a medical history according to the medical surveillance provisions under WAC 296-62-07423. (See summary chart and tables in this section, appendix A.) These tests shall be provided without cost to you. In addition, if you are accidentally exposed to cadmium under conditions known or suspected to constitute toxic exposure to cadmium, your employer is required to make special tests available to you.

(ii) Access to records: All medical records are kept strictly confidential. You or your representative are entitled to see the records of measurements of your exposure to cadmium. Your medical examination records can be furnished to your personal physician or designated representative upon request by you to your employer.

(iii) Observation of monitoring: Your employer is required to perform measurements that are representative of your exposure to cadmium and you or your designated representative are entitled to observe the monitoring procedure. You are entitled to observe the steps taken in the measurement procedure, and to record the results obtained. When the monitoring procedure is taking place in an area where respirators or personal protective clothing and equipment are required to be worn, you or your representative must also be provided with, and must wear the protective clothing and equipment.

(c) Employee requirements. You will not be able to smoke, eat, drink, chew gum or tobacco, or apply cosmetics while working with cadmium in regulated areas. You will also not be able to carry or store tobacco products, gum, food, drinks, or cosmetics in regulated areas because these products easily become contaminated with cadmium from the workplace and can therefore create another source of unnecessary cadmium exposure. Some workers will have to change out of work clothes and shower at the end of the day, as part of their workday, in order to wash cadmium from skin and hair. Handwashing and cadmium-free eating facilities shall be provided by the employer and proper hygiene should always be performed before eating. It is also recommended that you do not smoke or use tobacco products, because among other things, they naturally contain cadmium. For further information, read the labeling on such products.

(4) Physician information.

(a) Introduction. The medical surveillance provisions of WAC 296-62-07423 generally are aimed at accomplishing three main interrelated purposes: First, identifying employees at higher risk of adverse health effects from excess, chronic exposure to cadmium; second, preventing cadmium-induced disease; and third, detecting and minimizing existing

cadmium-induced disease. The core of medical surveillance in this standard is the early and periodic monitoring of the employee's biological indicators of:

(i) Recent exposure to cadmium;

(ii) Cadmium body burden; and

(iii) Potential and actual kidney damage associated with exposure to cadmium. The main adverse health effects associated with cadmium overexposure are lung cancer and kidney dysfunction. It is not yet known how to adequately biologically monitor human beings to specifically prevent cadmium-induced lung cancer. By contrast, the kidney can be monitored to provide prevention and early detection of cadmium-induced kidney damage. Since, for noncarcinogenic effects, the kidney is considered the primary target organ of chronic exposure to cadmium, the medical surveillance provisions of this standard effectively focus on cadmium-induced kidney disease. Within that focus, the aim, where possible, is to prevent the onset of such disease and, where necessary, to minimize such disease as may already exist. The by-products of successful prevention of kidney disease are anticipated to be the reduction and prevention of other cadmium-induced diseases.

(b) Health effects. The major health effects associated with cadmium overexposure are described below.

(i) Kidney: The most prevalent nonmalignant disease observed among workers chronically exposed to cadmium is kidney dysfunction. Initially, such dysfunction is manifested as proteinuria. The proteinuria associated with cadmium exposure is most commonly characterized by excretion of low-molecular weight proteins (15,000 to 40,000 MW) accompanied by loss of electrolytes, uric acid, calcium, amino acids, and phosphate. The compounds commonly excreted include: beta-2-microglobulin ( $\beta_2$ -M), retinol binding protein (RBP), immunoglobulin light chains, and lysozyme. Excretion of low molecular weight proteins are characteristic of damage to the proximal tubules of the kidney (Iwao et al., 1980). It has also been observed that exposure to cadmium may lead to urinary excretion of high-molecular weight proteins such as albumin, immunoglobulin G, and glycoproteins (Ex. 29). Excretion of high-molecular weight proteins is typically indicative of damage to the glomeruli of the kidney. Bernard et al., (1979) suggest that damage to the glomeruli and damage to the proximal tubules of the kidney may both be linked to cadmium exposure but they may occur independently of each other. Several studies indicate that the onset of low-molecular weight proteinuria is a sign of irreversible kidney damage (Friberg et al., 1974; Roels et al., 1982; Piscator 1984; Elinder et al., 1985; Smith et al., 1986). Above specific levels of  $\beta_2$ -M associated with cadmium exposure it is unlikely that  $\beta_2$ -M levels return to normal even when cadmium exposure is eliminated by removal of the individual from the cadmium work environment (Friberg, Ex. 29, 1990). Some studies indicate that such proteinuria may be progressive; levels of  $\beta_2$ -M observed in the urine increase with time even after cadmium exposure has ceased. See, for example, Elinder et al., 1985. Such observations, however, are not universal, and it has been suggested that studies in which proteinuria has not been observed to progress may not have tracked patients for a sufficiently long



time interval (Jarup, Ex. 8-661). When cadmium exposure continues after the onset of proteinuria, chronic nephrotoxicity may occur (Friberg, Ex. 29). Uremia results from the inability of the glomerulus to adequately filter blood. This leads to severe disturbance of electrolyte concentrations and may lead to various clinical complications including kidney stones (L-140-50). After prolonged exposure to cadmium, glomerular proteinuria, glucosuria, aminoaciduria, phosphaturia, and hypercalciuria may develop (Exs. 8-86, 4-28, 14-18). Phosphate, calcium, glucose, and amino acids are essential to life, and under normal conditions, their excretion should be regulated by the kidney. Once low molecular weight proteinuria has developed, these elements dissipate from the human body. Loss of glomerular function may also occur, manifested by decreased glomerular filtration rate and increased serum creatinine. Severe cadmium-induced renal damage may eventually develop into chronic renal failure and uremia (Ex. 55). Studies in which animals are chronically exposed to cadmium confirm the renal effects observed in humans (Friberg et al., 1986). Animal studies also confirm problems with calcium metabolism and related skeletal effects which have been observed among humans exposed to cadmium in addition to the renal effects. Other effects commonly reported in chronic animal studies include anemia, changes in liver morphology, immunosuppression and hypertension. Some of these effects may be associated with co-factors. Hypertension, for example, appears to be associated with diet as well as cadmium exposure. Animals injected with cadmium have also shown testicular necrosis (Ex. 8-86B).

(ii) Biological markers. It is universally recognized that the best measures of cadmium exposures and its effects are measurements of cadmium in biological fluids, especially urine and blood. Of the two, CdU is conventionally used to determine body burden of cadmium in workers without kidney disease. CdB is conventionally used to monitor for recent exposure to cadmium. In addition, levels of CdU and CdB historically have been used to predict the percent of the population likely to develop kidney disease (Thun et al., Ex. L-140-50; WHO, Ex. 8-674; ACGIH, Exs. 8-667, 140-50). The third biological parameter upon which WISHA relies for medical surveillance is beta-2-microglobulin in urine ( $\beta_2$ -M), a low molecular weight protein. Excess  $\beta_2$ -M has been widely accepted by physicians and scientists as a reliable indicator of functional damage to the proximal tubule of the kidney (Exs. 8-447, 144-3-C, 4-47, L-140-45, 19-43-A). Excess  $\beta_2$ -M is found when the proximal tubules can no longer reabsorb this protein in a normal manner. This failure of the proximal tubules is an early stage of a kind of kidney disease that commonly occurs among workers with excessive cadmium exposure. Used in conjunction with biological test results indicating abnormal levels of CdU and CdB, the finding of excess  $\beta_2$ -M can establish for an examining physician that any existing kidney disease is probably cadmium-related (Trs. 6/6/90, pp. 82-86, 122, 134). The upper limits of normal levels for cadmium in urine and cadmium in blood are 3  $\mu$ g Cd/gram creatinine in urine and 5  $\mu$ gCd/liter whole blood, respectively. These levels were derived from broad-based population studies. Three issues confront the physicians in the use of

$\beta_2$ -M as a marker of kidney dysfunction and material impairment. First, there are a few other causes of elevated levels of  $\beta_2$ -M not related to cadmium exposures, some of which may be rather common diseases and some of which are serious diseases (e.g., myeloma or transient flu, Exs. 29 and 8-086). These can be medically evaluated as alternative causes (Friberg, Ex. 29). Also, there are other factors that can cause  $\beta_2$ -M to degrade so that low levels would result in workers with tubular dysfunction. For example, regarding the degradation of  $\beta_2$ -M, workers with acidic urine (pH<6) might have  $\beta_2$ -M levels that are within the "normal" range when in fact kidney dysfunction has occurred (Ex. L-140-1) and the low molecular weight proteins are degraded in acid urine. Thus, it is very important that the pH of urine be measured, that urine samples be buffered as necessary (See WAC 296-62-07451, appendix F.), and that urine samples be handled correctly, i.e., measure the pH of freshly voided urine samples, then if necessary, buffer to Ph>6 (or above for shipping purposes), measure Ph again and then, perhaps, freeze the sample for storage and shipping. (See also WAC 296-62-07451, appendix F.) Second, there is debate over the pathological significance of proteinuria, however, most world experts believe that  $\beta_2$ -M levels greater than 300  $\mu$ g/g Cr are abnormal (Elinder, Ex. 55, Friberg, Ex. 29). Such levels signify kidney dysfunction that constitutes material impairment of health. Finally, detection of  $\beta_2$ -M at low levels has often been considered difficult, however, many laboratories have the capability of detecting excess  $\beta_2$ -M using simple kits, such as the Phadebas Delphia test, that are accurate to levels of 100  $\mu$ g  $\beta_2$ -M/g Cr U (Ex. L-140-1). Specific recommendations for ways to measure  $\beta_2$ -M and proper handling of urine samples to prevent degradation of  $\beta_2$ -M have been addressed by WISHA in WAC 296-62-07451, appendix F, in the section on laboratory standardization. All biological samples must be analyzed in a laboratory that is proficient in the analysis of that particular analyte, under WAC 296-62-07423 (1)(d). (See WAC 296-62-07451, appendix F). Specifically, under WAC 296-62-07423 (1)(d), the employer is to assure that the collecting and handling of biological samples of cadmium in urine (CdU), cadmium in blood (CdB), and beta-2 microglobulin in urine ( $\beta_2$ -M) taken from employees is collected in a manner that assures reliability. The employer must also assure that analysis of biological samples of cadmium in urine (CdU), cadmium in blood (CdB), and beta-2 microglobulin in urine ( $\beta_2$ -M) taken from employees is performed in laboratories with demonstrated proficiency for that particular analyte. (See WAC 296-62-07451, appendix F).

(iii) Lung and prostate cancer. The primary sites for cadmium-associated cancer appear to be the lung and the prostate (L-140-50). Evidence for an association between cancer and cadmium exposure derives from both epidemiological studies and animal experiments. Mortality from prostate cancer associated with cadmium is slightly elevated in several industrial cohorts, but the number of cases is small and there is not clear dose-response relationship. More substantive evidence exists for lung cancer. The major epidemiological study of lung cancer was conducted by Thun et al., (Ex.

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4-68). Adequate data on cadmium exposures were available to allow evaluation of dose-response relationships between cadmium exposure and lung cancer. A statistically significant excess of lung cancer attributed to cadmium exposure was observed in this study even when confounding variables such as co-exposure to arsenic and smoking habits were taken into consideration (Ex. L-140-50). The primary evidence for quantifying a link between lung cancer and cadmium exposure from animal studies derives from two rat bioassay studies; one by Takenaka et al., (1983), which is a study of cadmium chloride and a second study by Oldiges and Glaser (1990) of four cadmium compounds. Based on the above cited studies, the U.S. Environmental Protection Agency (EPA) classified cadmium as "B1", a probable human carcinogen, in 1985 (Ex. 4-4). The International Agency for Research on Cancer (IARC) in 1987 also recommended that cadmium be listed as "2A", a probable human carcinogen (Ex. 4-15). The American Conference of Governmental Industrial Hygienists (ACGIH) has recently recommended that cadmium be labeled as a carcinogen. Since 1984, NIOSH has concluded that cadmium is possibly a human carcinogen and has recommended that exposures be controlled to the lowest level feasible.

(iv) Noncarcinogenic effects. Acute pneumonitis occurs 10 to 24 hours after initial acute inhalation of high levels of cadmium fumes with symptoms such as fever and chest pain (Exs. 30, 8-86B). In extreme exposure cases pulmonary edema may develop and cause death several days after exposure. Little actual exposure measurement data is available on the level of airborne cadmium exposure that causes such immediate adverse lung effects, nonetheless, it is reasonable to believe a cadmium concentration of approximately 1 mg/m<sup>3</sup> over an eight hour period is "immediately dangerous" (55 FR 4052, ANSI; Ex. 8-86B). In addition to acute lung effects and chronic renal effects, long term exposure to cadmium may cause other severe effects on the respiratory system. Reduced pulmonary function and chronic lung disease indicative of emphysema have been observed in workers who have had prolonged exposure to cadmium dust or fumes (Exs. 4-29, 4-22, 4-42, 4-50, 4-63). In a study of workers conducted by Kazantzis et al., a statistically significant excess of worker deaths due to chronic bronchitis was found, which in his opinion was directly related to high cadmium exposures of 1 mg/m<sup>3</sup> or more (Tr. 6/8/90, pp. 156-157). Cadmium need not be respirable to constitute a hazard. Inspirable cadmium particles that are too large to be respirable but small enough to enter the tracheobronchial region of the lung can lead to bronchoconstriction, chronic pulmonary disease, and cancer of that portion of the lung. All of these diseases have been associated with occupational exposure to cadmium (Ex. 8-86B). Particles that are constrained by their size to the extra-thoracic regions of the respiratory system such as the nose and maxillary sinuses can be swallowed through mucociliary clearance and be absorbed into the body (ACGIH, Ex. 8-692). The impaction of these particles in the upper airways can lead to anosmia, or loss of sense of smell, which is an early indication of overexposure among workers exposed to heavy metals. This condition is commonly reported among cadmium-exposed workers (Ex. 8-86-B).

(c) Medical surveillance. In general, the main provisions of the medical surveillance section of the standard, under WAC 296-62-07423 (I) through (16), are as follows:

(i) Workers exposed above the action level are covered;  
 (ii) Workers with intermittent exposures are not covered;  
 (iii) Past workers who are covered receive biological monitoring for at least one year;

(iv) Initial examinations include a medical questionnaire and biological monitoring of cadmium in blood (CdB), cadmium in urine (CdU), and Beta-2-microglobulin in urine ( $\beta_2$ -M);

(v) Biological monitoring of these three analytes is performed at least annually; full medical examinations are performed biennially;

(vi) Until five years from the effective date of the standard, medical removal is required when CdU is greater than 15  $\mu$ g/gram creatinine (g Cr), or CdB is greater than 15  $\mu$ g/liter whole blood (lwb), or  $\beta_2$ -M is greater than 1500  $\mu$ g/g Cr, and CdB is greater than 5  $\mu$ g/lwb or CdU is greater than 3  $\mu$ g/g Cr;

(vii) Beginning five years after the standard is in effect, medical removal triggers will be reduced;

(viii) Medical removal protection benefits are to be provided for up to eighteen months;

(ix) Limited initial medical examinations are required for respirator usage;

(x) Major provisions are fully described under WAC 296-62-07423; they are outlined here as follows:

(A) Eligibility.

(B) Biological monitoring.

(C) Actions triggered by levels of CdU, CdB, and  $\beta_2$ -M (See Summary Charts and Tables in WAC 296-62-07441(5).)

(D) Periodic medical surveillance.

(E) Actions triggered by periodic medical surveillance (See appendix A Summary Chart and Tables in WAC 296-62-07441(5).)

(F) Respirator usage.

(G) Emergency medical examinations.

(H) Termination examination.

(I) Information to physician.

(J) Physician's medical opinion.

(K) Medical removal protection.

(L) Medical removal protection benefits.

(M) Multiple physician review.

(N) Alternate physician review.

(O) Information employer gives to employee.

(P) Recordkeeping.

(Q) Reporting on OSHA form 200.

(xi) The above mentioned summary of the medical surveillance provisions, the summary chart, and tables for the actions triggered at different levels of CdU, CdB and  $\beta_2$ -M (in subsection (5) of this section, Attachment 1) are included only for the purpose of facilitating understanding of the provisions of WAC 296-62-07423(3) of the final cadmium standard. The summary of the provisions, the summary chart, and the tables do not add to or reduce the requirements in WAC 296-62-07423(3).

(d) Recommendations to physicians.

(i) It is strongly recommended that patients with tubular proteinuria are counseled on: The hazards of smoking; avoidance of nephrotoxins and certain prescriptions and over-the-counter medications that may exacerbate kidney symptoms; how to control diabetes and/or blood pressure; proper hydration, diet, and exercise (Ex. 19-2). A list of prominent or common nephrotoxins is attached. (See subsection (6) of this section, Attachment 2.)

(ii) DO NOT CHELATE; KNOW WHICH DRUGS ARE NEPHROTOXINS OR ARE ASSOCIATED WITH NEPHRITIS.

(iii) The gravity of cadmium-induced renal damage is compounded by the fact there is no medical treatment to prevent or reduce the accumulation of cadmium in the kidney (Ex. 8-619). Dr. Friberg, a leading world expert on cadmium toxicity, indicated in 1992, that there is no form of chelating agent that could be used without substantial risk. He stated that tubular proteinuria has to be treated in the same way as other kidney disorders (Ex. 29).

(iv) After the results of a workers' biological monitoring or medical examination are received the employer is required to provide an information sheet to the patient, briefly explaining the significance of the results. (See subsection (7) of this section.)

(v) For additional information the physician is referred to the following additional resources:

(A) The physician can always obtain a copy of the OSHA final rule preamble, with its full discussion of the health effects, from OSHA's Computerized Information System (OCIS).

(B) The OSHA Docket Officer maintains a record of the OSHA rulemaking. The Cadmium Docket (H-057A), is located at 200 Constitution Ave. NW., Room N-2625, Washington, DC 20210; telephone: (202) 219-7894.

(C) The following articles and exhibits in particular from that docket (H-057A):

Exhibit number	Author and paper title
8-447	Lauwerys et. al., Guide for physicians, "Health Maintenance of Workers Exposed to Cadmium," published by the Cadmium Council.
4-67	Takenaka, S., H. Oldiges, H. Konig, D. Hochrainer, G. Oberdorster. "Carcinogenicity of Cadmium Chloride Aerosols in Wistar Rats". JNCI 70:367-373, 1983. (32)
4-68	Thun, M.J., T.M. Schnoor, A.B. Smith, W.E. Halperin, R.A. Lemen. "Mortality Among a Cohort of U.S. Cadmium Production Workers—An Update." JNCI 74(2):325-33, 1985. (8)
4-25	Elinder, C.G., Kjellstrom, T., Hogstedt, C., et al., "Cancer Mortality of Cadmium Workers." Brit. J. Ind. Med. 42:651-655, 1985. (14)

Exhibit number	Author and paper title
4-26	Ellis, K.J. et al., "Critical Concentrations of Cadmium in Human Renal Cortex: Dose Effect Studies to Cadmium Smelter Workers." J. Toxicol. Environ. Health 7:691-703, 1981. (76)
4-27	Ellis, K.J., S.H. Cohn and T.J. Smith. "Cadmium Inhalation Exposure Estimates: Their Significance with Respect to Kidney and Liver Cadmium Burden." J. Toxicol. Environ. Health 15:173-187, 1985.
4-28	Falck, F.Y., Jr., Fine, L.J., Smith, R.G., McClatchey, K.D., Annesley, T., England, B., and Schork, A.M. "Occupational Cadmium Exposure and Renal Status." Am. J. Ind. Med. 4:541, 1983. (64)
8-86A	Friberg, L., C.G. Elinder, et al., "Cadmium and Health a Toxicological and Epidemiological Appraisal, Volume I, Exposure, Dose, and Metabolism." CRC Press, Inc., Boca Raton, FL, 1986. (Available from the OSHA Technical Data Center)
8-86B	Friberg, L., C.G. Elinder, et al., "Cadmium and Health: A Toxicological and Epidemiological Appraisal, Volume II, Effects and Response." CRC Press, Inc., Boca Raton, FL, 1986. (Available from the OSHA Technical Data Center)
L-140-45	Elinder, C.G., "Cancer Mortality of Cadmium Workers", Brit. J. Ind. Med., 42, 651-655, 1985.
L-140-50	Thun, M., Elinder, C.G., Friberg, L., "Scientific Basis for an Occupational Standard for Cadmium, Am. J. Ind. Med., 20; 629-642, 1991.

(5) Information sheet. The information sheet (subsection (8) of this section, Attachment 3) or an equally explanatory one should be provided to you after any biological monitoring results are reviewed by the physician, or where applicable, after any medical examination.

(6) Attachment 1—Appendix A, summary chart and Tables A and B of actions triggered by biological monitoring.

(a) Summary chart: WAC 296-62-07423(3) Medical surveillance—Categorizing biological monitoring results.

(i) Biological monitoring results categories are set forth in Table A for the periods ending December 31, 1998, and for the period beginning January 1, 1999.

(ii) The results of the biological monitoring for the initial medical exam and the subsequent exams shall determine an employee's biological monitoring result category.

(b) Actions triggered by biological monitoring.

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(i) The actions triggered by biological monitoring for an employee are set forth in Table B.

(ii) The biological monitoring results for each employee under WAC 296-62-07423(3) shall determine the actions required for that employee. That is, for any employee in biological monitoring category C, the employer will perform all of the actions for which there is an X in column C of Table B.

(iii) An employee is assigned the alphabetical category ("A" being the lowest) depending upon the test results of the three biological markers.

(iv) An employee is assigned category A if monitoring results for all three biological markers fall at or below the levels indicated in the table listed for category A.

(v) An employee is assigned category B if any monitoring result for any of the three biological markers fall within the range of levels indicated in the table listed for category B, providing no result exceeds the levels listed for category B.

(vi) An employee is assigned category C if any monitoring result for any of the three biological markers are above the levels listed for category C.

(c) The user of Tables A and B should know that these tables are provided only to facilitate understanding of the relevant provisions of WAC 296-62-07423. Tables A and B are not meant to add to or subtract from the requirements of those provisions.

Table A  
Categorization of Biological Monitoring Results

Applicable Through 1998 Only

Biological marker	Monitoring result categories		
	A	B	C
Cadmium in urine (CdU) (µg/g creatinine)	≤3	>3 and ≤15	>15
β <sub>2</sub> -microglobulin (β <sub>2</sub> -M) (µg/g creatinine)	≤300	>300 and ≤1500	>1500*
Cadmium in blood (CdB) (µg/liter whole blood)	≤5	>5 and ≤15	>15

\* If an employee's β<sub>2</sub>-M levels are above 1,500 µg/g creatinine, in order for mandatory medical removal to be required (See WAC 296-62-07441, Appendix A Table B.), either the employee's CdU level must also be >3 µg/g creatinine or CdB level must also be >5 µg/liter whole blood.

Applicable Beginning January 1, 1999

Biological marker	Monitoring result categories		
	A	B	C
Cadmium in urine (CdU) (µg/g creatinine)	≤3	>3 and ≤7	>7
β <sub>2</sub> -microglobulin (β <sub>2</sub> -M) (µg/g creatinine)	≤300	>300 and ≤750	>750*
Cadmium in blood (CdB) (µg/liter whole blood)	≤5	>5 and ≤10	>10

\* If an employee's β<sub>2</sub>-M levels are above 750 µg/g creatinine, in order for mandatory medical removal to be required (See WAC 296-62-07441, Appendix A Table B.), either the employee's CdU level must

also be >3 µg/g creatinine or CdB level must also be >5 µg/liter whole blood.

Table B—Actions determined by biological monitoring.

This table presents the actions required based on the monitoring result in Table A. Each item is a separate requirement in citing noncompliance. For example, a medical examination within ninety days for an employee in category B is separate from the requirement to administer a periodic medical examination for category B employees on an annual basis.

Table B  
Monitoring result category

Required actions	A <sup>1</sup>	B <sup>1</sup>	C <sup>1</sup>
(1) Biological monitoring:			
(a) Annual.	X		
(b) Semiannual		X	
(c) Quarterly			X
(2) Medical examination:			
(a) Biennial	X		
(b) Annual.		X	
(c) Semiannual.			X
(d) Within 90 days		X	X
(3) Assess within two weeks:			
(a) Excess cadmium exposure		X	X
(b) Work practices		X	X
(c) Personal hygiene		X	X
(d) Respirator usage		X	X
(e) Smoking history		X	X
(f) Hygiene facilities		X	X
(g) Engineering controls		X	X
(h) Correct within 30 days		X	X
(i) Periodically assess exposures			X
(4) Discretionary medical removal		X	X
(5) Mandatory medical removal			X <sup>2</sup>

<sup>1</sup> For all employees covered by medical surveillance exclusively because of exposures prior to the effective date of this standard, if they are in Category A, the employer shall follow the requirements of WAC 296-62-07423 (3)(a)(ii) and (4)(e)(i). If they are in Category B or C, the employer shall follow the requirements of WAC 296-62-07423 (4)(e)(ii) and (iii).

<sup>2</sup> See footnote in Table A.

(7) Attachment 2, list of medications.

(a) A list of the more common medications that a physician, and the employee, may wish to review is likely to include some of the following:

(i) Anticonvulsants: Paramethadione, phenytoin, trimethadone;

(ii) Antihypertensive drugs: Captopril, methyldopa;

(iii) Antimicrobials: Aminoglycosides, amphotericin B, cephalosporins, ethambutol;

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(iv) Antineoplastic agents: Cisplatin, methotrexate, mitomycin-C, nitrosoureas, radiation;

(v) Sulfonamide diuretics: Acetazolamide, chlorthalidone, furosemide, thiazides;

(vi) Halogenated alkanes, hydrocarbons, and solvents that may occur in some settings: Carbon tetrachloride, ethylene glycol, toluene; iodinated radiographic contrast media; nonsteroidal anti-inflammatory drugs; and

(vii) Other miscellaneous compounds: Acetaminophen, allopurinol, amphetamines, azathioprine, cimetidine, cyclosporine, lithium, methoxyflurane, methysergide, D-penicillamine, phenacetin, phenendione.

(b) A list of drugs associated with acute interstitial nephritis includes:

(i) Antimicrobial drugs: Cephalosporins, chloramphenicol, colistin, erythromycin, ethambutol, isoniazid, para-aminosalicylic acid, penicillins, polymyxin B, rifampin, sulfonamides, tetracyclines, and vancomycin;

(ii) Other miscellaneous drugs: Allopurinol, antipyrine, azathioprine, captopril, cimetidine, clofibrate, methyldopa, phenindione, phenylpropanolamine, phenytoin, probenecid, sulfipyrazone, sulfonamide diuretics, triamterene; and

(iii) Metals: Bismuth, gold. This list has been derived from commonly available medical textbooks (e.g., Ex. 14-18). The list has been included merely to facilitate the physician's, employer's, and employee's understanding. The list does not represent an official OSHA opinion or policy regarding the use of these medications for particular employees. The use of such medications should be under physician discretion.

(8) Attachment 3—Biological monitoring and medical examination results.

Employee \_\_\_\_\_

Testing \_\_\_\_\_

Date \_\_\_\_\_

Cadmium in Urine \_\_\_  $\mu\text{g/g Cr}$ —Normal Levels:  
 $\leq 3 \mu\text{g/g Cr}$ .

Cadmium in Blood \_\_\_  $\mu\text{g/lwb}$ —Normal Levels:  
 $\leq 5 \mu\text{g/lwb}$ .

Beta-2-microglobulin in Urine \_\_\_  $\mu\text{g/g Cr}$ —Normal Levels:  $\leq 300 \mu\text{g/g Cr}$ .

Physical Examination Results: N/A \_\_\_

Satisfactory \_\_\_

Unsatisfactory \_\_\_ (see physician again).

Physician's Review of Pulmonary Function Test:

N/A \_\_\_ Normal \_\_\_

Abnormal \_\_\_

Next biological monitoring or medical examination scheduled for \_\_\_\_\_

(a) The biological monitoring program has been designed for three main purposes:

- (i) To identify employees at risk of adverse health effects from excess, chronic exposure to cadmium;
- (ii) To prevent cadmium-induced disease(s); and
- (iii) To detect and minimize existing cadmium-induced disease(s).

(b) The levels of cadmium in the urine and blood provide an estimate of the total amount of cadmium in the body. The amount of a specific protein in the urine (beta-2-microglobulin) indicates changes in kidney function. All three tests must be evaluated together. A single mildly elevated result may not be important if testing at a later time indicates that the results are normal and the workplace has been evaluated to decrease possible sources of cadmium exposure. The levels of cadmium or beta-2-microglobulin may change over a period of days to months and the time needed for those changes to occur is different for each worker.

(c) If the results for biological monitoring are above specific "high levels" (cadmium urine greater than 10 micrograms per gram of creatinine  $\mu\text{g/g Cr}$ ), cadmium blood greater than 10 micrograms per liter of whole blood ( $\mu\text{g/lwb}$ ), or beta-2-microglobulin greater than 1000 micrograms per gram of creatinine ( $\mu\text{g/g Cr}$ ), the worker has a much greater chance of developing other kidney diseases.

(d) One way to measure for kidney function is by measuring beta-2-microglobulin in the urine. Beta-2-microglobulin is a protein which is normally found in the blood as it is being filtered in the kidney, and the kidney reabsorbs or returns almost all of the beta-2-microglobulin to the blood. A very small amount (less than 300  $\mu\text{g/g Cr}$  in the urine) of beta-2-microglobulin is not reabsorbed into the blood, but is released in the urine. If cadmium damages the kidney, the amount of beta-2-microglobulin in the urine increases because the kidney cells are unable to reabsorb the beta-2-microglobulin normally. An increase in the amount of beta-2-microglobulin in the urine is a very early sign of kidney dysfunction. A small increase in beta-2-microglobulin in the urine will serve as an early warning sign that the worker may be absorbing cadmium from the air, cigarettes contaminated in the workplace, or eating in areas that are cadmium contaminated.

(e) Even if cadmium causes permanent changes in the kidney's ability to reabsorb beta-2-microglobulin, and the beta-2-microglobulin is above the "high levels," the loss of kidney function may not lead to any serious health problems. Also, renal function naturally declines as people age. The risk for changes in kidney function for workers who have biological monitoring results between the "normal values" and the "high levels" is not well known. Some people are more cadmium-tolerant, while others are more cadmium-susceptible.

(f) For anyone with even a slight increase of beta-2-microglobulin, cadmium in the urine, or cadmium in the blood, it is very important to protect the kidney from further damage. Kidney damage can come from other sources than excess cadmium-exposure so it is also recommended that if a worker's levels are "high" he/she should receive counseling about drinking more water; avoiding cadmium-tainted tobacco and certain medications (nephrotoxins, acetaminophen); controlling diet, vitamin intake, blood pressure and diabetes; etc.

**AMENDATORY SECTION** (Amending WSR 97-19-014, filed 9/5/97, effective 11/5/97)

**WAC 296-62-07460 Butadiene.** (1) Scope and application.

(a) This section applies to all occupational exposures to 1,3-Butadiene (BD), Chemical Abstracts Service Registry No. 106-99-0, except as provided in (b) of this subsection.

(b)(i) Except for the recordkeeping provisions in subsection (13)(a) of this section, this section does not apply to the processing, use, or handling of products containing BD or to other work operations and streams in which BD is present where objective data are reasonably relied upon that demonstrate the work operation or the product or the group of products or operations to which it belongs may not reasonably be foreseen to release BD in airborne concentrations at or above the action level or in excess of the STEL under the expected conditions of processing, use, or handling that will cause the greatest possible release or in any plausible accident.

(ii) This section also does not apply to work operations, products or streams where the only exposure to BD is from liquid mixtures containing 0.1% or less of BD by volume or the vapors released from such liquids, unless objective data become available that show that airborne concentrations generated by such mixtures can exceed the action level or STEL under reasonably predictable conditions of processing, use or handling that will cause the greatest possible release.

(iii) Except for labeling requirements and requirements for emergency response, this section does not apply to the storage, transportation, distribution or sale of BD or liquid mixtures in intact containers or in transportation pipelines sealed in such a manner as to fully contain BD vapors or liquids.

(c) Where products or processes containing BD are exempted under (b) of this subsection, the employer shall maintain records of the objective data supporting that exemption and the basis for the employer's reliance on the data, as provided in subsection (13)(a) of this section.

(2) Definitions: For the purpose of this section, the following definitions shall apply:

"Action level" means a concentration of airborne BD of 0.5 ppm calculated as an 8-hour time-weighted average.

"Director" means the director of the department of labor and industries, or authorized representatives.

"Authorized person" means any person specifically designated by the employer, whose duties require entrance into a regulated area, or a person entering such an area as a designated representative of employees to exercise the right to observe monitoring and measuring procedures under subsection (4)(h) of this section, or a person designated under the WISH Act or regulations issued under the WISH Act to enter a regulated area.

"1,3-Butadiene" means an organic compound with chemical formula  $\text{CH}_2=\text{CH}-\text{CH}=\text{CH}_2$  that has a molecular weight of approximately 54.15 gm/mole.

"Business day" means any Monday through Friday, except those days designated as federal, state, local or company specific holidays.

"Complete blood count (CBC)" means laboratory tests performed on whole blood specimens and includes the fol-

lowing: White blood cell count (WBC), hematocrit (Hct), red blood cell count (RBC), hemoglobin (Hgb), differential count of white blood cells, red blood cell morphology, red blood cell indices, and platelet count.

"Day" means any part of a calendar day.

"Emergency situation" means any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment that may or does result in an uncontrolled significant release of BD.

"Employee exposure" means exposure of a worker to airborne concentrations of BD which would occur if the employee were not using respiratory protective equipment.

"Objective data" means monitoring data, or mathematical modelling or calculations based on composition, chemical and physical properties of a material, stream or product.

"Permissible exposure limits (PELs)" means either the 8-hour time-weighted average (8-hr TWA) exposure or the short-term exposure limit (STEL).

"Physician or other licensed health care professional" is an individual whose legally permitted scope of practice (i.e., license, registration, or certification) allows him or her to independently provide or be delegated the responsibility to provide one or more of the specific health care services required by (k) of this subsection.

"Regulated area" means any area where airborne concentrations of BD exceed or can reasonably be expected to exceed the 8-hour time-weighted average (8-hr TWA) exposure of 1 ppm or the short-term exposure limit (STEL) of 5 ppm for 15 minutes.

"This section" means this 1,3-butadiene standard.

(3) Permissible exposure limits (PELs).

(a) Time-weighted average (TWA) limit. The employer shall ensure that no employee is exposed to an airborne concentration of BD in excess of one part BD per million parts of air (ppm) measured as an eight (8)-hour time-weighted average.

(b) Short-term exposure limit (STEL). The employer shall ensure that no employee is exposed to an airborne concentration of BD in excess of five parts of BD per million parts of air (5 ppm) as determined over a sampling period of fifteen minutes.

(4) Exposure monitoring.

(a) General.

(i) Determinations of employee exposure shall be made from breathing zone air samples that are representative of the 8-hour TWA and 15-minute short-term exposures of each employee.

(ii) Representative 8-hour TWA employee exposure shall be determined on the basis of one or more samples representing full-shift exposure for each shift and for each job classification in each work area.

(iii) Representative 15-minute short-term employee exposures shall be determined on the basis of one or more samples representing 15-minute exposures associated with operations that are most likely to produce exposures above the STEL for each shift and for each job classification in each work area.

(iv) Except for the initial monitoring required under (b) of this subsection, where the employer can document that exposure levels are equivalent for similar operations on dif-

ferent work shifts, the employer need only determine representative employee exposure for that operation from the shift during which the highest exposure is expected.

(b) Initial monitoring.

(i) Each employer who has a workplace or work operation covered by this section, shall perform initial monitoring to determine accurately the airborne concentrations of BD to which employees may be exposed, or shall rely on objective data pursuant to subsection (1)(b)(i) of this section to fulfill this requirement.

(ii) Where the employer has monitored within two years prior to the effective date of this section and the monitoring satisfies all other requirements of this section, the employer may rely on such earlier monitoring results to satisfy the requirements of (b)(i) of this subsection, provided that the conditions under which the initial monitoring was conducted have not changed in a manner that may result in new or additional exposures.

(c) Periodic monitoring and its frequency.

(i) If the initial monitoring required by (b) of this subsection reveals employee exposure to be at or above the action level but at or below both the 8-hour TWA limit and the STEL, the employer shall repeat the representative monitoring required by (a) of this subsection every twelve months.

(ii) If the initial monitoring required by (b) of this subsection reveals employee exposure to be above the 8-hour TWA limit, the employer shall repeat the representative monitoring required by (a)(ii) of this subsection at least every three months until the employer has collected two samples per quarter (each at least 7 days apart) within a two-year period, after which such monitoring must occur at least every six months.

(iii) If the initial monitoring required by (b) of this subsection reveals employee exposure to be above the STEL, the employer shall repeat the representative monitoring required by (a)(iii) of this subsection at least every three months until the employer has collected two samples per quarter (each at least 7 days apart) within a two-year period, after which such monitoring must occur at least every six months.

(iv) The employer may alter the monitoring schedule from every six months to annually for any required representative monitoring for which two consecutive measurements taken at least 7 days apart indicate that employee exposure has decreased to or below the 8-hour TWA, but is at or above the action level.

(d) Termination of monitoring.

(i) If the initial monitoring required by (b) of this subsection reveals employee exposure to be below the action level and at or below the STEL, the employer may discontinue the monitoring for employees whose exposures are represented by the initial monitoring.

(ii) If the periodic monitoring required by (c) of this subsection reveals that employee exposures, as indicated by at least two consecutive measurements taken at least 7 days apart, are below the action level and at or below the STEL, the employer may discontinue the monitoring for those employees who are represented by such monitoring.

(e) Additional monitoring.

(i) The employer shall institute the exposure monitoring required under subsection (4) of this section whenever there

has been a change in the production, process, control equipment, personnel or work practices that may result in new or additional exposures to BD or when the employer has any reason to suspect that a change may result in new or additional exposures.

(ii) Whenever spills, leaks, ruptures or other breakdowns occur that may lead to employee exposure above the 8-hr TWA limit or above the STEL, the employer shall monitor (using leak source, such as direct reading instruments, area or personal monitoring), after the cleanup of the spill or repair of the leak, rupture or other breakdown, to ensure that exposures have returned to the level that existed prior to the incident.

(f) Accuracy of monitoring.

Monitoring shall be accurate, at a confidence level of 95 percent, to within plus or minus 25 percent for airborne concentrations of BD at or above the 1 ppm TWA limit and to within plus or minus 35 percent for airborne concentrations of BD at or above the action level of 0.5 ppm and below the 1 ppm TWA limit.

(g) Employee notification of monitoring results.

(i) The employer shall, within 5 business days after the receipt of the results of any monitoring performed under this section, notify the affected employees of these results in writing either individually or by posting of results in an appropriate location that is accessible to affected employees.

(ii) The employer shall, within 15 business days after receipt of any monitoring performed under this section indicating the 8-hour TWA or STEL has been exceeded, provide the affected employees, in writing, with information on the corrective action being taken by the employer to reduce employee exposure to or below the 8-hour TWA or STEL and the schedule for completion of this action.

(h) Observation of monitoring.

(i) Employee observation. The employer shall provide affected employees or their designated representatives an opportunity to observe any monitoring of employee exposure to BD conducted in accordance with this section.

(ii) Observation procedures. When observation of the monitoring of employee exposure to BD requires entry into an area where the use of protective clothing or equipment is required, the employer shall provide the observer at no cost with protective clothing and equipment, and shall ensure that the observer uses this equipment and complies with all other applicable safety and health procedures.

(5) Regulated areas.

(a) The employer shall establish a regulated area whenever occupational exposures to airborne concentrations of BD exceed or can reasonably be expected to exceed the permissible exposure limits, either the 8-hr TWA or the STEL.

(b) Access to regulated areas shall be limited to authorized persons.

(c) Regulated areas shall be demarcated from the rest of the workplace in any manner that minimizes the number of employees exposed to BD within the regulated area.

(d) An employer at a multi-employer worksite who establishes a regulated area shall communicate the access restrictions and locations of these areas to other employers with work operations at that worksite whose employees may have access to these areas.



## (6) Methods of compliance.

## (a) Engineering controls and work practices.

(i) The employer shall institute engineering controls and work practices to reduce and maintain employee exposure to or below the PELs, except to the extent that the employer can establish that these controls are not feasible or where subsection (8)(a)(i) of this section applies.

(ii) Wherever the feasible engineering controls and work practices which can be instituted are not sufficient to reduce employee exposure to or below the 8-hour TWA or STEL, the employer shall use them to reduce employee exposure to the lowest levels achievable by these controls and shall supplement them by the use of respiratory protection that complies with the requirements of subsection (8) of this section.

## (b) Compliance plan.

(i) Where any exposures are over the PELs, the employer shall establish and implement a written plan to reduce employee exposure to or below the PELs primarily by means of engineering and work practice controls, as required by (a) of this subsection, and by the use of respiratory protection where required or permitted under this section. No compliance plan is required if all exposures are under the PELs.

(ii) The written compliance plan shall include a schedule for the development and implementation of the engineering controls and work practice controls including periodic leak detection surveys.

(iii) Copies of the compliance plan required in (b) of this subsection shall be furnished upon request for examination and copying to the director, affected employees and designated employee representatives. Such plans shall be reviewed at least every 12 months, and shall be updated as necessary to reflect significant changes in the status of the employer's compliance program.

(iv) The employer shall not implement a schedule of employee rotation as a means of compliance with the PELs.

## (7) Exposure goal program.

(a) For those operations and job classifications where employee exposures are greater than the action level, in addition to compliance with the PELs, the employer shall have an exposure goal program that is intended to limit employee exposures to below the action level during normal operations.

(b) Written plans for the exposure goal program shall be furnished upon request for examination and copying to the director, affected employees and designated employee representatives.

(c) Such plans shall be updated as necessary to reflect significant changes in the status of the exposure goal program.

(d) Respirator use is not required in the exposure goal program.

(e) The exposure goal program shall include the following items unless the employer can demonstrate that the item is not feasible, will have no significant effect in reducing employee exposures, or is not necessary to achieve exposures below the action level:

(i) A leak prevention, detection, and repair program.

(ii) A program for maintaining the effectiveness of local exhaust ventilation systems.

(iii) The use of pump exposure control technology such as, but not limited to, mechanical double-sealed or seal-less pumps.

(iv) Gauging devices designed to limit employee exposure, such as magnetic gauges on rail cars.

(v) Unloading devices designed to limit employee exposure, such as a vapor return system.

(vi) A program to maintain BD concentration below the action level in control rooms by use of engineering controls.

## (8) Respiratory protection.

(a) General. ~~((The employer shall provide respirators that comply with the requirements of this subsection, at no cost to each affected employee, and ensure that each affected employee uses such respirator where required by this section. Respirators shall be used in the following circumstances))~~ For employees who use respirators required by this section, the employer must provide respirators that comply with the requirements of this subsection. Respirators must be used during:

(i) ~~((During the time interval))~~ Periods necessary to install or implement feasible engineering and work-practice controls;

(ii) ~~((In))~~ Nonroutine work operations ~~((which))~~ that are performed infrequently and ~~((in))~~ for which exposures are limited in duration;

(iii) ~~((In work situations where))~~ Work operations for which feasible engineering controls and work-practice controls are not yet sufficient to reduce exposures to or below the PELs; ~~((or))~~

(iv) ~~((In))~~ Emergencies.

(b) Respirator ~~((selection))~~ program.

(i) ~~((Where respirators are required, the employer shall select and provide the appropriate respirator as specified in Table 1 of this section, and ensure its use))~~ The employer must implement a respiratory protection program as required by chapter 296-62 WAC, Part E (except WAC 296-62-07130(1), 296-62-07131 (4)(b)(i) and (ii), and 296-62-07150 through 296-62-07156).

(ii) ~~((The employer shall select respirators from among those approved by the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 42 CFR Part 84, "Respiratory Protective Devices." Air-purifying respirators shall have filter element(s) approved by NIOSH for organic vapors or BD))~~ If air-purifying respirators are used, the employer must replace the air-purifying filter elements according to the replacement schedule set for the class of respirators listed in Table 1 of this section, and at the beginning of each work shift.

(iii) ~~((If an employee whose job requires the use of a respirator cannot use a negative pressure respirator, the employer must be provided with a respirator having less breathing resistance, such as a powered air-purifying respirator or supplied air respirator, if the employee is able to use it and if it will provide adequate protection))~~ Instead of using the replacement schedule listed in Table 1 of this section, the employer may replace cartridges or canisters at 90% of their expiration service life, provided the employer:

(A) Demonstrates that employees will be adequately protected by this procedure;



(B) Uses BD breakthrough data for this purpose that have been derived from tests conducted under worst-case conditions of humidity, temperature, and air-flow rate through the filter element, and the employer also describes the data supporting the cartridge- or canister-change schedule, as well as the basis for using the data in the employer's respirator program.

(iv) A label must be attached to each filter element to indicate the date and time it is first installed on the respirator.

(v) If NIOSH approves an end-of-service-life indicator (ESLI) for an air-purifying filter element, the element may be used until the ESLI shows no further useful service life or until the element is replaced at the beginning of the next work shift, whichever occurs first.

(vi) Regardless of the air-purifying element used, if an employee detects the odor of BD, the employer must replace the air-purifying element immediately.

~~(c) Respirator ((program. Where respiratory protection is required, the employer shall institute a respirator program in accordance with WAC 296-62-071.~~

~~(d) Respirator use:~~

~~(i) Where air-purifying respirators are used, the employer shall replace the air-purifying filter element(s) according to the replacement life interval set for the class of respirator listed in Table 1 in (c) of this subsection and at the beginning of each work shift.~~

~~(ii) In lieu of the replacement intervals listed in Table 1, the employer may replace cartridges or canisters at 90% of the expiration of service life, provided the employer can demonstrate that employees will be adequately protected. BD breakthrough data relied upon by the employer must derive from tests conducted under worst case conditions of humidity, temperature, and air flow rate through the filter element. The employer shall describe the data supporting the cartridge/canister change schedule and the basis for reliance on the data in the employer's respirator program.~~

~~(iii) A label shall be attached to the filter element(s) to indicate the date and time it is first installed on the respirator. If an employee detects the odor of BD, the employer shall replace the air-purifying element(s) immediately.~~

~~(iv) If a NIOSH approved end-of-service-life indicator (ESLI) for BD becomes available for an air-purifying filter element, the element may be used until such time as the indicator shows no further useful service life or until replaced at the beginning of the next work shift, whichever comes first. If an employee detects the odor of BD, the employer shall replace the air-purifying element(s) immediately.~~

~~(v) The employer shall permit employees who wear respirators to leave the regulated area to wash their faces and respirator facepieces as necessary in order to prevent skin irritation associated with respirator use or to change the filter elements of air-purifying respirators whenever they detect a change in breathing resistance or whenever the odor of BD is detected.~~

~~(e) Respirator fit testing:~~

~~(i) The employer shall perform either qualitative fit testing (QLFT) or quantitative fit testing (QNFT), as required in Appendix E to this section, at the time of initial fitting and at least annually thereafter for employees who wear tight-fitting negative pressure respirators. Fit testing shall be used to~~

~~select a respirator facepiece which exhibits minimum leakage and provides the required protection as prescribed in Table 1 of this section:~~

~~(ii) For each employee wearing a tight fitting full facepiece negative pressure respirator who is exposed to airborne concentrations of BD that exceed 10 times the TWA PEL (10 ppm), the employer shall perform quantitative fit testing as required in Appendix E to this section, at the time of initial fitting and at least annually thereafter)) selection.~~

~~(i) The employer must select appropriate respirators from Table 1 of this section.~~

**Table 1. - Minimum Requirements for Respiratory Protection for Airborne BD**

Concentration of Airborne BD (ppm) or condition of use	Minimum required respirator
Less than or equal to 5 ppm (5 times PEL)	(a) Air-purifying half mask or full facepiece respirator equipped with approved BD or organic vapor cartridges or canisters. Cartridges or canisters shall be replaced every 4 hours.
Less than or equal to 10 ppm (10 times PEL)	(a) Air-purifying half mask or full facepiece respirator equipped with approved BD or organic vapor cartridges or canisters. Cartridges or canisters shall be replaced every 3 hours.
Less than or equal to 25 ppm (25 times PEL)	(a) Air-purifying full facepiece respirator equipped with approved BD or organic vapor cartridges or canisters. Cartridges or canisters shall be replaced every 2 hours. (b) Any powered air-purifying respirator equipped with approved BD or organic vapor cartridges. PAPR cartridges shall be replaced every 2 hours. (c) Continuous flow supplied air respirator equipped with a hood or helmet.

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Concentration of Airborne BD (ppm) or condition of use	Minimum required respirator
Less than or equal to 50 ppm (50 times PEL)	(a) Air-purifying full facepiece respirator equipped with approved BD or organic vapor cartridges or canisters. Cartridges or canisters shall be replaced every 1 hour. (b) Powered air purifying respirator equipped with a tight-fitting facepiece and an approved BD or organic vapor cartridges. PAPR cartridges shall be replaced every 1 hour.
Less than or equal to 1,000 ppm (1,000 times PEL)	(a) Supplied air respirator equipped with a half mask or full facepiece and operated in a pressure demand or other positive pressure mode.
Greater than 1,000 ppm	(a) Self-contained breathing unknown concentration, or apparatus equipped with a fire fighting full facepiece and operated in a pressure demand or other positive pressure mode. (b) Any supplied air respirator equipped with a full facepiece and operated in a pressure demand or other positive pressure mode in combination with an auxiliary self-contained breathing apparatus operated in a pressure demand or other positive pressure mode.
Escape from IDLH Conditions	(a) Any positive pressure self-contained breathing apparatus with an appropriate service life. (b) Any air-purifying full facepiece respirator equipped with a front or back mounted BD or organic vapor canister.

Notes: Respirators approved for use in higher concentrations are permitted to be used in lower concentrations. Full facepiece is required when eye irritation is anticipated.

~~((iii) The employer shall ensure that employees wearing tight fitting respirators perform a facepiece seal fit check to ensure that a proper facepiece seal is obtained prior to entry into a BD atmosphere. The recommended positive or negative pressure fit check procedures listed in Appendix E to this section or the respirator manufacturer's recommended fit check procedure shall be used.))~~

(ii) Air-purifying respirators must have filter elements certified by NIOSH for organic vapor or BD.

(iii) When an employee whose job requires the use of a respirator cannot use a negative-pressure respirator, the employer must provide the employee with a respirator that has less breathing resistance than the negative-pressure respirator, such as a powered air-purifying respirator or supplied-air respirator, when the employee is able to use it and if it provides the employee adequate protection.

(9) Protective clothing and equipment. Where appropriate to prevent eye contact and limit dermal exposure to BD, the employer shall provide protective clothing and equipment at no cost to the employee and shall ensure its use. Eye and face protection shall meet the requirements of WAC 296-24-078.

(10) Emergency situations. Written plan. A written plan for emergency situations shall be developed, or an existing plan shall be modified, to contain the applicable elements specified in WAC 296-24-567, Employee emergency plans and fire prevention plans, and in WAC 296-62-3112, hazardous waste operations and emergency responses, for each workplace where there is a possibility of an emergency.

(11) Medical screening and surveillance.

(a) Employees covered. The employer shall institute a medical screening and surveillance program as specified in this subsection for:

(i) Each employee with exposure to BD at concentrations at or above the action level on 30 or more days or for employees who have or may have exposure to BD at or above the PELs on 10 or more days a year;

(ii) Employers (including successor owners) shall continue to provide medical screening and surveillance for employees, even after transfer to a non-BD exposed job and regardless of when the employee is transferred, whose work histories suggest exposure to BD:

(A) At or above the PELs on 30 or more days a year for 10 or more years;

(B) At or above the action level on 60 or more days a year for 10 or more years; or

(C) Above 10 ppm on 30 or more days in any past year; and

(iii) Each employee exposed to BD following an emergency situation.

(b) Program administration.

(i) The employer shall ensure that the health questionnaire, physical examination and medical procedures are provided without cost to the employee, without loss of pay, and at a reasonable time and place.

(ii) Physical examinations, health questionnaires, and medical procedures shall be performed or administered by a physician or other licensed health care professional.

(iii) Laboratory tests shall be conducted by an accredited laboratory.

(c) Frequency of medical screening activities. The employer shall make medical screening available on the following schedule:

(i) For each employee covered under (a)(i) and (ii) of this subsection, a health questionnaire and complete blood count (CBC) with differential and platelet count every year, and a physical examination as specified below:

(A) An initial physical examination that meets the requirements of this rule, if twelve months or more have elapsed since the last physical examination conducted as part of a medical screening program for BD exposure;

(B) Before assumption of duties by the employee in a job with BD exposure;

(C) Every 3 years after the initial physical examination;

(D) At the discretion of the physician or other licensed health care professional reviewing the annual health questionnaire and CBC;

(E) At the time of employee reassignment to an area where exposure to BD is below the action level, if the employee's past exposure history does not meet the criteria of (a)(ii) of this subsection for continued coverage in the screening and surveillance program, and if twelve months or more have elapsed since the last physical examination; and

(F) At termination of employment if twelve months or more have elapsed since the last physical examination.

(ii) Following an emergency situation, medical screening shall be conducted as quickly as possible, but not later than 48 hours after the exposure.

(iii) For each employee who must wear a respirator, physical ability to perform the work and use the respirator must be determined as required by WAC 296-62-071.

(d) Content of medical screening.

(i) Medical screening for employees covered by (a)(i) and (ii) of this subsection shall include:

(A) A baseline health questionnaire that includes a comprehensive occupational and health history and is updated annually. Particular emphasis shall be placed on the hematopoietic and reticuloendothelial systems, including exposure to chemicals, in addition to BD, that may have an adverse effect on these systems, the presence of signs and symptoms that might be related to disorders of these systems, and any other information determined by the examining physician or other licensed health care professional to be necessary to evaluate whether the employee is at increased risk of material impairment of health from BD exposure. Health questionnaires shall consist of the sample forms in Appendix C to this section, or be equivalent to those samples;

(B) A complete physical examination, with special emphasis on the liver, spleen, lymph nodes, and skin;

(C) A CBC; and

(D) Any other test which the examining physician or other licensed health care professional deems necessary to evaluate whether the employee may be at increased risk from exposure to BD.

(ii) Medical screening for employees exposed to BD in an emergency situation shall focus on the acute effects of BD exposure and at a minimum include: A CBC within 48 hours of the exposure and then monthly for three months; and a physical examination if the employee reports irritation of the eyes, nose, throat, lungs, or skin, blurred vision, coughing,

drowsiness, nausea, or headache. Continued employee participation in the medical screening and surveillance program, beyond these minimum requirements, shall be at the discretion of the physician or other licensed health care professional.

(e) Additional medical evaluations and referrals.

(i) Where the results of medical screening indicate abnormalities of the hematopoietic or reticuloendothelial systems, for which a nonoccupational cause is not readily apparent, the examining physician or other licensed health care professional shall refer the employee to an appropriate specialist for further evaluation and shall make available to the specialist the results of the medical screening.

(ii) The specialist to whom the employee is referred under this subsection shall determine the appropriate content for the medical evaluation, e.g., examinations, diagnostic tests and procedures, etc.

(f) Information provided to the physician or other licensed health care professional. The employer shall provide the following information to the examining physician or other licensed health care professional involved in the evaluation:

(i) A copy of this section including its appendices;

(ii) A description of the affected employee's duties as they relate to the employee's BD exposure;

(iii) The employee's actual or representative BD exposure level during employment tenure, including exposure incurred in an emergency situation;

(iv) A description of pertinent personal protective equipment used or to be used; and

(v) Information, when available, from previous employment-related medical evaluations of the affected employee which is not otherwise available to the physician or other licensed health care professional or the specialist.

(g) The written medical opinion.

(i) For each medical evaluation required by this section, the employer shall ensure that the physician or other licensed health care professional produces a written opinion and provides a copy to the employer and the employee within 15 business days of the evaluation. The written opinion shall be limited to the following information:

(A) The occupationally pertinent results of the medical evaluation;

(B) A medical opinion concerning whether the employee has any detected medical conditions which would place the employee's health at increased risk of material impairment from exposure to BD;

(C) Any recommended limitations upon the employee's exposure to BD; and

(D) A statement that the employee has been informed of the results of the medical evaluation and any medical conditions resulting from BD exposure that require further explanation or treatment.

(ii) The written medical opinion provided to the employer shall not reveal specific records, findings, and diagnoses that have no bearing on the employee's ability to work with BD.

Note: This provision does not negate the ethical obligation of the physician or other licensed health care professional to transmit any other adverse findings directly to the employee.

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## (h) Medical surveillance.

(i) The employer shall ensure that information obtained from the medical screening program activities is aggregated (with all personal identifiers removed) and periodically reviewed, to ascertain whether the health of the employee population of that employer is adversely affected by exposure to BD.

(ii) Information learned from medical surveillance activities must be disseminated to covered employees, as defined in (a) of this subsection, in a manner that ensures the confidentiality of individual medical information.

## (12) Communication of BD hazards to employees.

(a) Hazard communication. The employer shall communicate the hazards associated with BD exposure in accordance with the requirements of the hazard communication standard, WAC 296-62-054.

## (b) Employee information and training.

(i) The employer shall provide all employees exposed to BD with information and training in accordance with the requirements of the hazard communication standard, WAC 296-62-054.

(ii) The employer shall institute a training program for all employees who are potentially exposed to BD at or above the action level or the STEL, ensure employee participation in the program and maintain a record of the contents of such program.

(iii) Training shall be provided prior to or at the time of initial assignment to a job potentially involving exposure to BD at or above the action level or STEL and at least annually thereafter.

(iv) The training program shall be conducted in a manner that the employee is able to understand. The employer shall ensure that each employee exposed to BD over the action level or STEL is informed of the following:

(A) The health hazards associated with BD exposure, and the purpose and a description of the medical screening and surveillance program required by this section;

(B) The quantity, location, manner of use, release, and storage of BD and the specific operations that could result in exposure to BD, especially exposures above the PEL or STEL;

(C) The engineering controls and work practices associated with the employee's job assignment, and emergency procedures and personal protective equipment;

(D) The measures employees can take to protect themselves from exposure to BD;

(E) The contents of this standard and its appendices; and

(F) The right of each employee exposed to BD at or above the action level or STEL to obtain:

(I) Medical examinations as required by subsection (10) of this section at no cost to the employee;

(II) The employee's medical records required to be maintained by subsection (13)~~((d))~~ (c) of this section; and

(III) All air monitoring results representing the employee's exposure to BD and required to be kept by subsection (13)(b) of this section.

## (c) Access to information and training materials.

(i) The employer shall make a copy of this standard and its appendices readily available without cost to all affected

employees and their designated representatives and shall provide a copy if requested.

(ii) The employer shall provide to the director, or the designated employee representatives, upon request, all materials relating to the employee information and the training program.

## (13) Recordkeeping.

(a) Objective data for exemption from initial monitoring.

(i) Where the processing, use, or handling of products or streams made from or containing BD are exempted from other requirements of this section under subsection (1)(b) of this section, or where objective data have been relied on in lieu of initial monitoring under subsection (4)(b)(ii) of this section, the employer shall establish and maintain a record of the objective data reasonably relied upon in support of the exemption.

(ii) This record shall include at least the following information:

(A) The product or activity qualifying for exemption;

(B) The source of the objective data;

(C) The testing protocol, results of testing, and analysis of the material for the release of BD;

(D) A description of the operation exempted and how the data support the exemption; and

(E) Other data relevant to the operations, materials, processing, or employee exposures covered by the exemption.

(iii) The employer shall maintain this record for the duration of the employer's reliance upon such objective data.

## (b) Exposure measurements.

(i) The employer shall establish and maintain an accurate record of all measurements taken to monitor employee exposure to BD as prescribed in subsection (4) of this section.

(ii) The record shall include at least the following information:

(A) The date of measurement;

(B) The operation involving exposure to BD which is being monitored;

(C) Sampling and analytical methods used and evidence of their accuracy;

(D) Number, duration, and results of samples taken;

(E) Type of protective devices worn, if any;

(F) Name, Social Security number and exposure of the employees whose exposures are represented; and

(G) The written corrective action and the schedule for completion of this action required by subsection (4)(g)(ii) of this section.

(iii) The employer shall maintain this record for at least 30 years in accordance with WAC 296-62-052.

(c) ~~((Respirator fit test.~~

~~(i) The employer shall establish a record of the fit tests administered to an employee including:~~

~~(A) The name of the employee;~~

~~(B) Type of respirator;~~

~~(C) Brand and size of respirator;~~

~~(D) Date of test; and~~

~~(E) Where QNFT is used, the fit factor, strip chart recording or other recording of the results of the test.~~

~~(ii) Fit test records shall be maintained for respirator users until the next fit test is administered.~~

~~(d)) Medical screening and surveillance.~~

(i) The employer shall establish and maintain an accurate record for each employee subject to medical screening and surveillance under this section.

(ii) The record shall include at least the following information:

(A) The name and Social Security number of the employee;

(B) Physician's or other licensed health care professional's written opinions as described in subsection (11)(~~(f)~~) (e) of this section;

(C) A copy of the information provided to the physician or other licensed health care professional as required by subsections (11)(~~(f)~~) (e) of this section.

(iii) Medical screening and surveillance records shall be maintained for each employee for the duration of employment plus 30 years, in accordance with WAC 296-62-052.

~~((e))~~ (d) Availability.

(i) The employer, upon written request, shall make all records required to be maintained by this section available for examination and copying to the director.

(ii) Access to records required to be maintained by (a) ~~(through (e))~~ and (b) of this subsection shall be granted in accordance with WAC 296-62-05209.

~~((f))~~ (e) Transfer of records.

(i) Whenever the employer ceases to do business, the employer shall transfer records required by this section to the successor employer. The successor employer shall receive and maintain these records. If there is no successor employer, the employer shall notify the director, at least three months prior to disposal, and transmit them to the director if requested by the director within that period.

(ii) The employer shall transfer medical and exposure records as set forth in WAC 296-62-05215.

(14) Dates.

(a) Effective date. This section shall become effective (day, month), 1997.

(b) Start-up dates.

(i) The initial monitoring required under subsection (4)(b) of this section shall be completed immediately or within sixty days of the introduction of BD into the workplace.

(ii) The requirements of subsections (3) through (13) of this section, including feasible work practice controls but not including engineering controls specified in subsection (6)(a) of this section, shall be complied with immediately.

(iii) Engineering controls specified by subsection (6)(a) of this section shall be implemented by February 4, 1999, and the exposure goal program specified in subsection (7) of this section shall be implemented by February 4, 2000.

(15) Appendices.

~~((a))~~ Appendix E to this section is mandatory.

~~((b))~~ Appendices A, B, C, D, and F to this section are informational and are not intended to create any additional obligations not otherwise imposed or to detract from any existing obligations.

Appendix A. Substance Safety Data Sheet for 1,3-Butadiene (Non-Mandatory)

(1) Substance Identification.

(a) Substance: 1,3-Butadiene (CH<sub>2</sub>=CH-CH=CH<sub>2</sub>).

(b) Synonyms: 1,3-Butadiene (BD); butadiene; biethylene; bi-vinyl; divinyl; butadiene-1,3; buta-1,3-diene; erythrene; NCI-C50602; CAS-106-99-0.

(c) BD can be found as a gas or liquid.

(d) BD is used in production of styrene-butadiene rubber and polybutadiene rubber for the tire industry. Other uses include copolymer latexes for carpet backing and paper coating, as well as resins and polymers for pipes and automobile and appliance parts. It is also used as an intermediate in the production of such chemicals as fungicides.

(e) Appearance and odor: BD is a colorless, non-corrosive, flammable gas with a mild aromatic odor at standard ambient temperature and pressure.

(f) Permissible exposure: Exposure may not exceed 1 part BD per million parts of air averaged over the 8-hour workday, nor may short-term exposure exceed 5 parts of BD per million parts of air averaged over any 15-minute period in the 8-hour workday.

(2) Health Hazard Data.

(a) BD can affect the body if the gas is inhaled or if the liquid form, which is very cold (cryogenic), comes in contact with the eyes or skin.

(b) Effects of overexposure: Breathing very high levels of BD for a short time can cause central nervous system effects, blurred vision, nausea, fatigue, headache, decreased blood pressure and pulse rate, and unconsciousness. There are no recorded cases of accidental exposures at high levels that have caused death in humans, but this could occur. Breathing lower levels of BD may cause irritation of the eyes, nose, and throat. Skin contact with liquefied BD can cause irritation and frostbite.

(c) Long-term (chronic) exposure: BD has been found to be a potent carcinogen in rodents, inducing neoplastic lesions at multiple target sites in mice and rats. A recent study of BD-exposed workers showed that exposed workers have an increased risk of developing leukemia. The risk of leukemia increases with increased exposure to BD. OSHA has concluded that there is strong evidence that workplace exposure to BD poses an increased risk of death from cancers of the lymphohematopoietic system.

(d) Reporting signs and symptoms: You should inform your supervisor if you develop any of these signs or symptoms and suspect that they are caused by exposure to BD.

(3) Emergency First Aid Procedures.

In the event of an emergency, follow the emergency plan and procedures designated for your work area. If you have been trained in first aid procedures, provide the necessary first aid measures. If necessary, call for additional assistance from co-workers and emergency medical personnel.

(a) Eye and Skin Exposures: If there is a potential that liquefied BD can come in contact with eye or skin, face shields and skin protective equipment must be provided and used. If liquefied BD comes in contact with the eye, immediately flush the eyes with large amounts of water, occasionally lifting the lower and the upper lids. Flush repeatedly. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. In the event of skin contact, which can cause frostbite, remove any contaminated clothing and flush the affected area repeatedly with large amounts of tepid water.

(b) Breathing: If a person breathes in large amounts of BD, move the exposed person to fresh air at once. If breathing has stopped, begin cardiopulmonary resuscitation (CPR) if you have been trained in this procedure. Keep the affected person warm and at rest. Get medical attention immediately.

(c) Rescue: Move the affected person from the hazardous exposure. If the exposed person has been overcome, call for help and begin emergency rescue procedures. Use extreme caution so that you do not become a casualty. Understand the plant's emergency rescue procedures and know the locations of rescue equipment before the need arises.

#### (4) Respirators and Protective Clothing.

(a) Respirators: Good industrial hygiene practices recommend that engineering and work practice controls be used to reduce environmental concentrations to the permissible exposure level. However, there are some exceptions where respirators may be used to control exposure. Respirators may be used when engineering and work practice controls are not technically feasible, when such controls are in the process of being installed, or when these controls fail and need to be supplemented or during brief, non-routine, intermittent exposure. Respirators may also be used in situations involving non-routine work operations which are performed infrequently and in which exposures are limited in duration, and in emergency situations. In some instances cartridge respirator use is allowed, but only with strict time constraints. For example, at exposure below 5 ppm BD, a cartridge (or canister) respirator, either full or half face, may be used, but the cartridge must be replaced at least every 4 hours, and it must be replaced every 3 hours when the exposure is between 5 and 10 ppm.

If the use of respirators is necessary, the only respirators permitted are those that have been approved by the National Institute for Occupational Safety and Health (NIOSH). In addition to respirator selection, a complete respiratory protection program must be instituted which includes regular training, maintenance, fit testing, inspection, cleaning, and evaluation of respirators. If you can smell BD while wearing a respirator, proceed immediately to fresh air, and change cartridge (or canister) before re-entering an area where there is BD exposure. If you experience difficulty in breathing while wearing a respirator, tell your supervisor.

(b) Protective Clothing: Employees should be provided with and required to use impervious clothing, gloves, face shields (eight-inch minimum), and other appropriate protective clothing necessary to prevent the skin from becoming frozen by contact with liquefied BD (or a vessel containing liquid BD).

Employees should be provided with and required to use splash-proof safety goggles where liquefied BD may contact the eyes.

#### (5) Precautions for Safe Use, Handling, and Storage.

(a) Fire and Explosion Hazards: BD is a flammable gas and can easily form explosive mixtures in air. It has a lower explosive limit of 2%, and an upper explosive limit of 11.5%. It has an autoignition temperature of 420 deg. C (788 deg. F). Its vapor is heavier than air (vapor density, 1.9) and may travel a considerable distance to a source of ignition and flash back. Usually it contains inhibitors to prevent self-polymerization (which is accompanied by evolution of heat) and to

prevent formation of explosive peroxides. At elevated temperatures, such as in fire conditions, polymerization may take place. If the polymerization takes place in a container, there is a possibility of violent rupture of the container.

(b) Hazard: Slightly toxic. Slight respiratory irritant. Direct contact of liquefied BD on skin may cause freeze burns and frostbite.

(c) Storage: Protect against physical damage to BD containers. Outside or detached storage of BD containers is preferred. Inside storage should be in a cool, dry, well-ventilated, noncombustible location, away from all possible sources of ignition. Store cylinders vertically and do not stack. Do not store with oxidizing material.

(d) Usual Shipping Containers: Liquefied BD is contained in steel pressure apparatus.

(e) Electrical Equipment: Electrical installations in Class I hazardous locations, as defined in Article 500 of the National Electrical Code, should be in accordance with Article 501 of the Code. If explosion-proof electrical equipment is necessary, it shall be suitable for use in Group B. Group D equipment may be used if such equipment is isolated in accordance with Section 501-5(a) by sealing all conduit 1/2-inch size or larger. See Venting of Deflagrations (NFPA No. 68, 1994), National Electrical Code (NFPA No. 70, 1996), Static Electricity (NFPA No. 77, 1993), Lightning Protection Systems (NFPA No. 780, 1995), and Fire Hazard Properties of Flammable Liquids, Gases and Volatile Solids (NFPA No. 325, 1994).

(f) Fire Fighting: Stop flow of gas. Use water to keep fire-exposed containers cool. Fire extinguishers and quick drenching facilities must be readily available, and you should know where they are and how to operate them.

(g) Spill and Leak: Persons not wearing protective equipment and clothing should be restricted from areas of spills or leaks until clean-up has been completed. If BD is spilled or leaked, the following steps should be taken:

(i) Eliminate all ignition sources.

(ii) Ventilate area of spill or leak.

(iii) If in liquid form, for small quantities, allow to evaporate in a safe manner.

(iv) Stop or control the leak if this can be done without risk. If source of leak is a cylinder and the leak cannot be stopped in place, remove the leaking cylinder to a safe place and repair the leak or allow the cylinder to empty.

(h) Disposal: This substance, when discarded or disposed of, is a hazardous waste according to Federal regulations (40 CFR part 261). It is listed as hazardous waste number D001 due to its ignitability. The transportation, storage, treatment, and disposal of this waste material must be conducted in compliance with 40 CFR parts 262, 263, 264, 268 and 270. Disposal can occur only in properly permitted facilities. Check state and local regulation of any additional requirements as these may be more restrictive than federal laws and regulation.

(i) You should not keep food, beverages, or smoking materials in areas where there is BD exposure, nor should you eat or drink in such areas.

(j) Ask your supervisor where BD is used in your work area and ask for any additional plant safety and health rules.

(6) Medical Requirements.

Your employer is required to offer you the opportunity to participate in a medical screening and surveillance program if you are exposed to BD at concentrations exceeding the action level (0.5 ppm BD as an 8-hour TWA) on 30 days or more a year, or at or above the 8-hr TWA (1 ppm) or STEL (5 ppm for 15 minutes) on 10 days or more a year. Exposure for any part of a day counts. If you have had exposure to BD in the past, but have been transferred to another job, you may still be eligible to participate in the medical screening and surveillance program.

The WISHA rule specifies the past exposures that would qualify you for participation in the program. These past exposure are work histories that suggest the following:

- (a) That you have been exposed at or above the PELs on 30 days a year for 10 or more years;
- (b) That you have been exposed at or above the action level on 60 days a year for 10 or more years; or
- (c) That you have been exposed above 10 ppm on 30 days in any past year.

Additionally, if you are exposed to BD in an emergency situation, you are eligible for a medical examination within 48 hours. The basic medical screening program includes a health questionnaire, physical examination, and blood test. These medical evaluations must be offered to you at a reasonable time and place, and without cost or loss of pay.

(7) Observation of Monitoring.

Your employer is required to perform measurements that are representative of your exposure to BD and you or your designated representative are entitled to observe the monitoring procedure. You are entitled to observe the steps taken in the measurement procedure, and to record the results obtained. When the monitoring procedure is taking place in an area where respirators or personal protective clothing and equipment are required to be worn, you or your representative must also be provided with, and must wear, the protective clothing and equipment.

(8) Access to Information.

(a) Each year, your employer is required to inform you of the information contained in this appendix. In addition, your employer must instruct you in the proper work practices for using BD, emergency procedures, and the correct use of protective equipment.

(b) Your employer is required to determine whether you are being exposed to BD. You or your representative has the right to observe employee measurements and to record the results obtained. Your employer is required to inform you of your exposure. If your employer determines that you are being overexposed, he or she is required to inform you of the actions which are being taken to reduce your exposure to within permissible exposure limits and of the schedule to implement these actions.

(c) Your employer is required to keep records of your exposures and medical examinations. These records must be kept by the employer for at least thirty (30) years.

(d) Your employer is required to release your exposure and medical records to you or your representative upon your request.

Appendix B. Substance Technical Guidelines for 1,3-Butadiene (Non-Mandatory)

(1) Physical and Chemical Data.

(a) Substance identification:

(i) Synonyms: 1,3-Butadiene (BD); butadiene; biethylene; bivinyl; divinyl; butadiene-1,3; buta-1,3-diene; erythrene; NCI-C50620; CAS-106-99-0.

(ii) Formula:  $(CH_2)=CH-CH=CH_2$ .

(iii) Molecular weight: 54.1.

(b) Physical data:

(i) Boiling point (760 mm Hg): -4.7 deg. C (23.5 deg. F).

(ii) Specific gravity (water=1): 0.62 at 20 deg. C (68 deg. F).

(iii) Vapor density (air=1 at boiling point of BD): 1.87.

(iv) Vapor pressure at 20 deg. C (68 deg. F): 910 mm Hg.

(v) Solubility in water, g/100 g water at 20 deg. C (68 deg. F): 0.05.

(vi) Appearance and odor: Colorless, flammable gas with a mildly aromatic odor. Liquefied BD is a colorless liquid with a mildly aromatic odor.

(2) Fire, Explosion, and Reactivity Hazard Data.

(a) Fire:

(i) Flash point: -76 deg. C (-105 deg. F) for take out; liquefied BD; Not applicable to BD gas.

(ii) Stability: A stabilizer is added to the monomer to inhibit formation of polymer during storage. Forms explosive peroxides in air in absence of inhibitor.

(iii) Flammable limits in air, percent by volume: Lower: 2.0; Upper: 11.5.

(iv) Extinguishing media: Carbon dioxide for small fires, polymer or alcohol foams for large fires.

(v) Special fire fighting procedures: Fight fire from protected location or maximum possible distance. Stop flow of gas before extinguishing fire. Use water spray to keep fire-exposed cylinders cool.

(vi) Unusual fire and explosion hazards: BD vapors are heavier than air and may travel to a source of ignition and flash back. Closed containers may rupture violently when heated.

(vii) For purposes of compliance with the requirements of WAC 296-24-330, BD is classified as a flammable gas. For example, 7,500 ppm, approximately one-fourth of the lower flammable limit, would be considered to pose a potential fire and explosion hazard.

(viii) For purposes of compliance with WAC 296-24-585, BD is classified as a Class B fire hazard.

(ix) For purposes of compliance with WAC 296-24-956, locations classified as hazardous due to the presence of BD shall be Class I.

(b) Reactivity:

(i) Conditions contributing to instability: Heat. Peroxides are formed when inhibitor concentration is not maintained at proper level. At elevated temperatures, such as in fire conditions, polymerization may take place.

(ii) Incompatibilities: Contact with strong oxidizing agents may cause fires and explosions. The contacting of crude BD (not BD monomer) with copper and copper alloys may cause formations of explosive copper compounds.

(iii) Hazardous decomposition products: Toxic gases (such as carbon monoxide) may be released in a fire involving BD.

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(iv) Special precautions: BD will attack some forms of plastics, rubber, and coatings. BD in storage should be checked for proper inhibitor content, for self-polymerization, and for formation of peroxides when in contact with air and iron. Piping carrying BD may become plugged by formation of rubbery polymer.

(c) Warning Properties:

(i) Odor Threshold: An odor threshold of 0.45 ppm has been reported in The American Industrial Hygiene Association (AIHA) Report, Odor Thresholds for Chemicals with Established Occupational Health Standards. (Ex. 32-28C).

(ii) Eye Irritation Level: Workers exposed to vapors of BD (concentration or purity unspecified) have complained of irritation of eyes, nasal passages, throat, and lungs. Dogs and rabbits exposed experimentally to as much as 6700 ppm for 7 1/2 hours a day for 8 months have developed no histologically demonstrable abnormality of the eyes.

(iii) Evaluation of Warning Properties: Since the mean odor threshold is about half of the 1 ppm PEL, and more than 10-fold below the 5 ppm STEL, most wearers of air purifying respirators should still be able to detect breakthrough before a significant overexposure to BD occurs.

(3) Spill, Leak, and Disposal Procedures.

(a) Persons not wearing protective equipment and clothing should be restricted from areas of spills or leaks until cleanup has been completed. If BD is spilled or leaked, the following steps should be taken:

(i) Eliminate all ignition sources.

(ii) Ventilate areas of spill or leak.

(iii) If in liquid form, for small quantities, allow to evaporate in a safe manner.

(iv) Stop or control the leak if this can be done without risk. If source of leak is a cylinder and the leak cannot be stopped in place, remove the leaking cylinder to a safe place and repair the leak or allow the cylinder to empty.

(b) Disposal: This substance, when discarded or disposed of, is a hazardous waste according to Federal regulations (40 CFR part 261). It is listed by the EPA as hazardous waste number D001 due to its ignitability. The transportation, storage, treatment, and disposal of this waste material must be conducted in compliance with 40 CFR parts 262, 263, 264, 268 and 270. Disposal can occur only in properly permitted facilities. Check state and local regulations for any additional requirements because these may be more restrictive than federal laws and regulations.

(4) Monitoring and Measurement Procedures.

(a) Exposure above the Permissible Exposure Limit (8-hr TWA) or Short-Term Exposure Limit (STEL):

(i) 8-hr TWA exposure evaluation: Measurements taken for the purpose of determining employee exposure under this standard are best taken with consecutive samples covering the full shift. Air samples must be taken in the employee's breathing zone (air that would most nearly represent that inhaled by the employee).

(ii) STEL exposure evaluation: Measurements must represent 15 minute exposures associated with operations most likely to exceed the STEL in each job and on each shift.

(iii) Monitoring frequencies: Table 1 gives various exposure scenarios and their required monitoring frequencies, as required by the final standard for occupational exposure to butadiene.

Table 1. — Five Exposure Scenarios and Their Associated Monitoring Frequencies

Action Level	8-hr TWA	STEL	Required Monitoring Activity
—*	—	—	No 8-hr TWA or STEL monitoring required.
+*	—	—	No STEL monitoring required. Monitor 8-hr TWA annually.
+	—	—	No STEL monitoring required. Periodic monitoring 8-hr TWA, in accordance with (4)(c)(iii).**
+	+	+	Periodic monitoring 8-hr TWA, in accordance with (4)(c)(iii)**. Periodic monitoring STEL in accordance with (4)(c)(iii).
+	—	+	Periodic monitoring STEL, in accordance with (4)(c)(iii). Monitor 8-hr TWA annually.

Footnote (\*) Exposure Scenario, Limit Exceeded: += Yes, - = No.

Footnote (\*\*) The employer may decrease the frequency of exposure monitoring to annually when at least 2 consecutive measurements taken at least 7 days apart show exposures to be below the 8-hr TWA, but at or above the action level.

(iv) Monitoring techniques: Appendix D describes the validated method of sampling and analysis which has been tested by OSHA for use with BD. The employer has the obligation of selecting a monitoring method which meets the accuracy and precision requirements of the standard under his or her unique field conditions. The standard requires that

the method of monitoring must be accurate, to a 95 percent confidence level, to plus or minus 25 percent for concentrations of BD at or above 1 ppm, and to plus or minus 35 percent for concentrations below 1 ppm.

(5) Personal Protective Equipment.



(a) Employees should be provided with and required to use impervious clothing, gloves, face shields (eight-inch minimum), and other appropriate protective clothing necessary to prevent the skin from becoming frozen from contact with liquid BD.

(b) Any clothing which becomes wet with liquid BD should be removed immediately and not re-worn until the butadiene has evaporated.

(c) Employees should be provided with and required to use splash proof safety goggles where liquid BD may contact the eyes.

(6) Housekeeping and Hygiene Facilities.

For purposes of complying with WAC 296-24-120 (Part B-1 Sanitation), the following items should be emphasized:

(a) The workplace should be kept clean, orderly, and in a sanitary condition.

(b) Adequate washing facilities with hot and cold water are to be provided and maintained in a sanitary condition.

(7) Additional Precautions.

(a) Store BD in tightly closed containers in a cool, well-ventilated area and take all necessary precautions to avoid any explosion hazard.

(b) Non-sparking tools must be used to open and close metal containers. These containers must be effectively grounded.

(c) Do not incinerate BD cartridges, tanks or other containers.

(d) Employers must advise employees of all areas and operations where exposure to BD might occur.

Appendix C. Medical Screening and Surveillance for 1,3-Butadiene (Non-Mandatory)

(1) Basis for Medical Screening and Surveillance Requirements.

(a) Route of Entry Inhalation.

(b) Toxicology.

Inhalation of BD has been linked to an increased risk of cancer, damage to the reproductive organs, and fetotoxicity. Butadiene can be converted via oxidation to epoxybutene and diepoxybutane, two genotoxic metabolites that may play a role in the expression of BD's toxic effects. BD has been tested for carcinogenicity in mice and rats. Both species responded to BD exposure by developing cancer at multiple primary organ sites. Early deaths in mice were caused by malignant lymphomas, primarily lymphocytic type, originating in the thymus.

Mice exposed to BD have developed ovarian or testicular atrophy. Sperm head morphology tests also revealed abnormal sperm in mice exposed to BD; lethal mutations were found in a dominant lethal test. In light of these results in animals, the possibility that BD may adversely affect the reproductive systems of male and female workers must be considered.

Additionally, anemia has been observed in animals exposed to butadiene. In some cases, this anemia appeared to be a primary response to exposure; in other cases, it may have been secondary to a neoplastic response.

(c) Epidemiology.

Epidemiologic evidence demonstrates that BD exposure poses an increased risk of leukemia. Mild alterations of

hematologic parameters have also been observed in synthetic rubber workers exposed to BD.

(2) Potential Adverse Health Effects.

(a) Acute.

Skin contact with liquid BD causes characteristic burns or frostbite. BD in gaseous form can irritate the eyes, nasal passages, throat, and lungs. Blurred vision, coughing, and drowsiness may also occur. Effects are mild at 2,000 ppm and pronounced at 8,000 ppm for exposures occurring over the full workshift.

At very high concentrations in air, BD is an anesthetic, causing narcosis, respiratory paralysis, unconsciousness, and death. Such concentrations are unlikely, however, except in an extreme emergency because BD poses an explosion hazard at these levels.

(b) Chronic.

The principal adverse health effects of concern are BD-induced lymphoma, leukemia and potential reproductive toxicity. Anemia and other changes in the peripheral blood cells may be indicators of excessive exposure to BD.

(c) Reproductive.

Workers may be concerned about the possibility that their BD exposure may be affecting their ability to procreate a healthy child. For workers with high exposures to BD, especially those who have experienced difficulties in conceiving, miscarriages, or stillbirths, appropriate medical and laboratory evaluation of fertility may be necessary to determine if BD is having any adverse effect on the reproductive system or on the health of the fetus.

(3) Medical Screening Components At-A-Glance.

(a) Health Questionnaire.

The most important goal of the health questionnaire is to elicit information from the worker regarding potential signs or symptoms generally related to leukemia or other blood abnormalities. Therefore, physicians or other licensed health care professionals should be aware of the presenting symptoms and signs of lymphohematopoietic disorders and cancers, as well as the procedures necessary to confirm or exclude such diagnoses. Additionally, the health questionnaire will assist with the identification of workers at greatest risk of developing leukemia or adverse reproductive effects from their exposures to BD.

Workers with a history of reproductive difficulties or a personal or family history of immune deficiency syndromes, blood dyscrasias, lymphoma, or leukemia, and those who are or have been exposed to medicinal drugs or chemicals known to affect the hematopoietic or lymphatic systems may be at higher risk from their exposure to BD. After the initial administration, the health questionnaire must be updated annually.

(b) Complete Blood Count (CBC).

The medical screening and surveillance program requires an annual CBC, with differential and platelet count, to be provided for each employee with BD exposure. This test is to be performed on a blood sample obtained by phlebotomy of the venous system or, if technically feasible, from a fingerstick sample of capillary blood. The sample is to be analyzed by an accredited laboratory.

Abnormalities in a CBC may be due to a number of different etiologies. The concern for workers exposed to BD

includes, but is not limited to, timely identification of lymphohematopoietic cancers, such as leukemia and non-Hodgkin's lymphoma. Abnormalities of portions of the CBC are identified by comparing an individual's results to those of an established range of normal values for males and females. A substantial change in any individual employee's CBC may also be viewed as "abnormal" for that individual even if all measurements fall within the population-based range of normal values. It is suggested that a flowsheet for laboratory values be included in each employee's medical record so that comparisons and trends in annual CBCs can be easily made.

A determination of the clinical significance of an abnormal CBC shall be the responsibility of the examining physician, other licensed health care professional, or medical specialist to whom the employee is referred. Ideally, an abnormal CBC should be compared to previous CBC measurements for the same employee, when available. Clinical common sense may dictate that a CBC value that is very slightly outside the normal range does not warrant medical concern. A CBC abnormality may also be the result of a temporary physical stressor, such as a transient viral illness, blood donation, or menorrhagia, or laboratory error. In these cases, the CBC should be repeated in a timely fashion, i.e., within 6 weeks, to verify that return to the normal range has occurred. A clinically significant abnormal CBC should result in removal of the employee from further exposure to BD. Transfer of the employee to other work duties in a BD-free environment would be the preferred recommendation.

(c) Physical Examination.

The medical screening and surveillance program requires an initial physical examination for workers exposed to BD; this examination is repeated once every three years. The initial physical examination should assess each worker's baseline general health and rule out clinical signs of medical conditions that may be caused by or aggravated by occupational BD exposure. The physical examination should be directed at identification of signs of lymphohematopoietic disorders, including lymph node enlargement, splenomegaly, and hepatomegaly.

Repeated physical examinations should update objective clinical findings that could be indicative of interim development of a lymphohematopoietic disorder, such as lymphoma, leukemia, or other blood abnormality. Physical examinations may also be provided on an as needed basis in order to follow up on a positive answer on the health questionnaire, or in response to an abnormal CBC. Physical examination of workers who will no longer be working in jobs with BD exposure are intended to rule out lymphohematopoietic disorders.

The need for physical examinations for workers concerned about adverse reproductive effects from their exposure to BD should be identified by the physician or other licensed health care professional and provided accordingly. For these workers, such consultations and examinations may relate to developmental toxicity and reproductive capacity.

Physical examination of workers acutely exposed to significant levels of BD should be especially directed at the respiratory system, eyes, sinuses, skin, nervous system, and any region associated with particular complaints. If the worker has received a severe acute exposure, hospitalization may be

required to assure proper medical management. Since this type of exposure may place workers at greater risk of blood abnormalities, a CBC must be obtained within 48 hours and repeated at one, two, and three months.

Appendix D: Sampling and Analytical Method for 1,3-Butadiene (Non-Mandatory)

OSHA Method No.: 56.

Matrix: Air.

Target concentration: 1 ppm (2.21 mg/m<sup>3</sup>).

Procedure: Air samples are collected by drawing known volumes of air through sampling tubes containing charcoal adsorbent which has been coated with 4-tert-butylcatechol. The samples are desorbed with carbon disulfide and then analyzed by gas chromatography using a flame ionization detector.

Recommended sampling rate and air volume: 0.05 L/min and 3 L.

Detection limit of the overall procedure: 90 ppb (200 ug/m<sup>3</sup>) (based on 3 L air volume).

Reliable quantitation limit: 155 ppb (343 ug/m<sup>3</sup>) (based on 3 L air volume).

Standard error of estimate at the target concentration: 6.5%.

Special requirements: The sampling tubes must be coated with 4-tert-butylcatechol. Collected samples should be stored in a freezer.

Status of method: A sampling and analytical method has been subjected to the established evaluation procedures of the Organic Methods Evaluation Branch, OSHA Analytical Laboratory, Salt Lake City, Utah 84165.

(1) Background.

This work was undertaken to develop a sampling and analytical procedure for BD at 1 ppm. The current method recommended by OSHA for collecting BD uses activated coconut shell charcoal as the sampling medium (Ref. 5.2). This method was found to be inadequate for use at low BD levels because of sample instability.

The stability of samples has been significantly improved through the use of a specially cleaned charcoal which is coated with 4-tert-butylcatechol (TBC). TBC is a polymerization inhibitor for BD (Ref. 5.3).

(a) Toxic effects.

Symptoms of human exposure to BD include irritation of the eyes, nose and throat. It can also cause coughing, drowsiness and fatigue. Dermatitis and frostbite can result from skin exposure to liquid BD. (Ref. 5.1)

NIOSH recommends that BD be handled in the workplace as a potential occupational carcinogen. This recommendation is based on two inhalation studies that resulted in cancers at multiple sites in rats and in mice. BD has also demonstrated mutagenic activity in the presence of a liver microsomal activating system. It has also been reported to have adverse reproductive effects. (Ref. 5.1)

(b) Potential workplace exposure.

About 90% of the annual production of BD is used to manufacture styrene-butadiene rubber and Polybutadiene rubber. Other uses include: Polychloroprene rubber, acrylonitrile butadiene-styrene resins, nylon intermediates, styrene-butadiene latexes, butadiene polymers, thermoplastic

elastomers, nitrile resins, methyl methacrylate-butadiene styrene resins and chemical intermediates. (Ref. 5.1)

(c) Physical properties (Ref. 5.1).

CAS No.: 106-99-0

Molecular weight: 54.1

Appearance: Colorless gas

Boiling point: -4.41 deg. C (760 mm Hg)

Freezing point: -108.9 deg. C

Vapor pressure: 2 atm (a) 15.3 deg. C; 5 atm (a) 47 deg.

C

Explosive limits: 2 to 11.5% (by volume in air)

Odor threshold: 0.45 ppm

Structural formula: H(2)C:CHCH:CH(2)

Synonyms: BD; biethylene; bivinyl; butadiene; divinyl; buta-1,3-diene; alpha-gamma-butadiene; erythrene; NCI-C50602; pyrrolylene; vinylethylene.

(d) Limit defining parameters.

The analyte air concentrations listed throughout this method are based on an air volume of 3 L and a desorption volume of 1 mL. Air concentrations listed in ppm are referenced to 25 deg. C and 760 mm Hg.

(e) Detection limit of the analytical procedure.

The detection limit of the analytical procedure was 304 pg per injection. This was the amount of BD which gave a response relative to the interferences present in a standard.

(f) Detection limit of the overall procedure.

The detection limit of the overall procedure was 0.60 ug per sample (90 ppb or 200 ug/m(3)). This amount was determined graphically. It was the amount of analyte which, when spiked on the sampling device, would allow recovery approximately equal to the detection limit of the analytical procedure.

(g) Reliable quantitation limit.

The reliable quantitation limit was 1.03 ug per sample (155 ppb or 343 ug/m(3)). This was the smallest amount of analyte which could be quantitated within the limits of a recovery of at least 75% and a precision (+/- 1.96 SD) of +/- 25% or better.

(h) Sensitivity.(1)

Footnote (1)

The reliable quantitation limit and detection limits reported in the method are based upon optimization of the instrument for the smallest possible amount of analyte. When the target concentration of an analyte is exceptionally higher than these limits, they may not be attainable at the routine operation parameters.

The sensitivity of the analytical procedure over a concentration range representing 0.6 to 2 times the target concentration, based on the recommended air volume, was 387 area units per ug/mL. This value was determined from the slope of the calibration curve. The sensitivity may vary with the particular instrument used in the analysis.

(i) Recovery.

The recovery of BD from samples used in storage tests remained above 77% when the samples were stored at ambient temperature and above 94% when the samples were stored at refrigerated temperature. These values were determined from regression lines which were calculated from the storage data. The recovery of the analyte from the collection device must be at least 75% following storage.

(j) Precision (analytical method only).

The pooled coefficient of variation obtained from replicate determinations of analytical standards over the range of 0.6 to 2 times the target concentration was 0.011.

(k) Precision (overall procedure).

The precision at the 95% confidence level for the refrigerated temperature storage test was +/- 12.7%. This value includes an additional +/- 5% for sampling error. The overall procedure must provide results at the target concentrations that are +/- 25% at the 95% confidence level.

(l) Reproducibility.

Samples collected from a controlled test atmosphere and a draft copy of this procedure were given to a chemist unassociated with this evaluation. The average recovery was 97.2% and the standard deviation was 6.2%.

(2) Sampling procedure.

(a) Apparatus. Samples are collected by use of a personal sampling pump that can be calibrated to within +/- 5% of the recommended 0.05 L/min sampling rate with the sampling tube in line.

(b) Samples are collected with laboratory prepared sampling tubes. The sampling tube is constructed of silane-treated glass and is about 5-cm long. The ID is 4 mm and the OD is 6 mm. One end of the tube is tapered so that a glass wool end plug will hold the contents of the tube in place during sampling. The opening in the tapered end of the sampling tube is at least one-half the ID of the tube (2 mm). The other end of the sampling tube is open to its full 4-mm ID to facilitate packing of the tube. Both ends of the tube are fire-polished for safety. The tube is packed with 2 sections of pretreated charcoal which has been coated with TBC. The tube is packed with a 50-mg backup section, located nearest the tapered end, and with a 100-mg sampling section of charcoal. The two sections of coated adsorbent are separated and retained with small plugs of silanized glass wool. Following packing, the sampling tubes are sealed with two 7/32 inch OD plastic end caps. Instructions for the pretreatment and coating of the charcoal are presented in Section 4.1 of this method.

(c) Reagents.

None required.

(d) Technique.

(i) Properly label the sampling tube before sampling and then remove the plastic end caps.

(ii) Attach the sampling tube to the pump using a section of flexible plastic tubing such that the larger front section of the sampling tube is exposed directly to the atmosphere. Do not place any tubing ahead of the sampling tube. The sampling tube should be attached in the worker's breathing zone in a vertical manner such that it does not impede work performance.

(iii) After sampling for the appropriate time, remove the sampling tube from the pump and then seal the tube with plastic end caps. Wrap the tube lengthwise.

(iv) Include at least one blank for each sampling set. The blank should be handled in the same manner as the samples with the exception that air is not drawn through it.

(v) List any potential interferences on the sample data sheet.

(vi) The samples require no special shipping precautions under normal conditions. The samples should be refrigerated

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if they are to be exposed to higher than normal ambient temperatures. If the samples are to be stored before they are shipped to the laboratory, they should be kept in a freezer. The samples should be placed in a freezer upon receipt at the laboratory.

(e) Breakthrough.

(Breakthrough was defined as the relative amount of analyte found on the backup section of the tube in relation to the total amount of analyte collected on the sampling tube. Five-percent breakthrough occurred after sampling a test atmosphere containing 2.0 ppm BD for 90 min. at 0.05 L/min. At the end of this time 4.5 L of air had been sampled and 20.1 ug of the analyte was collected. The relative humidity of the sampled air was 80% at 23 deg. C.)

Breakthrough studies have shown that the recommended sampling procedure can be used at air concentrations higher than the target concentration. The sampling time, however, should be reduced to 45 min. if both the expected BD level and the relative humidity of the sampled air are high.

(f) Desorption efficiency.

The average desorption efficiency for BD from TBC coated charcoal over the range from 0.6 to 2 times the target concentration was 96.4%. The efficiency was essentially constant over the range studied.

(g) Recommended air volume and sampling rate.

(h) The recommended air volume is 3 L.

(i) The recommended sampling rate is 0.05 L/min. for 1 hour.

(j) Interferences.

There are no known interferences to the sampling method.

(k) Safety precautions.

(i) Attach the sampling equipment to the worker in such a manner that it will not interfere with work performance or safety.

(ii) Follow all safety practices that apply to the work area being sampled.

(3) Analytical procedure.

(a) Apparatus.

(i) A gas chromatograph (GC), equipped with a flame ionization detector (FID).(2)

Footnote (2) A Hewlett-Packard Model 5840A GC was used for this evaluation. Injections were performed using a Hewlett-Packard Model 7671A automatic sampler.

(ii) A GC column capable of resolving the analytes from any interference.(3)

Footnote (3) A 20-ft x 1/8-inch OD stainless steel GC column containing 20% FFAP on 80/100 mesh Chromabsorb W-AW-DMCS was used for this evaluation.

(iii) Vials, glass 2-mL with Teflon-lined caps.

(iv) Disposable Pasteur-type pipets, volumetric flasks, pipets and syringes for preparing samples and standards, making dilutions and performing injections.

(b) Reagents.

(i) Carbon disulfide.(4)

Footnote (4) Fisher Scientific Company A.C.S. Reagent Grade solvent was used in this evaluation.

The benzene contaminant that was present in the carbon disulfide was used as an internal standard (ISTD) in this evaluation.

(ii) Nitrogen, hydrogen and air, GC grade.

(iii) BD of known high purity.(5)

Footnote (5) Matheson Gas Products, CP Grade 1,3-butadiene was used in this study.

(c) Standard preparation.

(i) Prepare standards by diluting known volumes of BD gas with carbon disulfide. This can be accomplished by injecting the appropriate volume of BD into the headspace above the 1-mL of carbon disulfide contained in sealed 2-mL vial. Shake the vial after the needle is removed from the septum.(6)

Footnote (6) A standard containing 7.71 ug/mL (at ambient temperature and pressure) was prepared by diluting 4 uL of the gas with 1-mL of carbon disulfide.

(ii) The mass of BD gas used to prepare standards can be determined by use of the following equations:

$$MV=(760/BP)(273+t)/(273)(22.41)$$

Where:

MV= ambient molar volume BP= ambient barometric pressure T=ambient temperature ug/uL  
=54.09/MV ug/standard=( ug/uL)(uL) BD used to prepare the standard

(d) Sample preparation.

(i) Transfer the 100-mg section of the sampling tube to a 2-mL vial. Place the 50-mg section in a separate vial. If the glass wool plugs contain a significant amount of charcoal, place them with the appropriate sampling tube section.

(ii) Add 1-mL of carbon disulfide to each vial.

(iii) Seal the vials with Teflon-lined caps and then allow them to desorb for one hour. Shake the vials by hand vigorously several times during the desorption period.

(iv) If it is not possible to analyze the samples within 4 hours, separate the carbon disulfide from the charcoal, using a disposable Pasteur-type pipet, following the one hour. This separation will improve the stability of desorbed samples.

(v) Save the used sampling tubes to be cleaned and repacked with fresh adsorbent.

(e) Analysis.

(i) GC Conditions.

Column temperature: 95 deg. C

Injector temperature: 180 deg. C

Detector temperature: 275 deg. C

Carrier gas flow rate: 30 mL/min.

Injection volume: 0.80 uL

GC column: 20-ft x 1/8-in OD stainless steel GC column containing 20%

FFAP on 80/100 Chromabsorb W-AW-DMCS.

(ii) Chromatogram. See Section 4.2.

(iii) Use a suitable method, such as electronic or peak heights, to measure detector response.

(iv) Prepare a calibration curve using several standard solutions of different concentrations. Prepare the calibration curve daily. Program the integrator to report the results in ug/mL.

(v) Bracket sample concentrations with standards.

(f) Interferences (analytical).

(i) Any compound with the same general retention time as the analyte and which also gives a detector response is a potential interference. Possible interferences should be reported by the industrial hygienist to the laboratory with submitted samples.

(ii) GC parameters (temperature, column, etc.) may be changed to circumvent interferences.

(iii) A useful means of structure designation is GC/MS. It is recommended that this procedure be used to confirm samples whenever possible.

(g) Calculations.

(i) Results are obtained by use of calibration curves. Calibration curves are prepared by plotting detector response against concentration for each standard. The best line through the data points is determined by curve fitting.

(ii) The concentration, in ug/mL, for a particular sample is determined by comparing its detector response to the calibration curve. If any analyte is found on the backup section, this amount is added to the amount found on the front section. Blank corrections should be performed before adding the results together.

(iii) The BD air concentration can be expressed using the following equation:

$$\text{mg/m}(3)=(A)(B)/(C)(D)$$

Where:

A= ug/mL from Section 3.7.2 B= volume C= L of air sampled D =efficiency

(iv) The following equation can be used to convert results in mg/m(3) to ppm:

$$\text{ppm}=(\text{mg/m}(3))(24.46)/54.09$$

Where:

mg/m(3)= result from Section 3.7.3. 24.46= molar volume of an ideal gas at 760 mm Hg and 25 deg. C.

(h) Safety precautions (analytical).

(i) Avoid skin contact and inhalation of all chemicals.

(ii) Restrict the use of all chemicals to a fume hood whenever possible.

(iii) Wear safety glasses and a lab coat in all laboratory areas.

(4) Additional Information.

(a) A procedure to prepare specially cleaned charcoal coated with TBC.

(i) Apparatus.

(A) Magnetic stirrer and stir bar.

(B) Tube furnace capable of maintaining a temperature of 700 deg. C and equipped with a quartz tube that can hold 30 g of charcoal.(8)

Footnote (8) A Lindberg Type 55035 Tube furnace was used in this evaluation.

(C) A means to purge nitrogen gas through the charcoal inside the quartz tube.

(D) Water-bath capable of maintaining a temperature of 60 deg. C.

(E) Miscellaneous laboratory equipment: One-liter vacuum flask, 1-L Erlenmeyer flask, 350-M1 Buchner funnel with a coarse fitted disc, 4-oz brown bottle, rubber stopper, Teflon tape etc.

(ii) Reagents.

(A) Phosphoric acid, 10% by weight, in water.(9)

Footnote (9)

Baker Analyzed Reagent grade was diluted with water for use in this evaluation.

(B) 4-tert-Butylcatechol (TBC).(10)

Footnote (10)

The Aldrich Chemical Company 99% grade was used in this evaluation.

(C) Specially cleaned coconut shell charcoal, 20/40 mesh.(11)

Footnote (11)

Specially cleaned charcoal was obtained from Supelco, Inc. for use in this evaluation. The cleaning process used by Supelco is proprietary.

(D) Nitrogen gas, GC grade.

(iii) Procedure.

Weigh 30g of charcoal into a 500-mL Erlenmeyer flask. Add about 250 mL of 10% phosphoric acid to the flask and then swirl the mixture. Stir the mixture for 1 hour using a magnetic stirrer. Filter the mixture using a fitted Buchner funnel. Wash the charcoal several times with 250-mL portions of deionized water to remove all traces of the acid. Transfer the washed charcoal to the tube furnace quartz tube. Place the quartz tube in the furnace and then connect the nitrogen gas purge to the tube. Fire the charcoal to 700 deg. C. Maintain that temperature for at least 1 hour. After the charcoal has cooled to room temperature, transfer it to a tared beaker. Determine the weight of the charcoal and then add an amount of TBC which is 10% of the charcoal, by weight.

CAUTION-TBC is toxic and should only be handled in a fume hood while wearing gloves.

Carefully mix the contents of the beaker and then transfer the mixture to a 4-oz bottle. Stopper the bottle with a clean rubber stopper which has been wrapped with Teflon tape. Clamp the bottle in a water bath so that the water level is above the charcoal level. Gently heat the bath to 60 deg. C and then maintain that temperature for 1 hour. Cool the charcoal to room temperature and then transfer the coated charcoal to a suitable container.

The coated charcoal is now ready to be packed into sampling tubes. The sampling tubes should be stored in a sealed container to prevent contamination. Sampling tubes should be stored in the dark at room temperature. The sampling tubes should be segregated by coated adsorbent lot number.

(b) Chromatograms.

The chromatograms were obtained using the recommended analytical method. The chart speed was set at 1 cm/min. for the first three min. and then at 0.2 cm/min. for the time remaining in the analysis.

The peak which elutes just before BD is a reaction product between an impurity on the charcoal and TBC. This peak is always present, but it is easily resolved from the analyte. The peak which elutes immediately before benzene is an oxidation product of TBC.

(5) References.

(a) "Current Intelligence Bulletin 41, 1,3-Butadiene", U.S. Dept. of Health and Human Services, Public Health Service, Center for Disease Control, NIOSH.

(b) "NIOSH Manual of Analytical Methods", 2nd ed.; U.S. Dept. of Health Education and Welfare, National Institute for Occupational Safety and Health: Cincinnati, OH, 1977, Vol. 2, Method No. S91 DHEW (NIOSH) Publ. (U.S.), No. 77-157-B.

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(c) Hawley, G.C., Ed. "The Condensed Chemical Dictionary", 8th ed.; Van Nostrand Reinhold Company: New York, 1971; 139.5.4. Chem. Eng. News (June 10, 1985), (63), 22-66.

Appendix E: (~~Respirator Fit Testing Procedures (Mandatory)~~)

A. ~~The Employer Shall Conduct Fit Testing Using the Following Procedures:~~

~~These provisions apply to both QLFT and QNFT.~~

~~1. The test subject shall be allowed to pick the most comfortable respirator from a selection of respirators of various sizes and models.~~

~~2. Prior to the selection process, the test subject shall be shown how to put on a respirator, how it should be positioned on the face, how to set strap tension and how to determine a comfortable fit. A mirror shall be available to assist the subject in evaluating the fit and positioning the respirator. This instruction may not constitute the subject's formal training on respirator use, because it is only a review.~~

~~3. The test subject shall be informed that he/she is being asked to select the respirator which provides the most comfortable fit. Each respirator represents a different size and shape, and if fitted and used properly, will provide adequate protection.~~

~~4. The test subject shall be instructed to hold each chosen facepiece up to the face and eliminate those which obviously do not give a comfortable fit.~~

~~5. The more comfortable facepieces are noted; the most comfortable mask is donned and worn at least five minutes to assess comfort. Assistance in assessing comfort can be given by discussing the points in item 6 below. If the test subject is not familiar with using a particular respirator, the test subject shall be directed to don the mask several times and to adjust the straps each time to become adept at setting proper tension on the straps.~~

~~6. Assessment of comfort shall include reviewing the following points with the test subject and allowing the test subject adequate time to determine the comfort of the respirator:~~

- ~~(a) Position of the mask on the nose;~~
- ~~(b) Room for eye protection;~~
- ~~(c) Room to talk;~~
- ~~(d) Position of mask on face and cheeks.~~

~~7. The following criteria shall be used to help determine the adequacy of the respirator fit:~~

- ~~(a) Chin properly placed;~~
- ~~(b) Adequate strap tension, not overly tightened;~~
- ~~(c) Fit across nose bridge;~~
- ~~(d) Respirator of proper size to span distance from nose to chin;~~
- ~~(e) Tendency of respirator to slip;~~
- ~~(f) Self-observation in mirror to evaluate fit and respirator position.~~

~~8. The test subject shall conduct the negative and positive pressure fit checks using procedures in Appendix A or those recommended by the respirator manufacturer. Before conducting the negative or positive pressure fit checks, the subject shall be told to seat the mask on the face by moving the head from side to side and up and down slowly while tak-~~

~~ing in a few slow deep breaths. Another facepiece shall be selected and retested if the test subject fails the fit check tests.~~

~~9. The test shall not be conducted if there is any hair growth between the skin and the facepiece sealing surface, such as stubble beard growth, beard, or sideburns which cross the respirator sealing surface. Any type of apparel which interferes with a satisfactory fit shall be altered or removed.~~

~~10. If a test subject exhibits difficulty in breathing during the tests, she or he shall be referred to a physician to determine whether the test subject can wear a respirator while performing her or his duties.~~

~~11. If the employee finds the fit of the respirator unacceptable, the test subject shall be given the opportunity to select a different respirator and to be retested.~~

~~12. Exercise regimen. Prior to the commencement of the fit test, the test subject shall be given a description of the fit test and the test subject's responsibilities during the test procedure. The description of the process shall include a description of the test exercises that the subject will be performing. The respirator to be tested shall be worn for at least 5 minutes before the start of the fit test.~~

~~13. Test Exercises. The test subject shall perform exercises, in the test environment, while wearing any applicable safety equipment that may be worn during actual respirator use which could interfere with fit, in the manner described below:~~

~~(a) Normal breathing. In a normal standing position, without talking, the subject shall breathe normally.~~

~~(b) Deep breathing. In a normal standing position, the subject shall breathe slowly and deeply, taking caution so as to not hyperventilate.~~

~~(c) Turning head side to side. Standing in place, the subject shall slowly turn his/her head from side to side between the extreme positions on each side. The head shall be held at each extreme momentarily so the subject can inhale at each side.~~

~~(d) Moving head up and down. Standing in place, the subject shall slowly move his/her head up and down. The subject shall be instructed to inhale in the up position (i.e., when looking toward the ceiling).~~

~~(e) Talking. The subject shall talk out loud slowly and loud enough so as to be heard clearly by the test conductor. The subject can read from a prepared text such as the Rainbow Passage, count backward from 100, or recite a memorized poem or song.~~

~~Rainbow Passage~~

~~When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colors. These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a man looks for something beyond reach, his friends say he is looking for the pot of gold at the end of the rainbow.~~

~~(f) Grimace. The test subject shall grimace by smiling or frowning. (Only for QNFT testing, not performed for QLFT)~~

~~(g) Bending over. The test subject shall bend at the waist as if he/she were to touch his/her toes. Jogging in place shall be substituted for this exercise in those test environments~~

such as shroud type QNFT units which prohibit bending at the waist.

(h) Normal breathing. Same as exercise (a). Each test exercise shall be performed for one minute except for the grime exercise which shall be performed for 15 seconds.

The test subject shall be questioned by the test conductor regarding the comfort of the respirator upon completion of the protocol. If it has become uncomfortable, another model of respirator shall be tried.

#### B. Qualitative Fit Test (QLFT) Protocols

##### 1. General

(a) The employer shall assign specific individuals who shall assume full responsibility for implementing the respirator qualitative fit test program.

(b) The employer shall ensure that persons administering QLFT are able to prepare test solutions, calibrate equipment and perform tests properly, recognize invalid tests, and assure that test equipment is in proper working order.

(c) The employer shall assure that QLFT equipment is kept clean and well maintained so as to operate within the parameters for which it was designed.

##### 2. Isoamyl Acetate Protocol

###### (a) Odor threshold screening.

The odor threshold screening test, performed without wearing a respirator, is intended to determine if the individual tested can detect the odor of isoamyl acetate.

(1) Three 1 liter glass jars with metal lids are required.

(2) Odor free water (e.g. distilled or spring water) at approximately 25 degrees C shall be used for the solutions.

(3) The isoamyl acetate (IAA) (also known as isopentyl acetate) stock solution is prepared by adding 1 cc of pure IAA to 800 cc of odor free water in a 1 liter jar and shaking for 30 seconds. A new solution shall be prepared at least weekly.

(4) The screening test shall be conducted in a room separate from the room used for actual fit testing. The two rooms shall be well ventilated to prevent the odor of IAA from becoming evident in the general room air where testing takes place.

(5) The odor test solution is prepared in a second jar by placing 0.4 cc of the stock solution into 500 cc of odor free water using a clean dropper or pipette. The solution shall be shaken for 30 seconds and allowed to stand for two to three minutes so that the IAA concentration above the liquid may reach equilibrium. This solution shall be used for only one day.

(6) A test blank shall be prepared in a third jar by adding 500 cc of odor free water.

(7) The odor test and test blank jars shall be labeled 1 and 2 for jar identification. Labels shall be placed on the lids so they can be periodically peeled off and switched to maintain the integrity of the test.

(8) The following instruction shall be typed on a card and placed on the table in front of the two test jars (i.e., 1 and 2): "The purpose of this test is to determine if you can smell banana oil at a low concentration. The two bottles in front of you contain water. One of these bottles also contains a small amount of banana oil. Be sure the covers are on tight, then shake each bottle for two seconds. Unscrew the lid of each bottle, one at a time, and sniff at the mouth of the bottle. Indicate to the test conductor which bottle contains banana oil."

(9) The mixtures used in the IAA odor detection test shall be prepared in an area separate from where the test is performed, in order to prevent olfactory fatigue in the subject.

(10) If the test subject is unable to correctly identify the jar containing the odor test solution, the IAA qualitative fit test shall not be performed.

(11) If the test subject correctly identifies the jar containing the odor test solution, the test subject may proceed to respirator selection and fit testing.

##### (b) Isoamyl acetate fit test

(1) The fit test chamber shall be similar to a clear 55 gallon drum liner suspended inverted over a 2-foot diameter frame so that the top of the chamber is about 6 inches above the test subject's head. The inside top center of the chamber shall have a small hook attached.

(2) Each respirator used for the fitting and fit testing shall be equipped with organic vapor cartridges or offer protection against organic vapors.

(3) After selecting, donning, and properly adjusting a respirator, the test subject shall wear it to the fit testing room. This room shall be separate from the room used for odor threshold screening and respirator selection, and shall be well ventilated, as by an exhaust fan or lab hood, to prevent general room contamination.

(4) A copy of the test exercises and any prepared text from which the subject is to read shall be taped to the inside of the test chamber.

(5) Upon entering the test chamber, the test subject shall be given a 6 inch by 5 inch piece of paper towel, or other porous, absorbent, single ply material, folded in half and wetted with 0.75 cc of pure IAA. The test subject shall hang the wet towel on the hook at the top of the chamber.

(6) Allow two minutes for the IAA test concentration to stabilize before starting the fit test exercises. This would be an appropriate time to talk with the test subject; to explain the fit test, the importance of his/her cooperation, and the purpose for the test exercises; or to demonstrate some of the exercises.

(7) If at any time during the test, the subject detects the banana like odor of IAA, the test is failed. The subject shall quickly exit from the test chamber and leave the test area to avoid olfactory fatigue.

(8) If the test is failed, the subject shall return to the selection room and remove the respirator. The test subject shall repeat the odor sensitivity test, select and put on another respirator, return to the test area and again begin the fit test procedure described in (1) through (7) above. The process continues until a respirator that fits well has been found. Should the odor sensitivity test be failed, the subject shall wait about 5 minutes before retesting. Odor sensitivity will usually have returned by this time.

(9) When the subject wearing the respirator passes the test, its efficiency shall be demonstrated for the subject by having the subject break the face seal and take a breath before exiting the chamber.

(10) When the test subject leaves the chamber, the subject shall remove the saturated towel and return it to the person conducting the test, so there is no significant IAA concentration buildup in the chamber during subsequent tests.



The used towels shall be kept in a self-sealing bag to keep the test area from being contaminated.

### 3. Saccharin Solution Aerosol Protocol

The entire screening and testing procedure shall be explained to the test subject prior to the conduct of the screening test.

(a) Taste threshold screening. The saccharin taste threshold screening, performed without wearing a respirator, is intended to determine whether the individual being tested can detect the taste of saccharin.

(1) During threshold screening as well as during fit testing, subjects shall wear an enclosure about the head and shoulders that is approximately 12 inches in diameter by 14 inches tall with at least the front portion clear and that allows free movements of the head when a respirator is worn. An enclosure substantially similar to the 3M hood assembly, parts # FT 14 and # FT 15 combined, is adequate.

(2) The test enclosure shall have a 3/4 inch hole in front of the test subject's nose and mouth area to accommodate the nebulizer nozzle.

(3) The test subject shall don the test enclosure. Throughout the threshold screening test, the test subject shall breathe through his/her slightly open mouth with tongue extended.

(4) Using a DeVilbiss Model 40 Inhalation Medication Nebulizer or equivalent the test conductor shall spray the threshold check solution into the enclosure. This nebulizer shall be clearly marked to distinguish it from the fit test solution nebulizer.

(5) The threshold check solution consists of 0.83 grams of sodium saccharin USP in 100 ml of warm water. It can be prepared by putting 1 ml of the fit test solution (see (b)(5) below) in 100 ml of distilled water.

(6) To produce the aerosol, the nebulizer bulb is firmly squeezed so that it collapses completely, then released and allowed to fully expand.

(7) Ten squeezes are repeated rapidly and then the test subject is asked whether the saccharin can be tasted.

(8) If the first response is negative, ten more squeezes are repeated rapidly and the test subject is again asked whether the saccharin is tasted.

(9) If the second response is negative, ten more squeezes are repeated rapidly and the test subject is again asked whether the saccharin is tasted.

(10) The test conductor will take note of the number of squeezes required to solicit a taste response.

(11) If the saccharin is not tasted after 30 squeezes (step 10), the test subject may not perform the saccharin fit test.

(12) If a taste response is elicited, the test subject shall be asked to take note of the taste for reference in the fit test.

(13) Correct use of the nebulizer means that approximately 1 ml of liquid is used at a time in the nebulizer body.

(14) The nebulizer shall be thoroughly rinsed in water, shaken dry, and refilled at least each morning and afternoon or at least every four hours.

#### (b) Saccharin solution aerosol fit test procedure

(1) The test subject may not eat, drink (except plain water), smoke, or chew gum for 15 minutes before the test.

(2) The fit test uses the same enclosure described in (a) above.

(3) The test subject shall don the enclosure while wearing the respirator selected in section (a) above. The respirator shall be properly adjusted and equipped with a particulate filter(s).

(4) A second DeVilbiss Model 40 Inhalation Medication Nebulizer or equivalent is used to spray the fit test solution into the enclosure. This nebulizer shall be clearly marked to distinguish it from the screening test solution nebulizer.

(5) The fit test solution is prepared by adding 83 grams of sodium saccharin to 100 ml of warm water.

(6) As before, the test subject shall breathe through the slightly open mouth with tongue extended.

(7) The nebulizer is inserted into the hole in the front of the enclosure and the fit test solution is sprayed into the enclosure using the same number of squeezes required to elicit a taste response in the screening test. A minimum of 10 squeezes is required.

(8) After generating the aerosol the test subject shall be instructed to perform the exercises in section A. 13 above.

(9) Every 30 seconds the aerosol concentration shall be replenished using one half the number of squeezes as initially.

(10) The test subject shall indicate to the test conductor if at any time during the fit test the taste of saccharin is detected.

(11) If the taste of saccharin is detected, the fit is deemed unsatisfactory and a different respirator shall be tried.

#### 4. Irritant Fume Protocol

(a) The respirator to be tested shall be equipped with high efficiency particulate air (HEPA) filters.

(b) No form of test enclosure or hood for the test subject shall be used.

(c) The test subject shall be allowed to smell a weak concentration of the irritant smoke before the respirator is donned to become familiar with its irritating properties.

(d) Break both ends of a ventilation smoke tube containing stannic chloride. Attach one end of the smoke tube to an aspirator squeeze bulb and cover the other end with a short piece of tubing to prevent potential injury from the jagged end of the smoke tube.

(d) Advise the test subject that the smoke can be irritating to the eyes and instruct the subject to keep his/her eyes closed while the test is performed.

(e) The test conductor shall direct the stream of irritant smoke from the smoke tube towards the face seal area of the test subject. He/She shall begin at least 12 inches from the facepiece and gradually move to within one inch, moving around the whole perimeter of the mask.

(f) The exercises identified in section A. 13 above shall be performed by the test subject while the respirator seal is being challenged by the smoke.

(g) Each test subject passing the smoke test without evidence of a response (involuntary cough) shall be given a sensitivity check of the smoke from the same tube once the respirator has been removed to determine whether he/she reacts to the smoke. Failure to evoke a response shall void the fit test.

(h) The fit test shall be performed in a location with exhaust ventilation sufficient to prevent general contamination of the testing area by the test agent.



### C. Quantitative Fit Test (QNFT) Protocols

The following quantitative fit testing procedures have been demonstrated to be acceptable.

(1) Quantitative fit testing using a non-hazardous challenge aerosol (such as corn oil or sodium chloride) generated in a test chamber, and employing instrumentation to quantify the fit of the respirator.

(2) Quantitative fit testing using ambient aerosol as the challenge agent and appropriate instrumentation (condensation nuclei counter) to quantify the respirator fit.

(3) Quantitative fit testing using controlled negative pressure and appropriate instrumentation to measure the volumetric leak rate of a facepiece to quantify the respirator fit.

#### 1. General

(a) The employer shall assign specific individuals who shall assume full responsibility for implementing the respirator quantitative fit test program.

(b) The employer shall ensure that persons administering QNFT are able to calibrate equipment and perform tests properly, recognize invalid tests, calculate fit factors properly and assure that test equipment is in proper working order.

(c) The employer shall assure that QNFT equipment is kept clean, maintained and calibrated according to the manufacturer's instructions so as to operate at the parameters for which it was designed.

#### 2. Generated aerosol quantitative fit testing protocol

##### Apparatus

(a) Instrumentation. Aerosol generation, dilution, and measurement systems using particulates (corn oil or sodium chloride) or gases or vapors as test aerosols shall be used for quantitative fit testing.

(b) Test chamber. The test chamber shall be large enough to permit all test subjects to perform freely all required exercises without disturbing the challenge agent concentration or the measurement apparatus. The test chamber shall be equipped and constructed so that the challenge agent is effectively isolated from the ambient air, yet uniform in concentration throughout the chamber.

(c) When testing air-purifying respirators, the normal filter or cartridge element shall be replaced with a high efficiency particulate air (HEPA) filter supplied by the same manufacturer in the case of particulate QNFT aerosols or a sorbent offering contaminant penetration protection equivalent to high efficiency filters where the QNFT test agent is a gas or vapor.

(d) The sampling instrument shall be selected so that a computer record or strip chart record may be made of the test showing the rise and fall of the challenge agent concentration with each inspiration and expiration at fit factors of at least 2,000. Integrators or computers which integrate the amount of test agent penetration leakage into the respirator for each exercise may be used provided a record of the readings is made.

(e) The combination of substitute air-purifying elements, challenge agent and challenge agent concentration shall be such that the test subject is not exposed in excess of an established exposure limit for the challenge agent at any time during the testing process based upon the length of the exposure and the exposure limit duration.

(f) The sampling port on the test specimen respirator shall be placed and constructed so that no leakage occurs around the port (e.g. where the respirator is probed), a free air flow is allowed into the sampling line at all times and so that there is no interference with the fit or performance of the respirator. The in-mask sampling device (probe) shall be designed and used so that the air sample is drawn from the breathing zone of the test subject, midway between the nose and mouth and with the probe extending into the facepiece cavity at least 1/4 inch.

(g) The test set up shall permit the person administering the test to observe the test subject inside the chamber during the test.

(h) The equipment generating the challenge atmosphere shall maintain the concentration of challenge agent constant to within a 10 percent variation for the duration of the test.

(i) The time lag (interval between an event and the recording of the event on the strip chart or computer or integrator) shall be kept to a minimum. There shall be a clear association between the occurrence of an event and its being recorded.

(j) The sampling line tubing for the test chamber atmosphere and for the respirator sampling port shall be of equal diameter and of the same material. The length of the two lines shall be equal.

(k) The exhaust flow from the test chamber shall pass through a high efficiency filter before release.

(l) When sodium chloride aerosol is used, the relative humidity inside the test chamber shall not exceed 50 percent.

(m) The limitations of instrument detection shall be taken into account when determining the fit factor.

(n) Test respirators shall be maintained in proper working order and inspected for deficiencies such as cracks, missing valves and gaskets, etc.

#### 3. Procedural Requirements

(a) When performing the initial positive or negative pressure fit check the sampling line shall be crimped closed in order to avoid air pressure leakage during either of these fit checks.

(b) The use of an abbreviated screening QLFT test is optional and may be utilized in order to quickly identify poor fitting respirators which passed the positive and/or negative pressure test and thus reduce the amount of QNFT time. The use of the CNC QNFT instrument in the count mode is another optional method to use to obtain a quick estimate of fit and eliminate poor fitting respirators before going on to perform a full QNFT.

(c) A reasonably stable challenge agent concentration shall be measured in the test chamber prior to testing. For canopy or shower curtain type of test units the determination of the challenge agent stability may be established after the test subject has entered the test environment.

(d) Immediately after the subject enters the test chamber, the challenge agent concentration inside the respirator shall be measured to ensure that the peak penetration does not exceed 5 percent for a half mask or 1 percent for a full facepiece respirator.

(e) A stable challenge concentration shall be obtained prior to the actual start of testing.

(f) Respirator restraining straps shall not be over tightened for testing. The straps shall be adjusted by the wearer without assistance from other persons to give a reasonably comfortable fit typical of normal use.

(g) The test shall be terminated whenever any single peak penetration exceeds 5 percent for half masks and 1 percent for full facepiece respirators. The test subject shall be refitted and retested.

(h) Calculation of fit factors.

(1) The fit factor shall be determined for the quantitative fit test by taking the ratio of the average chamber concentration to the concentration measured inside the respirator for each test exercise except the grimace exercise.

(2) The average test chamber concentration shall be calculated as the arithmetic average of the concentration measured before and after each test (i.e. 8 exercises) or the arithmetic average of the concentration measured before and after each exercise or the true average measured continuously during the respirator sample.

(3) The concentration of the challenge agent inside the respirator shall be determined by one of the following methods:

(i) Average peak penetration method means the method of determining test agent penetration into the respirator utilizing a strip chart recorder, integrator, or computer. The agent penetration is determined by an average of the peak heights on the graph or by computer integration, for each exercise except the grimace exercise. Integrators or computers which calculate the actual test agent penetration into the respirator for each exercise will also be considered to meet the requirements of the average peak penetration method.

(ii) Maximum peak penetration method means the method of determining test agent penetration in the respirator as determined by strip chart recordings of the test. The highest peak penetration for a given exercise is taken to be representative of average penetration into the respirator for that exercise.

(iii) Integration by calculation of the area under the individual peak for each exercise except the grimace exercise. This includes computerized integration.

(iv) The calculation of the overall fit factor using individual exercise fit factors involves first converting the exercise fit factors to penetration values, determining the average, and then converting that result back to a fit factor. This procedure is described in the following equation:

$$\text{Overall Fit Factor} = \frac{\text{Number of exercises}}{1/ff(1) + 1/ff(2) + 1/ff(3) + 1/ff(4) + 1/ff(5) + 1/ff(7) + 1/ff(8)}$$

where ff(1), ff(2), ff(3), etc. are the fit factors for exercise 1, 2, 3, etc. (Results of the grimace exercise (7) are not used in this calculation.)

(j) The test subject shall not be permitted to wear a half mask or quarter facepiece respirator unless a minimum fit factor of 100 is obtained, or a full facepiece respirator unless a minimum fit factor of 500 is obtained.

(k) Filters used for quantitative fit testing shall be replaced whenever increased breathing resistance is encoun-

tered, or when the test agent has altered the integrity of the filter media. Organic vapor cartridges/canisters shall be replaced if there is any indication of breakthrough by a test agent.

4. Ambient aerosol condensation nuclei counter (CNC) quantitative fit testing protocol

The ambient aerosol condensation nuclei counter (CNC) quantitative fit testing (Portacount(TM)) protocol quantitatively fit tests respirators with the use of a probe. The probed respirator is only used for quantitative fit tests. A probed respirator has a special sampling device, installed on the respirator, that allows the probe to sample the air from inside the mask. A probed respirator is required for each make, model, and size in which your company requires and can be obtained from the respirator manufacturer or distributor. The CNC instrument manufacturer Dynatech Nevada also provides probe attachments (TSI sampling adapters) that permits fit testing in an employee's own respirator. A fit factor pass level of 100 is necessary for a half mask respirator and a fit factor of at least 10 times greater than the assigned protection factor for any other negative pressure respirator. The Agency does not recommend the use of homemade sampling adapters. The entire screening and testing procedure shall be explained to the test subject prior to the conduct of the screening test.

(a) Portacount Fit Test Requirements.

(1) Check the respirator to make sure the respirator is fitted with a high efficiency filter and that the sampling probe and line are properly attached to the facepiece.

(2) Instruct the person to be tested to don the respirator several minutes before the fit test starts. This purges the particles inside the respirator and permits the wearer to make certain the respirator is comfortable. This individual should have already been trained on how to wear the respirator properly.

(3) Check the following conditions for the adequacy of the respirator fit: Chin properly placed; Adequate strap tension, not overly tightened; Fit across nose bridge; Respirator of proper size to span distance from nose to chin; Tendencies for the respirator to slip; Self-observation in a mirror to evaluate fit and respirator position.

(4) Have the person wearing the respirator do a fit check. If leakage is detected, determine the cause. If leakage is from a poorly fitting facepiece, try another size of the same type of respirator.

(5) Follow the instructions for operating the Portacount and proceed with the test.

(b) Portacount Test Exercises.

(1) Normal breathing. In a normal standing position, without talking, the subject shall breathe normally for 1 minute.

(2) Deep breathing. In a normal standing position, the subject shall breathe slowly and deeply for 1 minute, taking caution so as not to hyperventilate.

(3) Turning head side to side. Standing in place, the subject shall slowly turn his or her head from side to side between the extreme positions on each side for 1 minute. The head shall be held at each extreme momentarily so the subject can inhale at each side.

(4) Moving head up and down. Standing in place, the subject shall slowly move his or her head up and down for 1

PROPOSED

minute. The subject shall be instructed to inhale in the up position (i.e., when looking toward the ceiling).

(5) Talking. The subject shall talk out loud slowly and loud enough so as to be heard clearly by the test conductor. The subject can read from a prepared text such as the Rainbow Passage, count backward from 100, or recite a memorized poem or song for 1 minute.

(6) Grimace. The test subject shall grimace by smiling or frowning for 15 seconds.

(7) Bending Over. The test subject shall bend at the waist as if he or she were to touch his or her toes for 1 minute. Jogging in place shall be substituted for this exercise in those test environments such as shroud type QNFT units which prohibit bending at the waist.

(8) Normal Breathing. Remove and re-don the respirator within a one minute period. Then, in a normal standing position, without talking, the subject shall breathe normally for 1 minute.

After the test exercises, the test subject shall be questioned by the test conductor regarding the comfort of the respirator upon completion of the protocol. If it has become uncomfortable, another model of respirator shall be tried.

(e) PortaCount Test Instrument.

(1) The PortaCount will automatically stop and calculate the overall fit factor for the entire set of exercises. The overall fit factor is what counts. The Pass or Fail message will indicate whether or not the test was successful. If the test was a Pass, the fit test is over.

(2) A record of the test needs to be kept on file assuming the fit test was successful. The record must contain the test subject's name; overall fit factor; make, model and size of respirator used, and date tested.)) Reserved.

APPENDIX F, MEDICAL QUESTIONNAIRES, (Non-mandatory)

1,3-Butadiene (BD) Initial Health Questionnaire

DIRECTIONS:

You have been asked to answer the questions on this form because you work with BD (butadiene). These questions are about your work, medical history, and health concerns. Please do your best to answer all of the questions. If you need help, please tell the doctor or health care professional who reviews this form.

This form is a confidential medical record. Only information directly related to your health and safety on the job may be given to your employer. Personal health information will not be given to anyone without your consent.

Date: \_\_\_\_\_

Name: \_\_\_\_\_ SSN \_\_\_/\_\_\_/\_\_\_

Last First MI

Job Title: \_\_\_\_\_

Company's Name: \_\_\_\_\_

Supervisor's Name: \_\_\_\_\_

Supervisor's Phone No.: ( ) \_\_\_-\_\_\_

Work History

1. Please list all jobs you have had in the past, starting with the job you have now and moving back in time to your first job. (For more space, write on the back of this page.)

Main Job Duty  
Year  
Company Name  
City, State

Chemicals

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

2. Please describe what you do during a typical work day. Be sure to tell about your work with BD.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Please check any of these chemicals that you work with now or have worked with in the past:

- benzene \_\_\_\_\_
- glues \_\_\_\_\_
- toluene \_\_\_\_\_
- inks, dyes \_\_\_\_\_
- other solvents, grease cutters \_\_\_\_\_
- insecticides (like DDT, lindane, etc.) \_\_\_\_\_
- paints, varnishes, thinners, strippers \_\_\_\_\_
- dusts \_\_\_\_\_
- carbon tetrachloride ("carbon tet") \_\_\_\_\_
- arsine \_\_\_\_\_
- carbon disulfide \_\_\_\_\_
- lead \_\_\_\_\_
- cement \_\_\_\_\_
- petroleum products \_\_\_\_\_
- nitrites \_\_\_\_\_

4. Please check the protective clothing or equipment you use at the job you have now:

- gloves \_\_\_\_\_
- coveralls \_\_\_\_\_
- respirator \_\_\_\_\_

PROPOSED

dust mask \_\_\_\_\_  
safety glasses, goggles \_\_\_\_\_

Please circle your answer.

5. Does your protective clothing or equipment fit you properly? yes no

6. Have you ever made changes in your protective clothing or equipment to make it fit better? yes no

7. Have you been exposed to BD when you were not wearing protective clothing or equipment? yes no

8. Where do you eat, drink and/or smoke when you are at work? (Please check all that apply.)

Cafeteria/restaurant/snack bar \_\_\_\_\_  
Break room/employee lounge \_\_\_\_\_  
Smoking lounge \_\_\_\_\_  
At my work station \_\_\_\_\_

Please circle your answer.

9. Have you been exposed to radiation (like x-rays or nuclear material) at the job you have now or at past jobs? Yes no

10. Do you have any hobbies that expose you to dusts or chemicals (including paints, glues, etc.)?yesno

11. Do you have any second or side jobs?yesno  
If yes, what are your duties there?  
\_\_\_\_\_  
\_\_\_\_\_

12. Were you in the military?yesno

If yes, what did you do in the military? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Family Health History

1. In the FAMILY MEMBER column, across from the disease name, write which family member, if any, had the disease.

DISEASE                      FAMILY MEMBER  
Cancer  
Lymphoma  
Sickle Cell Disease or Trait  
Immune Disease  
Leukemia  
Anemia

2. Please fill in the following information about family health

Relative  
Alive?

Age at Death?  
Cause of Death?  
Father  
Mother  
Brother/Sister  
Brother/Sister  
Brother/Sister

Personal Health History

Birth Date \_\_\_/\_\_\_/\_\_\_Age \_\_\_Sex \_\_\_Height\_\_\_Weight \_\_\_

Please circle your answer.

1. Do you smoke any tobacco products? yes no

2. Have you ever had any kind of surgery or operation?

yes no

If yes, what type of surgery:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Have you ever been in the hospital for any other reasons?  
Yes no

If yes, please describe the reason \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. Do you have any on-going or current medical problems or conditions? yes no

If yes, please describe: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. Do you now have or have you ever had any of the following? Please check all that apply to you.

unexplained fever \_\_\_\_\_  
anemia ("low blood") \_\_\_\_\_  
HIV/AIDS \_\_\_\_\_  
weakness \_\_\_\_\_  
sickle cell \_\_\_\_\_  
miscarriage \_\_\_\_\_  
skin rash \_\_\_\_\_  
bloody stools \_\_\_\_\_  
leukemia/lymphoma \_\_\_\_\_  
neck mass/swelling \_\_\_\_\_  
wheezing \_\_\_\_\_

- yellowing of skin \_\_\_\_\_
- bruising easily \_\_\_\_\_
- lupus \_\_\_\_\_
- weight loss \_\_\_\_\_
- kidney problems \_\_\_\_\_
- enlarged lymph nodes \_\_\_\_\_
- liver disease \_\_\_\_\_
- cancer \_\_\_\_\_
- infertility \_\_\_\_\_
- drinking problems \_\_\_\_\_
- thyroid problems \_\_\_\_\_
- night sweats \_\_\_\_\_
- chest pain \_\_\_\_\_
- still birth \_\_\_\_\_
- eye redness \_\_\_\_\_
- lumps you can feel \_\_\_\_\_
- child with birth defect \_\_\_\_\_
- autoimmune disease \_\_\_\_\_
- overly tired \_\_\_\_\_
- lung problems \_\_\_\_\_
- rheumatoid arthritis \_\_\_\_\_
- mononucleosis ("mono") \_\_\_\_\_
- nagging cough \_\_\_\_\_

Please circle your answer.

6. Do you have any symptoms or health problems that you think may be related to your work with BD? yes no

If yes, please describe: \_\_\_\_\_

7. Have any of your co-workers had similar symptoms or problems? yes no don't know

If yes, please describe: \_\_\_\_\_

8. Do you notice any irritation of your eyes, nose, throat, lungs, or skin when working with BD? yes no

9. Do you notice any blurred vision, coughing, drowsiness, nausea, or headache when working with BD? yes no

10. Do you take any medications (including birth control or over-the-counter)? yes no

If yes, please list: \_\_\_\_\_

11. Are you allergic to any medication, food, or chemicals? yes no

If yes, please list: \_\_\_\_\_

12. Do you have any health conditions not covered by this questionnaire that you think are affected by your work with BD? yes no

If yes, please explain: \_\_\_\_\_

13. Did you understand all the questions? yes no

Signature \_\_\_\_\_

1,3-Butadiene (BD) Health Update Questionnaire

DIRECTIONS:

You have been asked to answer the questions on this form because you work with BD (butadiene). These questions are about your work, medical history, and health concerns. Please do your best to answer all of the questions. If you need help, please tell the doctor or health care professional who reviews this form.

This form is a confidential medical record. Only information directly related to your health and safety on the job may be given to your employer. Personal health information will not be given to anyone without your consent.

Date: \_\_\_\_\_

Name: \_\_\_\_\_ SSN \_\_\_/\_\_\_/\_\_\_

Last First MI

Job Title: \_\_\_\_\_

Company's Name: \_\_\_\_\_

Supervisor's Name: \_\_\_\_\_

Supervisor's Phone No.: ( ) \_\_\_\_\_-\_\_\_\_\_

1. Please describe any NEW duties that you have at your job.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

PROPOSED

2. Please describe any additional job duties you have:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Please circle your answer.

3. Are you exposed to any other chemicals in your work since the last time you were evaluated for exposure to BD? yes no

If yes, please list what they are: \_\_\_\_\_

4. Does your personal protective equipment and clothing fit you properly? yes no

5. Have you made changes in this equipment or clothing to make it fit better? yes no

6. Have you been exposed to BD when you were not wearing protective clothing or equipment? Yes no

7. Are you exposed to any NEW chemicals at home or while working on hobbies? yes no

If yes, please list what they are: \_\_\_\_\_

8. Since your last BD health evaluation, have you started working any new second or side jobs? yes no

If yes, what are your duties there? \_\_\_\_\_

Personal Health History

1. What is your current weight? \_\_\_\_\_ pounds

2. Have you been diagnosed with any new medical conditions or illness since your last evaluation? yes no

If yes, please tell what they are: \_\_\_\_\_

3. Since your last evaluation, have you been in the hospital for any illnesses, injuries, or surgery? yes no

If yes, please describe: \_\_\_\_\_

4. Do you have any of the following? Please place a check for all that apply to you.

- unexplained fever \_\_\_\_\_
- anemia ("low blood") \_\_\_\_\_

- HIV/AIDS \_\_\_\_\_
- weakness \_\_\_\_\_
- sickle cell \_\_\_\_\_
- miscarriage \_\_\_\_\_
- skin rash \_\_\_\_\_
- bloody stools \_\_\_\_\_
- leukemia/lymphoma \_\_\_\_\_
- neck mass/swelling \_\_\_\_\_
- wheezing \_\_\_\_\_
- yellowing of skin \_\_\_\_\_
- bruising easily \_\_\_\_\_
- lupus \_\_\_\_\_
- weight loss \_\_\_\_\_
- kidney problems \_\_\_\_\_
- enlarged lymph nodes \_\_\_\_\_
- liver disease \_\_\_\_\_
- cancer \_\_\_\_\_
- infertility \_\_\_\_\_
- drinking problems \_\_\_\_\_
- thyroid problems \_\_\_\_\_
- night sweats \_\_\_\_\_
- chest pain \_\_\_\_\_
- still birth \_\_\_\_\_
- eye redness \_\_\_\_\_
- lumps you can feel \_\_\_\_\_
- child with birth defect \_\_\_\_\_
- autoimmune disease \_\_\_\_\_
- overly tired \_\_\_\_\_
- lung problems \_\_\_\_\_
- rheumatoid arthritis \_\_\_\_\_
- mononucleosis ("mono") \_\_\_\_\_
- nagging cough \_\_\_\_\_

Please circle your answer.

5. Do you have any symptoms or health problems that you think may be related to your work with BD? yes no

If yes, please describe: \_\_\_\_\_

6. Have any of your co-workers had similar symptoms or problems? yes no don't know

If yes, please describe: \_\_\_\_\_

7. Do you notice any irritation of your eyes, nose, throat, lungs, or skin when working with BD? yes no

PROPOSED

8. Do you notice any blurred vision, coughing, drowsiness, nausea, or headache when working with BD? yes no

9. Have you been taking any NEW medications (including birth control or over-the-counter)? yes no

If yes, please list:

\_\_\_\_\_

10. Have you developed any new allergies to medications, foods, or chemicals? yes no

If yes, please list:

\_\_\_\_\_

11. Do you have any health conditions not covered by this questionnaire that you think are affected by your work with BD?

yes no

If yes, please explain: \_\_\_\_\_

12. Do you understand all the questions? yes no

Signature

**AMENDATORY SECTION** (Amending WSR 97-18-062, filed 9/2/97, effective 12/1/97)

**WAC 296-62-07470 Methylene chloride.** This occupational health standard establishes requirements for employers to control occupational exposure to methylene chloride (MC). Employees exposed to MC are at increased risk of developing cancer, adverse effects on the heart, central nervous system and liver, and skin or eye irritation. Exposure may occur through inhalation, by absorption through the skin, or through contact with the skin. MC is a solvent which is used in many different types of work activities, such as paint stripping, polyurethane foam manufacturing, and cleaning and degreasing. Under the requirements of subsection (4) of this section, each covered employer must make an initial determination of each employee's exposure to MC. If the employer determines that employees are exposed below the action level, the only other provisions of this section that apply are that a record must be made of the determination, the employees must receive information and training under subsection (12) of this section and, where appropriate, employees must be protected from contact with liquid MC under subsection (8) of this section.

The provisions of the MC standard are as follows:

(1) Scope and application. This section applies to all occupational exposures to methylene chloride (MC), Chemical Abstracts Service Registry Number 75-09-2, in general industry, construction and shipyard employment.

(2) Definitions. For the purposes of this section, the following definitions shall apply:

"Action level" means a concentration of airborne MC of 12.5 parts per million (ppm) calculated as an eight (8)-hour time-weighted average (TWA).

"Authorized person" means any person specifically authorized by the employer and required by work duties to be present in regulated areas, or any person entering such an area as a designated representative of employees for the purpose of exercising the right to observe monitoring and measuring procedures under subsection (4) of this section, or any other person authorized by the WISH Act or regulations issued under the act.

"Director" means the director of the department of labor and industries, or designee.

"Emergency" means any occurrence, such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment, which results, or is likely to result in an uncontrolled release of MC. If an incidental release of MC can be controlled by employees such as maintenance personnel at the time of release and in accordance with the leak/spill provisions required by subsection (6) of this section, it is not considered an emergency as defined by this standard.

"Employee exposure" means exposure to airborne MC which occurs or would occur if the employee were not using respiratory protection.

"Methylene chloride (MC)" means an organic compound with chemical formula, CH<sub>2</sub>Cl<sub>2</sub>. Its Chemical Abstracts Service Registry Number is 75-09-2. Its molecular weight is 84.9 g/mole.

"Physician or other licensed health care professional" is an individual whose legally permitted scope of practice (i.e., license, registration, or certification) allows him or her to independently provide or be delegated the responsibility to provide some or all of the health care services required by subsection (10) of this section.

"Regulated area" means an area, demarcated by the employer, where an employee's exposure to airborne concentrations of MC exceeds or can reasonably be expected to exceed either the 8-hour TWA PEL or the STEL.

"Symptom" means central nervous system effects such as headaches, disorientation, dizziness, fatigue, and decreased attention span; skin effects such as chapping, erythema, cracked skin, or skin burns; and cardiac effects such as chest pain or shortness of breath.

"This section" means this methylene chloride standard.

(3) Permissible exposure limits (PELs).

(a) Eight-hour time-weighted average (TWA) PEL. The employer shall ensure that no employee is exposed to an airborne concentration of MC in excess of twenty-five parts of MC per million parts of air (25 ppm) as an 8-hour TWA.

(b) Short-term exposure limit (STEL). The employer shall ensure that no employee is exposed to an airborne concentration of MC in excess of one hundred and twenty-five parts of MC per million parts of air (125 ppm) as determined over a sampling period of fifteen minutes.

(4) Exposure monitoring.

(a) Characterization of employee exposure.

(i) Where MC is present in the workplace, the employer shall determine each employee's exposure by either:

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(A) Taking a personal breathing zone air sample of each employee's exposure; or

(B) Taking personal breathing zone air samples that are representative of each employee's exposure.

(ii) Representative samples. The employer may consider personal breathing zone air samples to be representative of employee exposures when they are taken as follows:

(A) 8-hour TWA PEL. The employer has taken one or more personal breathing zone air samples for at least one employee in each job classification in a work area during every work shift, and the employee sampled is expected to have the highest MC exposure.

(B) Short-term exposure limits. The employer has taken one or more personal breathing zone air samples which indicate the highest likely 15-minute exposures during such operations for at least one employee in each job classification in the work area during every work shift, and the employee sampled is expected to have the highest MC exposure.

(C) Exception. Personal breathing zone air samples taken during one work shift may be used to represent employee exposures on other work shifts where the employer can document that the tasks performed and conditions in the workplace are similar across shifts.

(iii) Accuracy of monitoring. The employer shall ensure that the methods used to perform exposure monitoring produce results that are accurate to a confidence level of 95 percent, and are:

(A) Within plus or minus 25 percent for airborne concentrations of MC above the 8-hour TWA PEL or the STEL; or

(B) Within plus or minus 35 percent for airborne concentrations of MC at or above the action level but at or below the 8-hour TWA PEL.

(b) Initial determination. Each employer whose employees are exposed to MC shall perform initial exposure monitoring to determine each affected employee's exposure, except under the following conditions:

(i) Where objective data demonstrate that MC cannot be released in the workplace in airborne concentrations at or above the action level or above the STEL. The objective data shall represent the highest MC exposures likely to occur under reasonably foreseeable conditions of processing, use, or handling. The employer shall document the objective data exemption as specified in subsection (13) of this section;

(ii) Where the employer has performed exposure monitoring within 12 months prior to December 1, and that exposure monitoring meets all other requirements of this section, and was conducted under conditions substantially equivalent to existing conditions; or

(iii) Where employees are exposed to MC on fewer than 30 days per year (e.g., on a construction site), and the employer has measurements by direct reading instruments which give immediate results (such as a detector tube) and which provide sufficient information regarding employee exposures to determine what control measures are necessary to reduce exposures to acceptable levels.

(c) Periodic monitoring. Where the initial determination shows employee exposures at or above the action level or above the STEL, the employer shall establish an exposure monitoring program for periodic monitoring of employee exposure to MC in accordance with Table 1:

Table 1

Six Initial Determination Exposure Scenarios and Their Associated Monitoring Frequencies

Exposure scenario	Required monitoring activity
Below the action level and at or below the STEL.	No 8-hour TWA or STEL monitoring required.
Below the action level and above the STEL.	No 8-hour TWA monitoring required; monitor STEL exposures every three months.
At or above the action level, at or below the TWA, and at or below the STEL.	Monitor 8-hour TWA exposures every six months.
At or above the action level, at or below the TWA, and above the STEL.	Monitor 8-hour TWA exposures every six months and monitor STEL exposures every three months.
Above the TWA and at or below the STEL.	Monitor 8-hour TWA exposures every three months. <u>In addition, without regard to the last sentence of the note to subsection (3) of this section, the following employers must monitor STEL exposures every three months until either the date by which they must achieve the 8-hour TWAs PEL under subsection ? of this section or the date by which they in fact achieve the 8-hour TWA PEL, whichever comes first:</u> <ul style="list-style-type: none"> <li>• <u>Employers engaged in polyurethane foam manufacturing;</u></li> <li>• <u>Foam fabrication;</u></li> <li>• <u>Furniture refinishing;</u></li> <li>• <u>General aviation aircraft stripping;</u></li> <li>• <u>Product formulation;</u></li> <li>• <u>Use of MC-based adhesives for boat building and repair;</u></li> <li>• <u>Recreational vehicle manufacture, van conversion, or upholstery; and use of MC in construction work for restoration and preservation of buildings, painting and paint removal, cabinet making, or floor refinishing and resurfacing.</u></li> </ul>



Exposure scenario	Required monitoring activity
Above the TWA and above the STEL.	Monitor both 8-hour TWA exposures and STEL exposures every three months.

(Note to subsection (3)(c) of this section: The employer may decrease the frequency of exposure monitoring to every six months when at least 2 consecutive measurements taken at least 7 days apart show exposures to be at or below the 8-hour TWA PEL. The employer may discontinue the periodic 8-hour TWA monitoring for employees where at least two consecutive measurements taken at least 7 days apart are below the action level. The employer may discontinue the periodic STEL monitoring for employees where at least two consecutive measurements taken at least 7 days apart are at or below the STEL.)

(d) Additional monitoring.

(i) The employer shall perform exposure monitoring when a change in workplace conditions indicates that employee exposure may have increased. Examples of situations that may require additional monitoring include changes in production, process, control equipment, or work practices, or a leak, rupture, or other breakdown.

(ii) Where exposure monitoring is performed due to a spill, leak, rupture or equipment breakdown, the employer shall clean up the MC and perform the appropriate repairs before monitoring.

(e) Employee notification of monitoring results.

(i) The employer shall, within 15 working days after the receipt of the results of any monitoring performed under this section, notify each affected employee of these results in writing, either individually or by posting of results in an appropriate location that is accessible to affected employees.

(ii) Whenever monitoring results indicate that employee exposure is above the 8-hour TWA PEL or the STEL, the employer shall describe in the written notification the corrective action being taken to reduce employee exposure to or below the 8-hour TWA PEL or STEL and the schedule for completion of this action.

(f) Observation of monitoring.

(i) Employee observation. The employer shall provide affected employees or their designated representatives an opportunity to observe any monitoring of employee exposure to MC conducted in accordance with this section.

(ii) Observation procedures. When observation of the monitoring of employee exposure to MC requires entry into an area where the use of protective clothing or equipment is required, the employer shall provide, at no cost to the observer(s), and the observer(s) shall be required to use such clothing and equipment and shall comply with all other applicable safety and health procedures.

(5) Regulated areas.

(a) The employer shall establish a regulated area whenever an employee's exposure to airborne concentrations of MC exceeds or can reasonably be expected to exceed either the 8-hour TWA PEL or the STEL.

(b) The employer shall limit access to regulated areas to authorized persons.

(c) The employer shall supply a respirator, selected in accordance with subsection (7)(c) of this section, to each person who enters a regulated area and shall require each affected employee to use that respirator whenever MC exposures are likely to exceed the 8-hour TWA PEL or STEL.

(Note to subsection (5)(c) of this section: An employer who has implemented all feasible engineering, work practice and administrative controls (as required in subsection (6) of this section), and who has established a regulated area (as required by subsection (5)(a) of this section) where MC exposure can be reliably predicted to exceed the 8-hour TWA PEL or the STEL only on certain days (for example, because of work or process schedule) would need to have affected employees use respirators in that regulated area only on those days.)

(d) The employer shall ensure that, within a regulated area, employees do not engage in nonwork activities which may increase dermal or oral MC exposure.

(e) The employer shall ensure that while employees are wearing respirators, they do not engage in activities (such as taking medication or chewing gum or tobacco) which interfere with respirator seal or performance.

(f) The employer shall demarcate regulated areas from the rest of the workplace in any manner that adequately establishes and alerts employees to the boundaries of the area and minimizes the number of authorized employees exposed to MC within the regulated area.

(g) An employer at a multi-employer worksite who establishes a regulated area shall communicate the access restrictions and locations of these areas to all other employers with work operations at that worksite.

(6) Methods of compliance.

(a) Engineering and work practice controls. The employer shall institute and maintain the effectiveness of engineering controls and work practices to reduce employee exposure to or below the PELs except to the extent that the employer can demonstrate that such controls are not feasible.

(b) Wherever the feasible engineering controls and work practices which can be instituted are not sufficient to reduce employee exposure to or below the 8-TWA PEL or STEL, the employer shall use them to reduce employee exposure to the lowest levels achievable by these controls and shall supplement them by the use of respiratory protection that complies with the requirements of subsection (7) of this section.

(c) Prohibition of rotation. The employer shall not implement a schedule of employee rotation as a means of compliance with the PELs.

(d) Leak and spill detection.

(i) The employer shall implement procedures to detect leaks of MC in the workplace. In work areas where spills may occur, the employer shall make provisions to contain any spills and to safely dispose of any MC-contaminated waste materials.

(ii) The employer shall ensure that all incidental leaks are repaired and that incidental spills are cleaned promptly by employees who use the appropriate personal protective equipment and are trained in proper methods of cleanup.

(Note to subsection (6)(d)(ii) of this section: See Appendix A of this section for examples of procedures that satisfy this requirement. Employers covered by this standard may

also be subject to the hazardous waste and emergency response provisions contained in WAC 296-62-3112.)

(7) Respiratory protection.

(a) General requirements. ~~((The employer shall provide a respirator which complies with the requirement of this subsection, at no cost to each affected employee, and ensure that each affected employee uses such respirator where appropriate. Respirators shall be used in the following circumstances))~~ For employees who use respirators required by this section, the employer must provide respirators that comply with the requirements of this subsection. Respirators must be used during:

(i) ~~((Whenever))~~ Periods when an employee's exposure to MC exceeds or can reasonably be expected to exceed the 8-hour TWA PEL or the STEL ~~((such as where))~~ for example, when an employee is using MC in a regulated area;

(ii) ~~((During the time interval))~~ Periods necessary to install or implement feasible engineering and work-practice controls;

(iii) In a few work operations, such as some maintenance operations and repair activities, for which the employer demonstrates that engineering and work practice controls are infeasible;

(iv) ~~((Where))~~ Work operations for which feasible engineering and work practice controls are not sufficient to reduce exposures to or below the PELs; ~~((or))~~

(v) ~~((In))~~ Emergencies.

(b) ~~((Medical evaluation. Before having any employee use a supplied-air respirator in the negative pressure mode, or a gas mask with organic vapor canister for emergency escape, the employer shall have a physician or other licensed health care professional ascertain each affected employee's ability to use such respiratory protection. The physician or other licensed health care professional shall provide his or her findings to the affected employee and the employer in a written opinion.~~

~~(Note to subsection (7)(b) of this section: See also WAC 296-62-07109(3) - Respiratory Protection for medical evaluation requirements for employees using respirators for purposes other than emergency escape.))~~ Respirator program.

(i) The employer must implement a respiratory protection program as required by chapter 296-62 WAC, Part E (except WAC 296-62-07130(1) and 296-62-07131 (4)(b)(i) and (ii)).

(ii) Employers who provide employees with gas masks with organic-vapor canisters for the purpose of emergency escape must replace the canisters after any emergency use and before the gas masks are returned to service.

(c) Respirator selection. ~~((The appropriate atmosphere-supplying respirators, as specified in Table 2, shall be selected from those approved by the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 42 CFR Part 84, "Respiratory Protective Devices." When employers elect to provide gas masks with organic vapor canisters for use in emergency escape, the organic vapor canisters shall bear the approval of NIOSH.))~~ The employer must select appropriate atmosphere-supplying respirators from Table 2 of this section.

**Table 2.—Minimum Requirements for Respiratory Protection for Airborne Methylene Chloride**

Methylene chloride airborne concentration (ppm) or condition of use	Minimum respirator required <sup>1</sup>
Up to 625 ppm (25 X PEL)	(1) Continuous flow supplied-air respirator, hood or helmet.
Up to 1250 ppm (50 X 8 hr TWA PEL)	(1) Full facepiece supplied-air respirator operated in negative pressure (demand) mode. (2) Full facepiece self-contained breathing apparatus (SCBA) operated in negative pressure (demand) mode.
Up to 5000 ppm (200 X 8-TWA PEL)	(1) Continuous flow supplied-air respirator, full facepiece. (2) Pressure demand supplied-air respirator, full facepiece. (3) Positive pressure full facepiece SCBA.
Unknown concentration, or above 5000 ppm (Greater than 200 X 8-TWA PEL)	(1) Positive pressure full facepiece SCBA. (2) Full facepiece pressure demand supplied-air respirator with an auxiliary self-contained air supply.
Fire fighting	Positive pressure full facepiece SCBA.
Emergency escape	(1) Any continuous flow or pressure demand SCBA. (2) Gas mask with organic vapor canister.

<sup>1</sup> Respirators assigned for higher airborne concentrations may be used at lower concentrations.

~~(d) ((Respirator program. Where respiratory protection is required by this section, the employer shall institute a respirator program in accordance with WAC 296-62-071.~~

~~(e) Permission to leave area. The employer shall permit employees who wear respirators to leave the regulated area to readjust the facepieces to their faces to achieve a proper fit, and to wash their faces and respirator facepieces as necessary in order to prevent skin irritation associated with respirator use.~~

~~(f) Filter respirators. Employers who provide gas masks with organic vapor canisters for the purpose of emergency escape shall replace those canisters after any emergency use before those gas masks are returned to service.~~

~~(g) Respirator fit testing.~~

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(i) ~~The employer shall ensure that each respirator issued to the employee is properly fitted and exhibits the least possible facepiece leakage from among the facepieces tested.~~

(ii) ~~The employer shall perform qualitative or quantitative fit tests at the time of initial fitting and at least annually thereafter for each employee wearing a negative pressure respirator, including those employees for whom emergency escape respirators are provided.~~

~~(Note to subsection (7)(g)(ii) of this section: The only supplied air respirators to which this provision would apply are SCBA in negative pressure mode and full facepiece supplied air respirators operated in negative pressure mode. The small business compliance guides will contain examples of protocols for qualitative and quantitative fit testing.))~~ Medical evaluation. Before having an employee use a supplied-air respirator in the negative-pressure mode, or a gas mask with an organic-vapor canister for emergency escape, the employer must:

(i) Have a physician or other licensed health care professional (PLHCP) evaluate the employee's ability to use such respiratory protection;

(ii) Ensure that the PLHCP provides their findings in a written opinion to the employee and the employer.

Note: See WAC 296-62-07150 through 296-62-07156 for medical evaluation requirements for employees using respirators.

(8) Protective work clothing and equipment.

(a) Where needed to prevent MC- induced skin or eye irritation, the employer shall provide clean protective clothing and equipment which is resistant to MC, at no cost to the employee, and shall ensure that each affected employee uses it. Eye and face protection shall meet the requirements of WAC 296-24-078, as applicable.

(b) The employer shall clean, launder, repair and replace all protective clothing and equipment required by this subsection as needed to maintain their effectiveness.

(c) The employer shall be responsible for the safe disposal of such clothing and equipment.

(Note to subsection (8)(c) of this section: See Appendix A for examples of disposal procedures that will satisfy this requirement.)

(9) Hygiene facilities.

(a) If it is reasonably foreseeable that employees' skin may contact solutions containing 0.1 percent or greater MC (for example, through splashes, spills or improper work practices), the employer shall provide conveniently located washing facilities capable of removing the MC, and shall ensure that affected employees use these facilities as needed.

(b) If it is reasonably foreseeable that an employee's eyes may contact solutions containing 0.1 percent or greater MC (for example through splashes, spills or improper work practices), the employer shall provide appropriate eyewash facilities within the immediate work area for emergency use, and shall ensure that affected employees use those facilities when necessary.

(10) Medical surveillance.

(a) Affected employees. The employer shall make medical surveillance available for employees who are or may be exposed to MC as follows:

(i) At or above the action level on 30 or more days per year, or above the 8-hour TWA PEL or the STEL on 10 or more days per year;

(ii) Above the 8-TWA PEL or STEL for any time period where an employee has been identified by a physician or other licensed health care professional as being at risk from cardiac disease or from some other serious MC-related health condition and such employee requests inclusion in the medical surveillance program;

(iii) During an emergency.

(b) Costs. The employer shall provide all required medical surveillance at no cost to affected employees, without loss of pay and at a reasonable time and place.

(c) Medical personnel. The employer shall ensure that all medical surveillance procedures are performed by a physician or other licensed health care professional, as defined in subsection (2) of this section.

(d) Frequency of medical surveillance. The employer shall make medical surveillance available to each affected employee as follows:

(i) Initial surveillance. The employer shall provide initial medical surveillance under the schedule provided by subsection (14)(b)(iii) of this section, or before the time of initial assignment of the employee, whichever is later. The employer need not provide the initial surveillance if medical records show that an affected employee has been provided with medical surveillance that complies with this section within 12 months before December 1.

(ii) Periodic medical surveillance. The employer shall update the medical and work history for each affected employee annually. The employer shall provide periodic physical examinations, including appropriate laboratory surveillance, as follows:

(A) For employees 45 years of age or older, within 12 months of the initial surveillance or any subsequent medical surveillance; and

(B) For employees younger than 45 years of age, within 36 months of the initial surveillance or any subsequent medical surveillance.

(iii) Termination of employment or reassignment. When an employee leaves the employer's workplace, or is reassigned to an area where exposure to MC is consistently at or below the action level and STEL, medical surveillance shall be made available if six months or more have elapsed since the last medical surveillance.

(iv) Additional surveillance. The employer shall provide additional medical surveillance at frequencies other than those listed above when recommended in the written medical opinion. (For example, the physician or other licensed health care professional may determine an examination is warranted in less than 36 months for employees younger than 45 years of age based upon evaluation of the results of the annual medical and work history.)

(e) Content of medical surveillance.

(i) Medical and work history. The comprehensive medical and work history shall emphasize neurological symptoms, skin conditions, history of hematologic or liver disease, signs or symptoms suggestive of heart disease (angina, coronary artery disease), risk factors for cardiac disease, MC expo-

tures, and work practices and personal protective equipment used during such exposures.

(Note to subsection (10)(e)(i) of this section: See Appendix B of this section for an example of a medical and work history format that would satisfy this requirement.)

(ii) Physical examination. Where physical examinations are provided as required above, the physician or other licensed health care professional shall accord particular attention to the lungs, cardiovascular system (including blood pressure and pulse), liver, nervous system, and skin. The physician or other licensed health care professional shall determine the extent and nature of the physical examination based on the health status of the employee and analysis of the medical and work history.

(iii) Laboratory surveillance. The physician or other licensed health care professional shall determine the extent of any required laboratory surveillance based on the employee's observed health status and the medical and work history.

(Note to subsection (10)(e)(iii) of this section: See Appendix B of this section for information regarding medical tests. Laboratory surveillance may include before-and-after shift carboxyhemoglobin determinations, resting ECG, hematocrit, liver function tests and cholesterol levels.)

(iv) Other information or reports. The medical surveillance shall also include any other information or reports the physician or other licensed health care professional determines are necessary to assess the employee's health in relation to MC exposure.

(f) Content of emergency medical surveillance. The employer shall ensure that medical surveillance made available when an employee has been exposed to MC in emergency situations includes, at a minimum:

(i) Appropriate emergency treatment and decontamination of the exposed employee;

(ii) Comprehensive physical examination with special emphasis on the nervous system, cardiovascular system, lungs, liver and skin, including blood pressure and pulse;

(iii) Updated medical and work history, as appropriate for the medical condition of the employee; and

(iv) Laboratory surveillance, as indicated by the employee's health status.

(Note to subsection (10)(f)(iv) of this section: See Appendix B for examples of tests which may be appropriate.)

(g) Additional examinations and referrals. Where the physician or other licensed health care professional determines it is necessary, the scope of the medical examination shall be expanded and the appropriate additional medical surveillance, such as referrals for consultation or examination, shall be provided.

(h) Information provided to the physician or other licensed health care professional. The employer shall provide the following information to a physician or other licensed health care professional who is involved in the diagnosis of MC-induced health effects:

(i) A copy of this section including its applicable appendices;

(ii) A description of the affected employee's past, current and anticipated future duties as they relate to the employee's MC exposure;

(iii) The employee's former or current exposure levels or, for employees not yet occupationally exposed to MC, the employee's anticipated exposure levels and the frequency and exposure levels anticipated to be associated with emergencies;

(iv) A description of any personal protective equipment, such as respirators, used or to be used; and

(v) Information from previous employment-related medical surveillance of the affected employee which is not otherwise available to the physician or other licensed health care professional.

(i) Written medical opinions.

(i) For each physical examination required by this section, the employer shall ensure that the physician or other licensed health care professional provides to the employer and to the affected employee a written opinion regarding the results of that examination within 15 days of completion of the evaluation of medical and laboratory findings, but not more than 30 days after the examination. The written medical opinion shall be limited to the following information:

(A) The physician's or other licensed health care professional's opinion concerning whether ~~((the employee has any detected medical condition(s) which))~~ exposure to MC may contribute to or aggravate the employee's existing cardiac, hepatic, neurological (including stroke) or dermal disease or whether the employee has any other medical condition(s) that would place the employee's health at increased risk of material impairment from exposure to MC;

(B) Any recommended limitations upon the employee's exposure to MC, removal from MC exposure, or upon the employee's use of protective clothing or equipment and respirators;

(C) A statement that the employee has been informed by the physician or other licensed health care professional that MC is a potential occupational carcinogen, of risk factors for heart disease, and the potential for exacerbation of underlying heart disease by exposure to MC through its metabolism to carbon monoxide; and

(D) A statement that the employee has been informed by the physician or other licensed health care professional of the results of the medical examination and any medical conditions resulting from MC exposure which require further explanation or treatment.

(ii) The employer shall instruct the physician or other licensed health care professional not to reveal to the employer, orally or in the written opinion, any specific records, findings, and diagnoses that have no bearing on occupational exposure to MC.

(Note to subsection (10)(h)(ii) of this section: The written medical opinion may also include information and opinions generated to comply with other OSHA health standards.)

(j) Medical presumption. For purposes of this subsection (10), the physician or other licensed health care professional shall presume, unless medical evidence indicates to the contrary, that a medical condition is unlikely to require medical removal from MC exposure if the employee is not exposed to MC above the 8-hour TWA PEL. If the physician or other licensed health care professional recommends removal for an employee exposed below the 8-hour TWA PEL, the physician or other licensed health care professional shall cite spe-

cific medical evidence, sufficient to rebut the presumption that exposure below the 8-hour TWA PEL is unlikely to require removal, to support the recommendation. If such evidence is cited by the physician or other licensed health care professional, the employer must remove the employee. If such evidence is not cited by the physician or other licensed health care professional, the employer is not required to remove the employee.

(k) Medical removal protection (MRP).

(i) Temporary medical removal and return of an employee.

(A) Except as provided in (j) of this subsection, when a medical determination recommends removal because the employee's exposure to MC may contribute to or aggravate the employee's existing cardiac, hepatic, neurological (including stroke), or skin disease, the employer must provide medical removal protection benefits to the employee and either:

(I) Transfer the employee to comparable work where methylene chloride exposure is below the action level; or

(II) Remove the employee from MC exposure.

(B) If comparable work is not available and the employer is able to demonstrate that removal and the costs of extending MRP benefits to an additional employee, considering feasibility in relation to the size of the employer's business and the other requirements of this standard, make further reliance on MRP an inappropriate remedy, the employer may retain the additional employee in the existing job until transfer or removal becomes appropriate, provided:

(I) The employer ensures that the employee receives additional medical surveillance, including a physical examination at least every 60 days until transfer or removal occurs; and

(II) The employer or PLHCP informs the employee of the risk to the employee's health from continued MC exposure.

(C) The employer shall maintain in effect any job-related protective measures or limitations, other than removal, for as long as a medical determination recommends them to be necessary.

(ii) End of MRP benefits and return of the employee to former job status.

(A) The employer may cease providing MRP benefits at the earliest of the following:

(I) Six months;

(II) Return of the employee to the employee's former job status following receipt of a medical determination concluding that the employee's exposure to MC no longer will aggravate any cardiac, hepatic, neurological (including stroke), or dermal disease;

(III) Receipt of a medical determination concluding that the employee can never return to MC exposure.

(B) For the purposes of this subsection (10), the requirement that an employer return an employee to the employee's former job status is not intended to expand upon or restrict any rights an employee has or would have had, absent temporary medical removal, to a specific job classification or position under the terms of a collective bargaining agreement.

(l) Medical removal protection benefits.

(i) For purposes of this subsection (10), the term medical removal protection benefits means that, for each removal, an employer must maintain for up to six months the earnings, seniority, and other employment rights and benefits of the employee as though the employee had not been removed from MC exposure or transferred to a comparable job.

(ii) During the period of time that an employee is removed from exposure to MC, the employer may condition the provision of medical removal protection benefits upon the employee's participation in follow-up medical surveillance made available pursuant to this section.

(iii) If a removed employee files a workers' compensation claim for a MC-related disability, the employer shall continue the MRP benefits required by this section until either the claim is resolved or the 6-month period for payment of MRP benefits has passed, whichever occurs first. To the extent the employee is entitled to indemnity payments for earnings lost during the period of removal, the employer's obligation to provide medical removal protection benefits to the employee shall be reduced by the amount of such indemnity payments.

(iv) The employer's obligation to provide medical removal protection benefits to a removed employee shall be reduced to the extent that the employee receives compensation for earnings lost during the period of removal from either a publicly or an employer-funded compensation program, or receives income from employment with another employer made possible by virtue of the employee's removal.

(m) Voluntary removal or restriction of an employee. Where an employer, although not required by this section to do so, removes an employee from exposure to MC or otherwise places any limitation on an employee due to the effects of MC exposure on the employee's medical condition, the employer shall provide medical removal protection benefits to the employee equal to those required by (l) of this subsection.

(n) Multiple health care professional review mechanism.

(i) If the employer selects the initial physician or licensed health care professional (PLHCP) to conduct any medical examination or consultation provided to an employee under (k) of this subsection, the employer shall notify the employee of the right to seek a second medical opinion each time the employer provides the employee with a copy of the written opinion of that PLHCP.

(ii) If the employee does not agree with the opinion of the employer-selected PLHCP, notifies the employer of that fact, and takes steps to make an appointment with a second PLHCP within 15 days of receiving a copy of the written opinion of the initial PLHCP, the employer shall pay for the PLHCP chosen by the employee to perform at least the following:

(A) Review any findings, determinations or recommendations of the initial PLHCP; and

(B) Conduct such examinations, consultations, and laboratory tests as the PLHCP deems necessary to facilitate this review.

(iii) If the findings, determinations or recommendations of the second PLHCP differ from those of the initial PLHCP, then the employer and the employee shall instruct the two health care professionals to resolve the disagreement.

(iv) If the two health care professionals are unable to resolve their disagreement within 15 days, then those two health care professionals shall jointly designate a PLHCP who is a specialist in the field at issue. The employer shall pay for the specialist to perform at least the following:

(A) Review the findings, determinations, and recommendations of the first two PLHCPs; and

(B) Conduct such examinations, consultations, laboratory tests and discussions with the prior PLHCPs as the specialist deems necessary to resolve the disagreements of the prior health care professionals.

(v) The written opinion of the specialist shall be the definitive medical determination. The employer shall act consistent with the definitive medical determination, unless the employer and employee agree that the written opinion of one of the other two PLHCPs shall be the definitive medical determination.

(vi) The employer and the employee or authorized employee representative may agree upon the use of any expeditious alternate health care professional determination mechanism in lieu of the multiple health care professional review mechanism provided by this section so long as the alternate mechanism otherwise satisfies the requirements contained in this section.

(11) Hazard communication. The employer shall communicate the following hazards associated with MC on labels and in material safety data sheets in accordance with the requirements of the hazard communication standard, WAC 296-62-054: cancer, cardiac effects (including elevation of carboxyhemoglobin), central nervous system effects, liver effects, and skin and eye irritation.

(12) Employee information and training.

(a) The employer shall provide information and training for each affected employee prior to or at the time of initial assignment to a job involving potential exposure to MC.

(b) The employer shall ensure that information and training is presented in a manner that is understandable to the employees.

(c) In addition to the information required under the hazard communication standard at WAC 296-62-054:

(i) The employer shall inform each affected employee of the requirements of this section and information available in its appendices, as well as how to access or obtain a copy of it in the workplace;

(ii) Wherever an employee's exposure to airborne concentrations of MC exceeds or can reasonably be expected to exceed the action level, the employer shall inform each affected employee of the quantity, location, manner of use, release, and storage of MC and the specific operations in the workplace that could result in exposure to MC, particularly noting where exposures may be above the 8-hour TWA PEL or STEL;

(d) The employer shall train each affected employee as required under the hazard communication standard at WAC 296-62-054, as appropriate.

(e) The employer shall re-train each affected employee as necessary to ensure that each employee exposed above the action level or the STEL maintains the requisite understanding of the principles of safe use and handling of MC in the workplace.

(f) Whenever there are workplace changes, such as modifications of tasks or procedures or the institution of new tasks or procedures, which increase employee exposure, and where those exposures exceed or can reasonably be expected to exceed the action level, the employer shall update the training as necessary to ensure that each affected employee has the requisite proficiency.

(g) An employer whose employees are exposed to MC at a multi-employer worksite shall notify the other employers with work operations at that site in accordance with the requirements of the hazard communication standard, WAC 296-62-054, as appropriate.

(h) The employer shall provide to the director, upon request, all available materials relating to employee information and training.

(13) Recordkeeping.

(a) Objective data.

(i) Where an employer seeks to demonstrate that initial monitoring is unnecessary through reasonable reliance on objective data showing that any materials in the workplace containing MC will not release MC at levels which exceed the action level or the STEL under foreseeable conditions of exposure, the employer shall establish and maintain an accurate record of the objective data relied upon in support of the exemption.

(ii) This record shall include at least the following information:

(A) The MC-containing material in question;

(B) The source of the objective data;

(C) The testing protocol, results of testing, and/or analysis of the material for the release of MC;

(D) A description of the operation exempted under subsection (4)(b)(i) of this section and how the data support the exemption; and

(E) Other data relevant to the operations, materials, processing, or employee exposures covered by the exemption.

(iii) The employer shall maintain this record for the duration of the employer's reliance upon such objective data.

(b) Exposure measurements.

(i) The employer shall establish and keep an accurate record of all measurements taken to monitor employee exposure to MC as prescribed in subsection (4) of this section.

(ii) Where the employer has 20 or more employees, this record shall include at least the following information:

(A) The date of measurement for each sample taken;

(B) The operation involving exposure to MC which is being monitored;

(C) Sampling and analytical methods used and evidence of their accuracy;

(D) Number, duration, and results of samples taken;

(E) Type of personal protective equipment, such as respiratory protective devices, worn, if any; and

(F) Name, Social Security number, job classification and exposure of all of the employees represented by monitoring, indicating which employees were actually monitored.

(iii) Where the employer has fewer than 20 employees, the record shall include at least the following information:

(A) The date of measurement for each sample taken;

(B) Number, duration, and results of samples taken; and

(C) Name, Social Security number, job classification and exposure of all of the employees represented by monitoring, indicating which employees were actually monitored.

(iv) The employer shall maintain this record for at least thirty (30) years, in accordance with WAC 296-62-052.

(c) Medical surveillance.

(i) The employer shall establish and maintain an accurate record for each employee subject to medical surveillance under subsection (10) of this section.

(ii) The record shall include at least the following information:

(A) The name, Social Security number and description of the duties of the employee;

(B) Written medical opinions; and

(C) Any employee medical conditions related to exposure to MC.

(iii) The employer shall ensure that this record is maintained for the duration of employment plus thirty (30) years, in accordance with WAC 296-62-052.

(d) Availability.

(i) The employer, upon written request, shall make all records required to be maintained by this section available to the director for examination and copying in accordance with WAC 296-62-052.

(Note to subsection (13)(d)(i) of this section: All records required to be maintained by this section may be kept in the most administratively convenient form (for example, electronic or computer records would satisfy this requirement).)

(ii) The employer, upon request, shall make any employee exposure and objective data records required by this section available for examination and copying by affected employees, former employees, and designated representatives in accordance with WAC 296-62-052.

(iii) The employer, upon request, shall make employee medical records required to be kept by this section available for examination and copying by the subject employee and by anyone having the specific written consent of the subject employee in accordance with WAC 296-62-052.

(e) Transfer of records. The employer shall comply with the requirements concerning transfer of records set forth in WAC 296-62-05215.

(14) Dates.

~~(a) (Effective date. This section shall become effective December 1, 1997.~~

~~(b) Start-up dates.~~

~~(i) Initial monitoring required by subsection (4)(b) of this section shall be completed according to the following schedule:~~

~~(A) For employers with fewer than 20 employees, no later than February 4, 1998.~~

~~(B) Immediately for all other employers.~~

~~(ii) Engineering controls required under subsection (6)(a) of this section shall be implemented according to the following schedule:~~

~~(A) For employers with fewer than 20 employees, no later than April 10, 2000.~~

~~(B) For polyurethane foam manufacturers with 20 to 99 employees, no later than April 10, 1999.~~

~~(C) For all other employers, no later than April 10, 1998.~~

~~(iii) All other requirements of this section shall be complied with according to the following schedule:~~

~~(A) For employers with fewer than 20 employees, no later than April 10, 1998.~~

~~(B) For polyurethane foam manufacturers with 20 to 99 employees, no later than January 5, 1998.~~

~~(C) For all other employers, on the effective date.~~

~~(e)) Engineering controls required under subsection (6)(a) of this section shall be implemented according to the following schedule:~~

~~(i) For employers with fewer than 20 employees, no later than April 10, 2000.~~

~~(ii) For employers with fewer than 150 employees engaged in foam fabrication; for employers with fewer than 50 employees engaged in furniture refinishing, general aviation aircraft stripping, and product formulation; for employers with fewer than 50 employees using MC-based adhesives for boat building and repair, recreational vehicle manufacture, van conversion, and upholstery; for employers with fewer than 50 employees using MC in construction work for restoration and preservation of buildings, painting and paint removal, cabinet making and/or floor refinishing and resurfacing, no later than April 10, 2000.~~

~~(iii) For employers engaged in polyurethane foam manufacturing with 20 or more employees, no later than October 10, 1999.~~

~~(b) Use of respiratory protection whenever an employee's exposure to MC exceeds or can reasonably be expected to exceed the 8-hour TWA PEL, in accordance with subsection (3)(a), (5)(c), (6)(a) and (7)(a) of this section, shall be implemented according to the following schedule:~~

~~(i) For employers with fewer than 150 employees engaged in foam fabrication; for employers with fewer than 50 employees engaged in furniture refinishing, general aviation aircraft stripping, and product formulation; for employers with fewer than 50 employees using MC-based adhesives for boat building and repair, recreational vehicle manufacture, van conversion, and upholstery; for employers with fewer than 50 employees using MC in construction work for restoration and preservation of buildings, painting and paint removal, cabinet making and/or floor refinishing and resurfacing, no later than April 10, 2000.~~

~~(ii) For employers engaged in polyurethane foam manufacturing with 20 or more employees, no later than October 10, 1999.~~

~~(c) Notification of corrective action under subsection (4)(e)(ii) of this section, no later than 90 days before the compliance date applicable to such corrective action.~~

~~(d) Transitional dates. The exposure limits for MC specified in WAC 296-62-07515 Table 1, shall remain in effect until the start-up dates for the exposure limits specified in subsection (14) of this section, or if the exposure limits in this section are stayed or vacated.~~

~~(e) Unless otherwise specified in this subsection (14), all other requirements of this section shall be complied with immediately.~~

(15) Appendices. The information contained in the appendices does not, by itself, create any additional obligations not otherwise imposed or detract from any existing obligation.

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**AMENDATORY SECTION** (Amending WSR 96-09-030, filed 4/10/96, effective 6/1/96)

**WAC 296-62-07521 Lead.** (1) Scope and application.

(a) This section applies to all occupational exposure to lead, except as provided in subdivision (1)(b).

(b) This section does not apply to the construction industry or to agricultural operations covered by chapter 296-306 WAC.

(2) Definitions as applicable to this part.

(a) "Action level" - employee exposure, without regard to the use of respirators, to an airborne concentration of lead of thirty micrograms per cubic meter of air ( $30 \mu\text{g}/\text{m}^3$ ) averaged over an eight-hour period.

(b) "Director" - the director of the department of labor and industries.

(c) "Lead" - metallic lead, all inorganic lead compounds, and organic lead soaps. Excluded from this definition are all other organic lead compounds.

(3) General requirements.

(a) Employers will assess the hazards of lead in the work place and provide information to the employees about the hazards of the lead exposures to which they may be exposed.

(b) Information provided shall include:

(i) Exposure monitoring (including employee notification);

(ii) Written compliance programs;

(iii) Respiratory protection programs;

(iv) Personnel protective equipment and housekeeping;

(v) Medical surveillance and examinations;

(vi) Training requirements;

(vii) Recordkeeping requirements.

(4) Permissible exposure limit (PEL).

(a) The employer shall assure that no employee is exposed to lead at concentrations greater than fifty micrograms per cubic meter of air ( $50 \mu\text{g}/\text{m}^3$ ) averaged over an eight-hour period.

(b) If an employee is exposed to lead for more than eight hours in any work day, the permissible exposure limit, as a time weighted average (TWA) for that day, shall be reduced according to the following formula:

Maximum permissible limit (in  $\mu\text{g}/\text{m}^3$ ) =  $400 +$   
hours worked in the day.

(c) When respirators are used to supplement engineering and work practice controls to comply with the PEL and all the requirements of subsection (7) have been met, employee exposure, for the purpose of determining whether the employer has complied with the PEL, may be considered to be at the level provided by the protection factor of the respirator for those periods the respirator is worn. Those periods may be averaged with exposure levels during periods when respirators are not worn to determine the employee's daily TWA exposure.

(5) Exposure monitoring.

(a) General.

(i) For the purposes of subsection (5), employee exposure is that exposure which would occur if the employee were not using a respirator.

(ii) With the exception of monitoring under subdivision (5)(c), the employer shall collect full shift (for at least seven continuous hours) personal samples including at least one sample for each shift for each job classification in each work area.

(iii) Full shift personal samples shall be representative of the monitored employee's regular, daily exposure to lead.

(b) Initial determination. Each employer who has a workplace or work operation covered by this standard shall determine if any employee may be exposed to lead at or above the action level.

(c) Basis of initial determination.

(i) The employer shall monitor employee exposures and shall base initial determinations on the employee exposure monitoring results and any of the following, relevant considerations:

(A) Any information, observations, or calculations which would indicate employee exposure to lead;

(B) Any previous measurements of airborne lead; and

(C) Any employee complaints of symptoms which may be attributable to exposure to lead.

(ii) Monitoring for the initial determination may be limited to a representative sample of the exposed employees who the employer reasonably believes are exposed to the greatest airborne concentrations of lead in the workplace.

(iii) Measurements of airborne lead made in the preceding twelve months may be used to satisfy the requirement to monitor under item (5)(c)(i) if the sampling and analytical methods used meet the accuracy and confidence levels of subdivision (5)(i) of this section.

(d) Positive initial determination and initial monitoring.

(i) Where a determination conducted under subdivision (5)(b) and (5)(c) of this section shows the possibility of any employee exposure at or above the action level, the employer shall conduct monitoring which is representative of the exposure for each employee in the workplace who is exposed to lead.

(ii) Measurements of airborne lead made in the preceding twelve months may be used to satisfy this requirement if the sampling and analytical methods used meet the accuracy and confidence levels of subdivision (5)(i) of this section.

(e) Negative initial determination. Where a determination, conducted under subdivisions (5)(b) and (5)(c) of this section is made that no employee is exposed to airborne concentrations of lead at or above the action level, the employer shall make a written record of such determination. The record shall include at least the information specified in subdivision (5)(c) of this section and shall also include the date of determination, location within the worksite, and the name and social security number of each employee monitored.

(f) Frequency.

(i) If the initial monitoring reveals employee exposure to be below the action level the measurements need not be repeated except as otherwise provided in subdivision (5)(g) of this section.

(ii) If the initial determination or subsequent monitoring reveals employee exposure to be at or above the action level but below the permissible exposure limit the employer shall repeat monitoring in accordance with this subsection at least every six months. The employer shall continue monitoring at



the required frequency until at least two consecutive measurements, taken at least seven days apart, are below the action level at which time the employer may discontinue monitoring for that employee except as otherwise provided in subdivision (5)(g) of this section.

(iii) If the initial monitoring reveals that employee exposure is above the permissible exposure limit the employer shall repeat monitoring quarterly. The employer shall continue monitoring at the required frequency until at least two consecutive measurements, taken at least seven days apart, are below the PEL but at or above the action level at which time the employer shall repeat monitoring for that employee at the frequency specified in item (5)(f)(ii), except as otherwise provided in subdivision (5)(g) of this section.

(g) Additional monitoring. Whenever there has been a production, process, control or personnel change which may result in new or additional exposure to lead, or whenever the employer has any other reason to suspect a change which may result in new or additional exposures to lead, additional monitoring in accordance with this subsection shall be conducted.

(h) Employee notification.

(i) Within five working days after the receipt of monitoring results, the employer shall notify each employee in writing of the results which represent that employee's exposure.

(ii) Whenever the results indicate that the representative employee exposure, without regard to respirators, exceeds the permissible exposure limit, the employer shall include in the written notice a statement that the permissible exposure limit was exceeded and a description of the corrective action taken or to be taken to reduce exposure to or below the permissible exposure limit.

(i) Accuracy of measurement. The employer shall use a method of monitoring and analysis which has an accuracy (to a confidence level of ninety-five percent) of not less than plus or minus twenty percent for airborne concentrations of lead equal to or greater than 30 µg/m<sup>3</sup>.

(6) Methods of compliance.

(a) Engineering and work practice controls.

(i) Where any employee is exposed to lead above the permissible exposure limit for more than thirty days per year, the employer shall implement engineering and work practice controls (including administrative controls) to reduce and maintain employee exposure to lead in accordance with the implementation schedule in Table I below, except to the extent that the employer can demonstrate that such controls are not feasible. Wherever the engineering and work practice controls which can be instituted are not sufficient to reduce employee exposure to or below the permissible exposure limit, the employer shall nonetheless use them to reduce exposures to the lowest feasible level and shall supplement them by the use of respiratory protection which complies with the requirements of subsection (7) of this section.

(ii) Where any employee is exposed to lead above the permissible exposure limit, but for thirty days or less per year, the employer shall implement engineering controls to reduce exposures to 200 µg/m<sup>3</sup>, but thereafter may implement any combination of engineering, work practice (including administrative controls), and respiratory controls to

reduce and maintain employee exposure to lead to or below 50 µg/m<sup>3</sup>.

TABLE 1

Industry	Compliance dates: <sup>1</sup> (50 µg/m <sup>3</sup> )
Lead chemicals, secondary copper smelting.	July 19, 1996
Nonferrous foundries . . . . .	July 19, 1996. <sup>2</sup>
Brass and bronze ingot manufacture.	6 years. <sup>3</sup>

<sup>1</sup> Calculated by counting from the date the stay on implementation of subsection (6)(a) was lifted by the U.S. Court of Appeals for the District of Columbia, the number of years specified in the 1978 lead standard and subsequent amendments for compliance with the PEL of 50 µg/m<sup>3</sup> for exposure to airborne concentrations of lead levels for the particular industry.

<sup>2</sup> Large nonferrous foundries (20 or more employees) are required to achieve the PEL of 50 µg/m<sup>3</sup> by means of engineering and work practice controls. Small nonferrous foundries (fewer than 20 employees) are required to achieve an 8-hour TWA of 75 µg/m<sup>3</sup> by such controls.

<sup>3</sup> Expressed as the number of years from the date on which the Court lifts the stay on the implementation of subsection (6)(a) for this industry for employers to achieve a lead in air concentration of 75 µg/m<sup>3</sup>. Compliance with subsection (6) in this industry is determined by a compliance directive that incorporates elements from the settlement agreement between OSHA and representatives of the industry.

(b) Respiratory protection. Where engineering and work practice controls do not reduce employee exposure to or below the 50 µg/m<sup>3</sup> permissible exposure limit, the employer shall supplement these controls with respirators in accordance with subsection (7).

(c) Compliance program.

(i) Each employer shall establish and implement a written compliance program to reduce exposures to or below the permissible exposure limit, and interim levels if applicable, solely by means of engineering and work practice controls in accordance with the implementation schedule in subdivision (6)(a).

(ii) Written plans for these compliance programs shall include at least the following:

(A) A description of each operation in which lead is emitted; e.g., machinery used, material processed, controls in place, crew size, employee job responsibilities, operating procedures and maintenance practices;

(B) A description of the specific means that will be employed to achieve compliance, including engineering plans and studies used to determine methods selected for controlling exposure to lead;

(C) A report of the technology considered in meeting the permissible exposure limit;

(D) Air monitoring data which documents the source of lead emissions;

(E) A detailed schedule for implementation of the program, including documentation such as copies of purchase orders for equipment, construction contracts, etc.;

(F) A work practice program which includes items required under subsections (8), (9) and (10) of this regulation;

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(G) An administrative control schedule required by sub-division (6)(f), if applicable; and

(H) Other relevant information.

(iii) Written programs shall be submitted upon request to the director, and shall be available at the worksite for examination and copying by the director, any affected employee or authorized employee representatives.

(iv) Written programs shall be revised and updated at least every six months to reflect the current status of the program.

(d) Mechanical ventilation.

(i) When ventilation is used to control exposure, measurements which demonstrate the effectiveness of the system in controlling exposure, such as capture velocity, duct velocity, or static pressure shall be made at least every three months. Measurements of the system's effectiveness in controlling exposure shall be made within five days of any change in production, process, or control which might result in a change in employee exposure to lead.

(ii) Recirculation of air. If air from exhaust ventilation is recirculated into the workplace, the employer shall assure that (A) the system has a high efficiency filter with reliable back-up filter; and (B) controls to monitor the concentration of lead in the return air and to bypass the recirculation system automatically if it fails are installed, operating, and maintained.

(e) Administrative controls. If administrative controls are used as a means of reducing employees TWA exposure to lead, the employer shall establish and implement a job rotation schedule which includes:

(i) Name or identification number of each affected employee;

(ii) Duration and exposure levels at each job or work station where each affected employee is located; and

(iii) Any other information which may be useful in assessing the reliability of administrative controls to reduce exposure to lead.

(7) Respiratory protection.

(a) General. ~~((Where the use of respirators is required under this section, the employer shall provide, at no cost to the employee, and assure the use of respirators which comply with the requirements of this subsection. Respirators shall be used in the following circumstances))~~ For employees who use respirators required by this section, the employer must provide respirators that comply with the requirements of this subsection. Respirators must be used during:

(i) ~~((During the time))~~ Period necessary to install or implement engineering or work-practice controls; ((and))

(ii) ~~((In work situations in))~~ Work operations for which engineering and work-practice controls are not sufficient to reduce exposures to or below the permissible exposure limit; ((and))

(iii) ~~((Whenever))~~ Periods when an employee requests a respirator.

(b) Respirator ~~((selection))~~ program.

(i) ~~((Where respirators are required under this section the employer shall select the appropriate respirator or combination of respirators from Table H.))~~ The employer must implement a respiratory protection program as required by chapter

296-62 WAC, Part E (except WAC 296-62-07130(1) and 296-62-07150 through 296-62-07156).

(ii) If an employee has breathing difficulty during fit testing or respirator use, the employer must provide the employee with a medical examination as required by subsection (11)(c)(ii)(C) of this section to determine whether or not the employee can use a respirator while performing the required duty.

(c) Respirator selection.

(i) The employer must select the appropriate respirator or combination of respirators from Table II of this section.

(ii) The employer must provide a powered air-purifying respirator instead of the respirator specified in Table II of this section when an employee chooses to use this type of respirator and that such a respirator provides adequate protection to the employee.

TABLE II  
RESPIRATORY PROTECTION FOR LEAD AEROSOLS

Airborne Concentration of Lead or Condition of Use	Required Respirator <sup>1</sup>
Not in excess of 0.5 mg/m <sup>3</sup> (10X PEL).	Half-mask, air-purifying respirator equipped with high efficiency filters. <sup>2,3</sup>
Not in excess of 2.5 mg/m <sup>3</sup> (50X PEL).	Full facepiece, air-purifying respirator with high efficiency filters. <sup>3</sup>
Not in excess of 50 mg/m <sup>3</sup> (1000X PEL).	(1) Any powered, air-purifying respirator with high efficiency filters <sup>3</sup> ; or (2) Half-mask supplied-air respirator operated in positive-pressure mode. <sup>2</sup>
Not in excess of 100 mg/m <sup>3</sup> (2000X PEL).	Supplied-air respirators with full facepiece, hood, helmet, or suit, operated in positive pressure mode.
Greater than 100 mg/m <sup>3</sup> , unknown concentration or fire fighting.	Full facepiece, self-contained breathing apparatus operated in positive-pressure mode.

Note: <sup>1</sup> Respirators specified for high concentrations can be used at lower concentrations of lead.

<sup>2</sup> Full facepiece is required if the lead aerosols cause eye or skin irritation at the use concentrations.

<sup>3</sup> A high efficiency particulate filter means 99.97 percent efficient against 0.3 micron size particles.

~~((ii) The employer shall provide a powered, air-purifying respirator in lieu of the respirator specified, in Table II whenever:~~

~~(A) An employee chooses to use this type of respirator; and~~

~~(B) This respirator will provide adequate protection to the employee.~~

~~(iii) The employer shall select respirators from among those approved for protection against lead dust, fume, and mist by the Mine Safety and Health Administration and the~~

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~~National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR Part 11.~~

~~(e) Respirator usage.~~

~~(i) The employer shall assure that the respirator issued to the employee exhibits minimum facepiece leakage and that the respirator is fitted properly.~~

~~(ii) Employers shall perform either quantitative or qualitative face fit tests at the time of initial fitting and at least every six months thereafter for each employee wearing negative pressure respirators. The qualitative fit tests may be used only for testing the fit of half-mask respirators where they are permitted to be worn, and shall be conducted in accordance with Appendix D. The tests shall be used to select facepieces that provide the required protection as prescribed in Table H.~~

~~(iii) If an employee exhibits difficulty in breathing during the fitting test or during use, the employer shall make available to the employee an examination in accordance with subitem (11)(e)(i)(C) of this section to determine whether the employee can wear a respirator while performing the required duty.~~

~~(d) Respirator program.~~

~~(i) The employer shall institute a respiratory protection program in accordance with WAC 296-62-071.~~

~~(ii) The employer shall permit each employee who uses a filter respirator to change the filter elements whenever an increase in breathing resistance is detected and shall maintain an adequate supply of filter elements for this purpose.~~

~~(iii) Employees who wear respirators shall be permitted to leave work areas to wash their face and respirator facepiece whenever necessary to prevent skin irritation associated with respirator use.)~~

~~(8) Protective work clothing and equipment.~~

~~(a) Provision and use. If an employee is exposed to lead above the PEL, without regard to the use of respirators or where the possibility of skin or eye irritation exists, the employer shall provide at no cost to the employee and assure that the employee uses appropriate protective work clothing and equipment such as, but not limited to:~~

~~(i) Coveralls or similar full-body work clothing;~~

~~(ii) Gloves, hats, and shoes or disposable shoe coverlets; and~~

~~(iii) Face shields, vented goggles, or other appropriate protective equipment which complies with WAC 296-24-078.~~

~~(b) Cleaning and replacement.~~

~~(i) The employer shall provide the protective clothing required in subdivision (8)(a) of this section in a clean and dry condition at least weekly, and daily to employees whose exposure levels without regard to a respirator are over 200 µg/m<sup>3</sup> of lead as an eight-hour TWA.~~

~~(ii) The employer shall provide for the cleaning, laundering, or disposal of protective clothing and equipment required by subdivision (8)(a) of this section.~~

~~(iii) The employer shall repair or replace required protective clothing and equipment as needed to maintain their effectiveness.~~

~~(iv) The employer shall assure that all protective clothing is removed at the completion of a work shift only in change~~

rooms provided for that purpose as prescribed in subdivision (10)(b) of this section.

(v) The employer shall assure that contaminated protective clothing which is to be cleaned, laundered, or disposed of, is placed in a closed container in the change-room which prevents dispersion of lead outside the container.

(vi) The employer shall inform in writing any person who cleans or launders protective clothing or equipment of the potentially harmful effects of exposure to lead.

(vii) The employer shall assure that the containers of contaminated protective clothing and equipment required by subdivision (8)(b)(v) are labeled as follows:

CAUTION: CLOTHING CONTAMINATED WITH LEAD.  
DO NOT REMOVE DUST BY BLOWING OR SHAKING.  
DISPOSE OF LEAD CONTAMINATED WASH WATER IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, OR FEDERAL REGULATIONS.

(viii) The employer shall prohibit the removal of lead from protective clothing or equipment by blowing, shaking, or any other means which disperses lead into the air.

(9) Housekeeping.

(a) Surfaces. All surfaces shall be maintained as free as practicable of accumulations of lead.

(b) Cleaning floors.

(i) Floors and other surfaces where lead accumulates may not be cleaned by the use of compressed air.

(ii) Shoveling, dry or wet sweeping, and brushing may be used only where vacuuming or other equally effective methods have been tried and found not to be effective.

(c) Vacuuming. Where vacuuming methods are selected, the vacuums shall be used and emptied in a manner which minimizes the reentry of lead into the workplace.

(10) Hygiene facilities and practices.

(a) The employer shall assure that in areas where employees are exposed to lead above the PEL, without regard to the use of respirators, food or beverage is not present or consumed, tobacco products are not present or used, and cosmetics are not applied, except in change rooms, lunchrooms, and showers required under subdivision (10)(b) through (10)(d) of this section.

(b) Change rooms.

(i) The employer shall provide clean change rooms for employees who work in areas where their airborne exposure to lead is above the PEL, without regard to the use of respirators.

(ii) The employer shall assure that change rooms are equipped with separate storage facilities for protective work clothing and equipment and for street clothes which prevent cross-contamination.

(c) Showers.

(i) The employer shall assure that employees who work in areas where their airborne exposure to lead is above the PEL, without regard to the use of respirators, shower at the end of the work shift.

(ii) The employer shall provide shower facilities in accordance with WAC 296-24-12009.

(iii) The employer shall assure that employees who are required to shower pursuant to item (10)(c)(i) do not leave the

workplace wearing any clothing or equipment worn during the work shift.

(d) Lunchrooms.

(i) The employer shall provide lunchroom facilities for employees who work in areas where their airborne exposure to lead is above the PEL, without regard to the use of respirators.

(ii) The employer shall assure that lunchroom facilities have a temperature controlled, positive pressure, filtered air supply, and are readily accessible to employees.

(iii) The employer shall assure that employees who work in areas where their airborne exposure to lead is above the PEL without regard to the use of a respirator wash their hands and face prior to eating, drinking, smoking or applying cosmetics.

(iv) The employer shall assure that employees do not enter lunchroom facilities with protective work clothing or equipment unless surface lead dust has been removed by vacuuming, downdraft booth, or other cleaning method.

(e) Lavatories. The employer shall provide an adequate number of lavatory facilities which comply with WAC 296-24-12009 (1) and (2).

(11) Medical surveillance.

(a) General.

(i) The employer shall institute a medical surveillance program for all employees who are or may be exposed above the action level for more than thirty days per year.

(ii) The employer shall assure that all medical examinations and procedures are performed by or under the supervision of a licensed physician.

(iii) The employer shall provide the required medical surveillance including multiple physician review under item (11)(c)(iii) without cost to employees and at a reasonable time and place.

(b) Biological monitoring.

(i) Blood lead and ZPP level sampling and analysis. The employer shall make available biological monitoring in the form of blood sampling and analysis for lead and zinc protoporphyrin levels to each employee covered under item (11)(a)(i) of this section on the following schedule:

(A) At least every six months to each employee covered under item (11)(a)(i) of this section;

(B) At least every two months for each employee whose last blood sampling and analysis indicated a blood lead level at or above 40  $\mu\text{g}/100\text{ g}$  of whole blood. This frequency shall continue until two consecutive blood samples and analyses indicate a blood lead level below 40  $\mu\text{g}/100\text{ g}$  of whole blood; and

(C) At least monthly during the removal period of each employee removed from exposure to lead due to an elevated blood lead level.

(ii) Follow-up blood sampling tests. Whenever the results of a blood lead level test indicate that an employee's blood lead level exceeds the numerical criterion for medical removal under item (12)(a)(i)(A), the employer shall provide a second (follow-up) blood sampling test within two weeks after the employer receives the results of the first blood sampling test.

(iii) Accuracy of blood lead level sampling and analysis. Blood lead level sampling and analysis provided pursuant to this section shall have an accuracy (to a confidence level of ninety-five percent) within plus or minus fifteen percent or 6  $\mu\text{g}/100\text{ ml}$ , whichever is greater, and shall be conducted by a laboratory licensed by the Center for Disease Control (CDC), United States Department of Health, Education and Welfare or which has received a satisfactory grade in blood lead proficiency testing from CDC in the prior twelve months.

(iv) Employee notification. Within five working days after the receipt of biological monitoring results, the employer shall notify in writing each employee whose blood lead level exceeds 40  $\mu\text{g}/100\text{ g}$ : (A) of that employee's blood lead level and (B) that the standard requires temporary medical removal with medical removal protection benefits when an employee's blood lead level exceeds the numerical criterion for medical removal under item (12)(a)(i) of this section.

(c) Medical examinations and consultations.

(i) Frequency. The employer shall make available medical examinations and consultations to each employee covered under item (11)(a)(i) of this section on the following schedule:

(A) At least annually for each employee for whom a blood sampling test conducted at any time during the preceding twelve months indicated a blood lead level at or above 40  $\mu\text{g}/100\text{ g}$ ;

(B) Prior to assignment for each employee being assigned for the first time to an area in which airborne concentrations of lead are at or above the action level;

(C) As soon as possible, upon notification by an employee either that the employee has developed signs or symptoms commonly associated with lead intoxication, that the employee desires medical advice concerning the effects of current or past exposure to lead on the employee's ability to procreate a healthy child, or that the employee has demonstrated difficulty in breathing during a respirator fitting test or during use; and

(D) As medically appropriate for each employee either removed from exposure to lead due to a risk of sustaining material impairment to health, or otherwise limited pursuant to a final medical determination.

(ii) Content. Medical examinations made available pursuant to subitems (11)(c)(i)(A) through (B) of this section shall include the following elements:

(A) A detailed work history and a medical history, with particular attention to past lead exposure (occupational and nonoccupational), personal habits (smoking, hygiene), and past gastrointestinal, hematologic, renal, cardiovascular, reproductive and neurological problems;

(B) A thorough physical examination, with particular attention to teeth, gums, hematologic, gastrointestinal, renal, cardiovascular, and neurological systems. Pulmonary status should be evaluated if respiratory protection will be used;

(C) A blood pressure measurement;

(D) A blood sample and analysis which determines:

(I) Blood lead level;

(II) Hemoglobin and hematocrit determinations, red cell indices, and examination of peripheral smear morphology;

(III) Zinc protoporphyrin;

(IV) Blood urea nitrogen; and

(V) Serum creatinine;

(E) A routine urinalysis with microscopic examination; and

(F) Any laboratory or other test which the examining physician deems necessary by sound medical practice.

The content of medical examinations made available pursuant to subitems (11)(c)(i)(C) through (D) of this section shall be determined by an examining physician and, if requested by an employee, shall include pregnancy testing or laboratory evaluation of male fertility.

(iii) Multiple physician review mechanism.

(A) If the employer selects the initial physician who conducts any medical examination or consultation provided to an employee under this section, the employee may designate a second physician:

(I) To review any findings, determinations or recommendations of the initial physician; and

(II) To conduct such examinations, consultations, and laboratory tests as the second physician deems necessary to facilitate this review.

(B) The employer shall promptly notify an employee of the right to seek a second medical opinion after each occasion that an initial physician conducts a medical examination or consultation pursuant to this section. The employer may condition its participation in, and payment for, the multiple physician review mechanism upon the employee doing the following within fifteen days after receipt of the foregoing notification, or receipt of the initial physician's written opinion, whichever is later:

(I) The employee informing the employer that he or she intends to seek a second medical opinion, and

(II) The employee initiating steps to make an appointment with a second physician.

(C) If the findings, determinations or recommendations of the second physician differ from those of the initial physician, then the employer and the employee shall assure that efforts are made for the two physicians to resolve any disagreement.

(D) If the two physicians have been unable to quickly resolve their disagreement, then the employer and the employee through their respective physicians shall designate a third physician:

(I) To review any findings, determinations or recommendations of the prior physicians; and

(II) To conduct such examinations, consultations, laboratory tests and discussions with the prior physicians as the third physician deems necessary to resolve the disagreement of the prior physicians.

(E) The employer shall act consistent with the findings, determinations and recommendations of the third physician, unless the employer and the employee reach an agreement which is otherwise consistent with the recommendations of at least one of the three physicians.

(iv) Information provided to examining and consulting physicians.

(A) The employer shall provide an initial physician conducting a medical examination or consultation under this section with the following information:

(I) A copy of this regulation for lead including all appendices;

(II) A description of the affected employee's duties as they relate to the employee's exposure;

(III) The employee's exposure level or anticipated exposure level to lead and to any other toxic substance (if applicable);

(IV) A description of any personal protective equipment used or to be used;

(V) Prior blood lead determinations; and

(VI) All prior written medical opinions concerning the employee in the employer's possession or control.

(B) The employer shall provide the foregoing information to a second or third physician conducting a medical examination or consultation under this section upon request either by the second or third physician, or by the employee.

(v) Written medical opinions.

(A) The employer shall obtain and furnish the employee with a copy of a written medical opinion from each examining or consulting physician which contains the following information:

(I) The physician's opinion as to whether the employee has any detected medical condition which would place the employee at increased risk of material impairment of the employee's health from exposure to lead;

(II) Any recommended special protective measures to be provided to the employee, or limitations to be placed upon the employee's exposure to lead;

(III) Any recommended limitation upon the employee's use of respirators, including a determination of whether the employee can wear a powered air purifying respirator if a physician determines that the employee cannot wear a negative pressure respirator; and

(IV) The results of the blood lead determinations.

(B) The employer shall instruct each examining and consulting physician to:

(I) Not reveal either in the written opinion, or in any other means of communication with the employer, findings, including laboratory results, or diagnoses unrelated to an employee's occupational exposure to lead; and

(II) Advise the employee of any medical condition, occupational or nonoccupational, which dictates further medical examination or treatment.

(vi) Alternate physician determination mechanisms. The employer and an employee or authorized employee representative may agree upon the use of any expeditious alternate physician determination mechanism in lieu of the multiple physician review mechanism provided by this subsection so long as the alternate mechanism otherwise satisfies the requirements contained in this subsection.

(d) Chelation.

(i) The employer shall assure that any person whom he retains, employs, supervises or controls does not engage in prophylactic chelation of any employee at any time.

(ii) If therapeutic or diagnostic chelation is to be performed by any person in item (11)(d)(i), the employer shall assure that it be done under the supervision of a licensed physician in a clinical setting with thorough and appropriate medical monitoring and that the employee is notified in writing prior to its occurrence.

## (12) Medical removal protection.

(a) Temporary medical removal and return of an employee.

(i) Temporary removal due to elevated blood lead levels.

(A) The employer shall remove an employee from work having an exposure to lead at or above the action level on each occasion that a periodic and a follow-up blood sampling test conducted pursuant to this section indicate that the employee's blood lead level is at or above 60  $\mu\text{g}/100\text{ g}$  of whole blood; and

(B) The employer shall remove an employee from work having an exposure to lead at or above the action level on each occasion that the average of the last three blood sampling tests conducted pursuant to this section (or the average of all blood sampling tests conducted over the previous six months, whichever is longer) indicates that the employee's blood lead level is at or above 50  $\mu\text{g}/100\text{ g}$  of whole blood; provided, however, that an employee need not be removed if the last blood sampling test indicates a blood lead level at or below 40  $\mu\text{g}/100\text{ g}$  of whole blood.

(ii) Temporary removal due to a final medical determination.

(A) The employer shall remove an employee from work having an exposure to lead at or above the action level on each occasion that a final medical determination results in a medical finding, determination, or opinion that the employee has a detected medical condition which places the employee at increased risk of material impairment to health from exposure to lead.

(B) For the purposes of this section, the phrase "final medical determination" shall mean the outcome of the multiple physician review mechanism or alternate medical determination mechanism used pursuant to the medical surveillance provisions of this section.

(C) Where a final medical determination results in any recommended special protective measures for an employee, or limitations on an employee's exposure to lead, the employer shall implement and act consistent with the recommendation.

(iii) Return of the employee to former job status.

(A) The employer shall return an employee to his or her former job status:

(I) For an employee removed due to a blood lead level at or above 60  $\mu\text{g}/100\text{ g}$ , or due to an average blood lead level at or above 50  $\mu\text{g}/100\text{ g}$ , when two consecutive blood sampling tests indicate that the employee's blood lead level is at or below 40  $\mu\text{g}/100\text{ g}$  of whole blood;

(II) For an employee removed due to a final medical determination, when a subsequent final medical determination results in a medical finding, determination, or opinion that the employee no longer has a detected medical condition which places the employee at increased risk of material impairment to health from exposure to lead.

(B) For the purposes of this section, the requirement that an employer return an employee to his or her former job status is not intended to expand upon or restrict any rights an employee has or would have had, absent temporary medical removal, to a specific job classification or position under the terms of a collective bargaining agreement.

(iv) Removal of other employee special protective measure or limitations. The employer shall remove any limitations placed on an employee or end any special protective measures provided to an employee pursuant to a final medical determination when a subsequent final medical determination indicates that the limitations or special protective measures are no longer necessary.

(v) Employer options pending a final medical determination. Where the multiple physician review mechanism, or alternate medical determination mechanism used pursuant to the medical surveillance provisions of this section, has not yet resulted in a final medical determination with respect to an employee, the employer shall act as follows:

(A) Removal. The employer may remove the employee from exposure to lead, provide special protective measures to the employee, or place limitations upon the employee, consistent with the medical findings, determinations, or recommendations of any of the physicians who have reviewed the employee's health status.

(B) Return. The employer may return the employee to his or her former job status, end any special protective measures provided to the employee, and remove any limitations placed upon the employee, consistent with the medical findings, determinations, or recommendations of any of the physicians who have reviewed the employee's health status, with two exceptions. If:

(I) The initial removal, special protection, or limitation of the employee resulted from a final medical determination which differed from the findings, determinations, or recommendations of the initial physician; or

(II) The employee has been on removal status for the preceding eighteen months due to an elevated blood lead level, then the employer shall await a final medical determination.

(b) Medical removal protection benefits.

(i) Provision of medical removal protection benefits. The employer shall provide to an employee up to eighteen months of medical removal protection benefits on each occasion that an employee is removed from exposure to lead or otherwise limited pursuant to this section.

(ii) Definition of medical removal protection benefits. For the purposes of this section, the requirement that an employer provide medical removal protection benefits means that the employer shall maintain the earnings, seniority and other employment rights and benefits of an employee as though the employee had not been removed from normal exposure to lead or otherwise limited.

(iii) Follow-up medical surveillance during the period of employee removal or limitation. During the period of time that an employee is removed from normal exposure to lead or otherwise limited, the employer may condition the provision of medical removal protection benefits upon the employee's participation in follow-up medical surveillance made available pursuant to this section.

(iv) Workers' compensation claims. If a removed employee files a claim for workers' compensation payments for a lead-related disability, then the employer shall continue to provide medical removal protection benefits pending disposition of the claim. To the extent that an award is made to the employee for earnings lost during the period of removal,

the employer's medical removal protection obligation shall be reduced by such amount. The employer shall receive no credit for workers' compensation payments received by the employee for treatment related expenses.

(v) Other credits. The employer's obligation to provide medical removal protection benefits to a removed employee shall be reduced to the extent that the employee receives compensation for earnings lost during the period of removal either from a publicly or employer-funded compensation program, or receives income from employment with another employer made possible by virtue of the employee's removal.

(vi) Employees whose blood lead levels do not adequately decline within eighteen months of removal. The employer shall take the following measures with respect to any employee removed from exposure to lead due to an elevated blood lead level whose blood lead level has not declined within the past eighteen months of removal so that the employee has been returned to his or her former job status:

(A) The employer shall make available to the employee a medical examination pursuant to this section to obtain a final medical determination with respect to the employee;

(B) The employer shall assure that the final medical determination obtained indicates whether or not the employee may be returned to his or her former job status, and if not, what steps should be taken to protect the employee's health;

(C) Where the final medical determination has not yet been obtained, or once obtained indicates that the employee may not yet be returned to his or her former job status, the employer shall continue to provide medical removal protection benefits to the employee until either the employee is returned to former job status, or a final medical determination is made that the employee is incapable of ever safely returning to his or her former job status.

(D) Where the employer acts pursuant to a final medical determination which permits the return of the employee to his or her former job status despite what would otherwise be an unacceptable blood lead level, later questions concerning removing the employee again shall be decided by a final medical determination. The employer need not automatically remove such an employee pursuant to the blood lead level removal criteria provided by this section.

(vii) Voluntary removal or restriction of an employee. Where an employer, although not required by this section to do so, removes an employee from exposure to lead or otherwise places limitations on an employee due to the effects of lead exposure on the employee's medical condition, the employer shall provide medical removal protection benefits to the employee equal to that required by item (12)(b)(i) of this section.

(13) Employee information and training.

(a) Training program.

(i) Each employer who has a workplace in which there is a potential exposure to airborne lead at any level shall inform employees of the content of Appendices A and B of this regulation.

(ii) The employer shall institute a training program for and assure the participation of all employees who are subject

to exposure to lead at or above the action level or for whom the possibility of skin or eye irritation exists.

(iii) The employer shall provide initial training by one hundred eighty days from the effective date for those employees covered by item (13)(a)(ii) on the standard's effective date and prior to the time of initial job assignment for those employees subsequently covered by this subsection.

(iv) The training program shall be repeated at least annually for each employee.

(v) The employer shall assure that each employee is informed of the following:

(A) The content of this standard and its appendices;

(B) The specific nature of the operations which could result in exposure to lead above the action level;

(C) The purpose, proper ~~((selection, fitting,))~~ use, ~~((and))~~ limitations ~~((of respirators))~~, and other training requirements for respiratory protection as required by chapter 296-62 WAC, Part E;

(D) The purpose and a description of the medical surveillance program, and the medical removal protection program including information concerning the adverse health effects associated with excessive exposure to lead (with particular attention to the adverse reproductive effects on both males and females);

(E) The engineering controls and work practices associated with the employee's job assignment;

(F) The contents of any compliance plan in effect; and

(G) Instructions to employees that chelating agents should not routinely be used to remove lead from their bodies and should not be used at all except under the direction of a licensed physician.

(b) Access to information and training materials.

(i) The employer shall make readily available to all affected employees a copy of this standard and its appendices.

(ii) The employer shall provide, upon request, all materials relating to the employee information and training program to the director.

(iii) In addition to the information required by item (13)(a)(v), the employer shall include as part of the training program, and shall distribute to employees, any materials pertaining to the Occupational Safety and Health Act, the regulations issued pursuant to the act, and this lead standard, which are made available to the employer by the director.

(14) Signs.

(a) General.

(i) The employer may use signs required by other statutes, regulations or ordinances in addition to, or in combination with, signs required by this subsection.

(ii) The employer shall assure that no statement appears on or near any sign required by this subsection which contradicts or detracts from the meaning of the required sign.

(b) Signs.

(i) The employer shall post the following warning signs in each work area where the PEL is exceeded:



WARNING  
LEAD WORK AREA  
POISON  
NO SMOKING OR EATING

(ii) The employer shall assure that signs required by this subsection are illuminated and cleaned as necessary so that the legend is readily visible.

(15) Recordkeeping.

(a) Exposure monitoring.

(i) The employer shall establish and maintain an accurate record of all monitoring required in subsection (5) of this section.

(ii) This record shall include:

(A) The date(s), number, duration, location and results of each of the samples taken, including a description of the sampling procedure used to determine representative employee exposure where applicable;

(B) A description of the sampling and analytical methods used and evidence of their accuracy;

(C) The type of respiratory protective devices worn, if any;

(D) Name, social security number, and job classification of the employee monitored and of all other employees whose exposure the measurement is intended to represent; and

(E) The environmental variables that could affect the measurement of employee exposure.

(iii) The employer shall maintain these monitoring records for at least forty years or for the duration of employment plus twenty years, whichever is longer.

(b) Medical surveillance.

(i) The employer shall establish and maintain an accurate record for each employee subject to medical surveillance as required by subsection (11) of this section.

(ii) This record shall include:

(A) The name, social security number, and description of the duties of the employee;

(B) A copy of the physician's written opinions;

(C) Results of any airborne exposure monitoring done for that employee and the representative exposure levels supplied to the physician; and

(D) Any employee medical complaints related to exposure to lead.

(iii) The employer shall keep, or assure that the examining physician keeps, the following medical records:

(A) A copy of the medical examination results including medical and work history required under subsection (11) of this section;

(B) A description of the laboratory procedures and a copy of any standards or guidelines used to interpret the test results or references to that information; and

(C) A copy of the results of biological monitoring.

(iv) The employer shall maintain or assure that the physician maintains those medical records for at least forty years, or for the duration of employment plus twenty years, whichever is longer.

(c) Medical removals.

(i) The employer shall establish and maintain an accurate record for each employee removed from current exposure to lead pursuant to subsection (12) of this section.

(ii) Each record shall include:

(A) The name and social security number of the employee;

(B) The date on each occasion that the employee was removed from current exposure to lead as well as the corresponding date on which the employee was returned to his or her former job status;

(C) A brief explanation of how each removal was or is being accomplished; and

(D) A statement with respect to each removal indicating whether or not the reason for the removal was an elevated blood lead level.

(iii) The employer shall maintain each medical removal record for at least the duration of an employee's employment.

(d) Availability.

(i) The employer shall make available upon request all records required to be maintained by subsection (15) of this section to the director for examination and copying.

(ii) Environmental monitoring, medical removal, and medical records required by this subsection shall be provided upon request to employees, designated representatives, and the assistant director in accordance with WAC 296-62-05201 through 296-62-05209 and 296-62-05213 through 296-62-05217. Medical removal records shall be provided in the same manner as environmental monitoring records.

(iii) Upon request, the employer shall make an employee's medical records required to be maintained by this section available to the affected employee or former employee or to a physician or other individual designated by such affected employee or former employees for examination and copying.

(e) Transfer of records.

(i) Whenever the employer ceases to do business, the successor employer shall receive and retain all records required to be maintained by subsection (15) of this section.

(ii) Whenever the employer ceases to do business and there is no successor employer to receive and retain the records required to be maintained by this section for the prescribed period, these records shall be transmitted to the director.

(iii) At the expiration of the retention period for the records required to be maintained by this section, the employer shall notify the director at least three months prior to the disposal of such records and shall transmit those records to the director if requested within the period.

(iv) The employer shall also comply with any additional requirements involving transfer of records set forth in WAC 296-62-05215.

(16) Observation of monitoring.

(a) Employee observation. The employer shall provide affected employees or their designated representatives an opportunity to observe any monitoring of employee exposure to lead conducted pursuant to subsection (5) of this section.

(b) Observation procedures.

(i) Whenever observation of the monitoring of employee exposure to lead requires entry into an area where the use of respirators, protective clothing or equipment is required, the employer shall provide the observer with and assure the use of such respirators, clothing and such equipment, and shall



require the observer to comply with all other applicable safety and health procedures.

(ii) Without interfering with the monitoring, observers shall be entitled to:

(A) Receive an explanation of the measurement procedures;

(B) Observe all steps related to the monitoring of lead performed at the place of exposure; and

(C) Record the results obtained or receive copies of the results when returned by the laboratory.

(17) ~~(Effective date. The effective date of this standard is September 6, 1980.~~

(18) ~~Startup dates. All obligations of this standard commence on the effective date except as follows:~~

~~(a) The initial determination under subdivision (5)(b) shall be made as soon as possible but no later than thirty days from the effective date.~~

~~(b) Initial monitoring under subdivision (5)(d) shall be completed as soon as possible but no later than ninety days from the effective date.~~

~~(c) Initial biological monitoring and medical examinations under subsection (11) shall be completed as soon as possible but no later than one hundred eighty days from the effective date. Priority for biological monitoring and medical examinations shall be given to employees whom the employer believes to be at greatest risk from continued exposure.~~

~~(d) Initial training and education shall be completed as soon as possible but no later than one hundred eighty days from the effective date.~~

~~(e) Hygiene and lunchroom facilities under subsection (10) shall be in operation as soon as possible but no later than one year from the effective year.~~

~~(f) Respiratory protection required by subsection (7) shall be provided as soon as possible but no later than the following schedule:~~

~~(i) Employees whose eight-hour TWA exposure exceeds  $200 \mu\text{g}/\text{m}^3$  on the effective date.~~

~~(ii) Employees whose eight-hour TWA exposure exceeds the PEL but is less than  $200 \mu\text{g}/\text{m}^3$  one hundred fifty days from the effective date.~~

~~(iii) Powered, air-purifying respirators provided under (7)(b)(ii) two hundred ten days from the effective date.~~

~~(iv) Quantitative fit testing required under item (7)(c)(ii) one year from effective date. Qualitative fit testing is required in the interim.~~

~~(g) Written compliance plans required by subdivision (6)(e) shall be completed and available for inspection and copying as soon as possible but no later than the following schedule:~~

~~(i) Employers for whom compliance with the PEL or interim level is required within one year from the effective date six months from the effective date.~~

~~(ii) Employers in secondary lead smelting and refining and in lead storage battery manufacturing one year from the effective date.~~

~~(iii) Employers in primary smelting and refining industry one year from the effective date from the interim level; five years from the effective date for PEL.~~

~~(iv) Plans for construction of hygiene facilities, if required six months from the effective date.~~

~~(v) All other industries one year from the date on which the court lifts the stay on the implementation of paragraph (6)(a) for the particular industry.~~

~~(h) The permissible exposure limit in subsection (4) shall become effective one hundred fifty days from the effective date.~~

(19)) Appendices. The information contained in the appendices to this section is not intended by itself, to create any additional obligations not otherwise imposed by this standard nor detract from any existing obligation.

(a) Appendix A. Substance Data Sheet for Occupational Exposure to Lead.

(i) Substance identification.

(A) Substance. Pure lead (Pb) is a heavy metal at room temperature and pressure and is a basic chemical element. It can combine with various other substances to form numerous lead compounds.

(B) Compounds covered by the standard. The word "lead" when used in this standard means elemental lead, all inorganic lead compounds (except those which are not biologically available due to either solubility or specific chemical interaction), and a class of organic lead compounds called lead soaps. This standard does not apply to other organic lead compounds.

(C) Uses. Exposure to lead occurs in at least 120 different occupations, including primary and secondary lead smelting, lead storage battery manufacturing, lead pigment manufacturing and use, solder manufacturing and use, shipbuilding and ship repairing, auto manufacturing, and printing.

(D) Permissible exposure. The Permissible Exposure Limit (PEL) set by the standard is 50 micrograms of lead per cubic meter of air ( $50 \mu\text{g}/\text{m}^3$ ), averaged over an eight-hour work day.

(E) Action level. The standard establishes an action level of 30 micrograms per cubic meter of air ( $30 \mu\text{g}/\text{m}^3$ ) time weighted average, based on an eight-hour work day. The action level initiates several requirements of the standard, such as exposure monitoring, medical surveillance, and training and education.

(ii) Health hazard data.

(A) Ways in which lead enters your body.

(I) When absorbed into your body in certain doses lead is a toxic substance. The object of the lead standard is to prevent absorption of harmful quantities of lead. The standard is intended to protect you not only from the immediate toxic effects of lead, but also from the serious toxic effects that may not become apparent until years of exposure have passed.

(II) Lead can be absorbed into your body by inhalation (breathing) and ingestion (eating). Lead (except for certain organic lead compounds not covered by the standard, such as tetraethyl lead) is not absorbed through your skin. When lead is scattered in the air as a dust, fume or mist, it can be inhaled and absorbed through your lungs and upper respiratory tract. Inhalation of airborne lead is generally the most important source of occupational lead absorption. You can also absorb lead through your digestive system if lead gets into your

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mouth and is swallowed. If you handle food, cigarettes, chewing tobacco, or make-up which have lead on them or handle them with hands contaminated with lead, this will contribute to ingestion.

(III) A significant portion of the lead that you inhale or ingest gets into your blood stream. Once in your blood stream lead is circulated throughout your body and stored in various organs and body tissues. Some of this lead is quickly filtered out of your body and excreted, but some remains in your blood and other tissue. As exposure to lead continues, the amount stored in your body will increase if you are absorbing more lead than your body is excreting. Even though you may not be aware of any immediate symptoms of disease, this lead stored in your tissues can be slowly causing irreversible damage, first to individual cells, then to your organs and whole body systems.

(B) Effects of overexposure to lead.

(I) Short-term (acute) overexposure. Lead is a potent, systemic poison that serves no known useful function once absorbed by your body. Taken in large enough doses, lead can kill you in a matter of days. A condition affecting the brain called acute encephalopathy may arise which develops quickly to seizures, coma, and death from cardiorespiratory arrest. A short-term dose of lead can lead to acute encephalopathy. Short-term occupational exposures of this magnitude are highly unusual, but not impossible. Similar forms of encephalopathy may, however arise from extended, chronic exposure to lower doses of lead. There is no sharp dividing line between rapidly developing acute effects of lead, and chronic effects which take longer to acquire. Lead adversely affects numerous body systems, and causes forms of health impairment and disease which arise after periods of exposure as short as days or as long as several years.

(II) Long-term (chronic) overexposure.

a) Chronic overexposure to lead may result in severe damage to your blood-forming, nervous, urinary and reproductive systems. Some common symptoms of chronic overexposure include loss of appetite, metallic taste in the mouth, anxiety, constipation, nausea, pallor, excessive tiredness, weakness, insomnia, headache, nervous irritability, muscle and joint pain or soreness, fine tremors, numbness, dizziness, hyperactivity and colic. In lead colic there may be severe abdominal pain.

b) Damage to the central nervous system in general and the brain (encephalopathy) in particular is one of the most severe forms of lead poisoning. The most severe, often fatal, form of encephalopathy may be preceded by vomiting, a feeling of dullness progressing to drowsiness and stupor, poor memory, restlessness, irritability, tremor, and convulsions. It may arise suddenly with the onset of seizures, followed by coma, and death. There is a tendency for muscular weakness to develop at the same time. This weakness may progress to paralysis often observed as a characteristic "wrist drop" or "foot drop" and is a manifestation of a disease to the nervous system called peripheral neuropathy.

c) Chronic overexposure to lead also results in kidney disease with few, if any, symptoms appearing until extensive and most likely permanent kidney damage has occurred. Routine laboratory tests reveal the presence of this kidney disease only after about two-thirds of kidney function is lost.

When overt symptoms of urinary dysfunction arise, it is often too late to correct or prevent worsening conditions, and progression of kidney dialysis or death is possible.

d) Chronic overexposure to lead impairs the reproductive systems of both men and women. Overexposure to lead may result in decreased sex drive, impotence and sterility in men. Lead can alter the structure of sperm cells raising the risk of birth defects. There is evidence of miscarriage and stillbirth in women whose husbands were exposed to lead or who were exposed to lead themselves. Lead exposure also may result in decreased fertility, and abnormal menstrual cycles in women. The course of pregnancy may be adversely affected by exposure to lead since lead crosses the placental barrier and poses risks to developing fetuses. Children born of parents either one of whom were exposed to excess lead levels are more likely to have birth defects, mental retardation, behavioral disorders or die during the first year of childhood.

e) Overexposure to lead also disrupts the blood-forming system resulting in decreased hemoglobin (the substance in the blood that carries oxygen to the cells) and ultimately anemia. Anemia is characterized by weakness, pallor and fatigability as a result of decreased oxygen carrying capacity in the blood.

(III) Health protection goals of the standard.

a) Prevention of adverse health effects for most workers from exposure to lead throughout a working lifetime requires that worker blood lead (PbB) levels be maintained at or below forty micrograms per one hundred grams of whole blood (40  $\mu\text{g}/100\text{g}$ ). The blood lead levels of workers (both male and female workers) who intend to have children should be maintained below 30  $\mu\text{g}/100\text{g}$  to minimize adverse reproductive health effects to the parents and to the developing fetus.

b) The measurement of your blood lead level is the most useful indicator of the amount of lead absorbed by your body. Blood lead levels (PbB) are most often reported in units of milligrams (mg) or micrograms ( $\mu\text{g}$ ) of lead (1 mg=1000  $\mu\text{g}$ ) per 100 grams (100g), 100 milliliters (100 ml) or deciliter (dl) of blood. These three units are essentially the same. Sometimes PbB's are expressed in the form of mg% or  $\mu\text{g}\%$ . This is a shorthand notation for 100g, 100ml, or dl.

c) PbB measurements show the amount of lead circulating in your blood stream, but do not give any information about the amount of lead stored in your various tissues. PbB measurements merely show current absorption of lead, not the effect that lead is having on your body or the effects that past lead exposure may have already caused. Past research into lead-related diseases, however, has focused heavily on associations between PbBs and various diseases. As a result, your PbB is an important indicator of the likelihood that you will gradually acquire a lead-related health impairment or disease.

d) Once your blood lead level climbs above 40  $\mu\text{g}/100\text{g}$ , your risk of disease increases. There is a wide variability of individual response to lead, thus it is difficult to say that a particular PbB in a given person will cause a particular effect. Studies have associated fatal encephalopathy with PbBs as low as 150  $\mu\text{g}/100\text{g}$ . Other studies have shown other forms of

disease in some workers with PbBs well below 80  $\mu\text{g}/100\text{g}$ . Your PbB is a crucial indicator of the risks to your health, but one other factor is extremely important. This factor is the length of time you have had elevated PbBs. The longer you have an elevated PbB, the greater the risk that large quantities of lead are being gradually stored in your organs and tissues (body burden). The greater your overall body burden, the greater the chances of substantial permanent damage.

e) The best way to prevent all forms of lead-related impairments and diseases—both short-term and long-term—is to maintain your PbB below 40  $\mu\text{g}/100\text{g}$ . The provisions of the standard are designed with this end in mind. Your employer has prime responsibility to assure that the provisions of the standard are complied with both by the company and by individual workers. You as a worker, however, also have a responsibility to assist your employer in complying with the standard. You can play a key role in protecting your own health by learning about the lead hazards and their control, learning what the standard requires, following the standard where it governs your own action, and seeing that your employer complies with the provisions governing his actions.

(IV) Reporting signs and symptoms of health problems. You should immediately notify your employer if you develop signs or symptoms associated with lead poisoning or if you desire medical advice concerning the effects of current or past exposure to lead on your ability to have a healthy child. You should also notify your employer if you have difficulty breathing during a respirator fit test or while wearing a respirator. In each of these cases your employer must make available to you appropriate medical examinations or consultations. These must be provided at no cost to you and at a reasonable time and place.

(b) Appendix B. Employee Standard Summary. This appendix summarizes key provisions of the standard that you as a worker should become familiar with. The appendix discusses the entire standard.

(i) Permissible exposure limit (PEL). The standard sets a permissible exposure limit (PEL) of fifty micrograms of lead per cubic meter of air (50  $\mu\text{g}/\text{m}^3$ ), averaged over an eight-hour workday. This is the highest level of lead in air to which you may be permissibly exposed over an eight-hour workday. Since it is an eight-hour average it permits short exposures above the PEL so long as for each eight-hour workday your average exposure does not exceed the PEL.

(ii) Exposure monitoring.

(A) If lead is present in the work place where you work in any quantity, your employer is required to make an initial determination of whether the action level is exceeded for any employee. The initial determination must include instrument monitoring of the air for the presence of lead and must cover the exposure of a representative number of employees who are reasonably believed to have the highest exposure levels. If your employer has conducted appropriate air sampling for lead in the past year he may use these results. If there have been any employee complaints of symptoms which may be attributable to exposure to lead or if there is any other information or observations which would indicate employee exposure to lead, this must also be considered as part of the initial determination. If this initial determination shows that a rea-

sonable possibility exists that any employee may be exposed, without regard to respirators, over the action level (30  $\mu\text{g}/\text{m}^3$ ) your employer must set up an air monitoring program to determine the exposure level of every employee exposed to lead at your work place.

(B) In carrying out this air monitoring program, your employer is not required to monitor the exposure of every employee, but he or she must monitor a representative number of employees and job types. Enough sampling must be done to enable each employee's exposure level to be reasonably represented by at least one full shift (at least seven hours) air sample. In addition, these air samples must be taken under conditions which represent each employee's regular, daily exposure to lead.

(C) If you are exposed to lead and air sampling is performed, your employer is required to quickly notify you in writing of air monitoring results which represent your exposure. If the results indicate your exposure exceeds the PEL (without regard to your use of respirators), then your employer must also notify you of this in writing, and provide you with a description of the corrective action that will be taken to reduce your exposure.

(D) Your exposure must be rechecked by monitoring every six months if your exposure is over the action level but below the PEL. Air monitoring must be repeated every three months if you are exposed over the PEL. Your employer may discontinue monitoring for you if two consecutive measurements, taken at least two weeks apart, are below the action level. However, whenever there is a production, process, control, or personnel change at your work place which may result in new or additional exposure to lead, or whenever there is any other reason to suspect a change which may result in new or additional exposure to lead, your employer must perform additional monitoring.

(iii) Methods of compliance. Your employer is required to assure that no employee is exposed to lead in excess of the PEL. The standard establishes a priority of methods to be used to meet the PEL.

(iv) Respiratory protection.

(A) Your employer is required to provide and assure your use of respirators when your exposure to lead is not controlled below the PEL by other means. The employer must pay the cost of the respirator. Whenever you request one, your employer is also required to provide you a respirator even if your air exposure level does not exceed the PEL. You might desire a respirator when, for example, you have received medical advice that your lead absorption should be decreased. Or, you may intend to have children in the near future, and want to reduce the level of lead in your body to minimize adverse reproductive effects. While respirators are the least satisfactory means of controlling your exposure, they are capable of providing significant protection if properly chosen, fitted, worn, cleaned, maintained, and replaced when they stop providing adequate protection.

(B) Your employer is required to select respirators from the seven types listed in Table II of the respiratory protection section of ~~((chapter 296-62 WAC))~~ this standard (see subsection (7)(c) of this section). Any respirator chosen must be ~~((approved by the Mine Safety and Health Administration~~

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(MSHA) or) certified by the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 42 CFR part 84. This respirator selection table will enable your employer to choose a type of respirator which will give you a proper amount of protection based on your airborne lead exposure. Your employer may select a type of respirator that provides greater protection than that required by the standard; that is, one recommended for a higher concentration of lead than is present in your work place. For example, a powered air purifying respirator (PAPR) is much more protective than a typical negative-pressure respirator, and may also be more comfortable to wear. A PAPR has a filter, cartridge or canister to clean the air, and a power source which continuously blows filtered air into your breathing zone. Your employer might make a PAPR available to you to ease the burden of having to wear a respirator for long periods of time. The standard provides that you can obtain a PAPR upon request.

(C) Your employer must also start a respiratory protection program. This program must include written procedures for the proper selection, use, cleaning, storage, and maintenance of respirators.

(D) Your employer must assure that your respirator facepiece fits properly. Proper fit of a respirator facepiece is critical to your protection against air borne lead. Obtaining a proper fit on each employee may require your employer to make available ~~((two or three different mask))~~ several different types of respirator masks. ~~((Any respirator which has a filter, cartridge or canister which cleans the work room air before you breathe it and which requires the force of your inhalation to draw air through the filtering element is a negative pressure respirator. A positive pressure respirator supplies air to you directly. A quantitative fit test uses a sophisticated machine to measure the amount, if any, of test material that leaks into the facepiece of your respirator. Appendix D describes "qualitative" procedures which are acceptable under certain conditions.))~~ To ensure that your respirator fits properly and that facepiece leakage is minimal, your employer must give you either a qualitative or quantitative fit test as required in chapter 296-62 WAC, Part E.

(E) You must also receive from your employer proper training in the use of respirators. Your employer is required to teach you how to wear a respirator, to know why it is needed, and to understand its limitations.

(F) The standard provides that if your respirator uses filter elements, you must be given an opportunity to change the filter elements whenever an increase in breathing resistance is detected. You also must be permitted to periodically leave your work area to wash your face and respirator facepiece whenever necessary to prevent skin irritation. If you ever have difficulty breathing during a fit test or while using a respirator, your employer must make a medical examination available to you to determine whether you can safely wear a respirator. The result of this examination may be to give you a positive pressure respirator (which reduces breathing resistance) or to provide alternative means of protection.

(v) Protective work clothing and equipment. If you are exposed to lead above the PEL, or if you are exposed to lead compounds such as lead arsenate or lead azide which can cause skin and eye irritation, your employer must provide you with protective work clothing and equipment appropriate

for the hazard. If work clothing is provided, it must be provided in a clean and dry condition at least weekly, and daily if your airborne exposure to lead is greater than 200  $\mu\text{g}/\text{m}^3$ . Appropriate protective work clothing and equipment can include coveralls or similar full-body work clothing, gloves, hats, shoes or disposable shoe coverlets, and face shields or vented goggles. Your employer is required to provide all such equipment at no cost to you. He or she is responsible for providing repairs and replacement as necessary and also is responsible for the cleaning, laundering or disposal of protective clothing and equipment. Contaminated work clothing or equipment must be removed in change rooms and not worn home or you will extend your exposure and expose your family since lead from your clothing can accumulate in your house, car, etc. Contaminated clothing which is to be cleaned, laundered or disposed of must be placed in closed containers in the change room. At no time may lead be removed from protective clothing or equipment by any means which disperses lead into the work room air.

(vi) Housekeeping. Your employer must establish a housekeeping program sufficient to maintain all surfaces as free as practicable of accumulations of lead dust. Vacuuming is the preferred method of meeting this requirement, and the use of compressed air to clean floors and other surfaces is absolutely prohibited. Dry or wet sweeping, shoveling, or brushing may not be used except where vacuuming or other equally effective methods have been tried and do not work. Vacuums must be used and emptied in a manner which minimizes the reentry of lead into the work place.

(vii) Hygiene facilities and practices.

(A) The standard requires that change rooms, showers and filtered air lunchrooms be constructed and made available to workers exposed to lead above the PEL. When the PEL is exceeded, the employer must assure that food and beverage is not present or consumed, tobacco products are not present or used, and cosmetics are not applied, except in these facilities. Change rooms, showers and lunchrooms, must be used by workers exposed in excess of the PEL. After showering, no clothing or equipment worn during the shift may be worn home and this includes shoes and underwear. Your own clothing worn during the shift should be carried home and cleaned carefully so that it does not contaminate your home. Lunchrooms may not be entered with protective clothing or equipment unless surface dust has been removed by vacuuming, downdraft booth or other cleaning methods. Finally, workers exposed above the PEL must wash both their hands and faces prior to eating, drinking, smoking or applying cosmetics.

(B) All of the facilities and hygiene practices just discussed are essential to minimize additional sources of lead absorption from inhalation or ingestion of lead that may accumulate on you, your clothes or your possessions. Strict compliance with these provisions can virtually eliminate several sources of lead exposure which significantly contribute to excessive lead absorption.

(viii) Medical surveillance.

(A) The medical surveillance program is part of the standard's comprehensive approach to the prevention of lead-related disease. Its purpose is to supplement the main thrust

of the standard which is aimed at minimizing airborne concentrations of lead and sources of ingestion. Only medical surveillance can determine if the other provisions of the standard have effectively protected you as an individual. Compliance with the standard's provision will protect most workers from the adverse effects of lead exposure, but may not be satisfactory to protect individual workers (I) who have high body burdens of lead acquired over past years, (II) who have additional uncontrolled sources of nonoccupational lead exposure, (III) who exhibit unusual variations in lead absorption rates, or (IV) who have specific nonwork related medical conditions which could be aggravated by lead exposure (e.g., renal disease, anemia). In addition, control systems may fail, or hygiene and respirator programs may be inadequate. Periodic medical surveillance of individual workers will help detect those failures. Medical surveillance will also be important to protect your reproductive ability - regardless of whether you are a man or a woman.

(B) All medical surveillance required by the standard must be performed by or under the supervision of a licensed physician. The employer must provide required medical surveillance without cost to employees and at a reasonable time and place. The standard's medical surveillance program has two parts - periodic biological monitoring, and medical examinations.

(C) Your employer's obligation to offer medical surveillance is triggered by the results of the air monitoring program. Medical surveillance must be made available to all employees who are exposed in excess of the action level for more than 30 days a year. The initial phase of the medical surveillance program, which included blood lead level tests and medical examinations, must be completed for all covered employees no later than 180 days from the effective date of this standard. Priority within this first round of medical surveillance must be given to employees whom the employer believes to be at greatest risk from continued exposure (for example, those with the longest prior exposure to lead, or those with the highest current exposure). Thereafter, the employer must periodically make medical surveillance - both biological monitoring and medical examinations - available to all covered employees.

(D) Biological monitoring under the standard consists of blood lead level (PbB) and zinc protoporphyrin tests at least every six months after the initial PbB test. A zinc protoporphyrin (ZPP) test is a very useful blood test which measures an effect of lead on your body. If a worker's PbB exceeds 40  $\mu\text{g}/100\text{g}$ , the monitoring frequency must be increased from every six months to at least every two months and not reduced until two consecutive PbBs indicate a blood lead level below 40  $\mu\text{g}/100\text{g}$ . Each time your PbB is determined to be over 40  $\mu\text{g}/100\text{g}$ , your employer must notify you of this in writing within five working days of the receipt of the test results. The employer must also inform you that the standard requires temporary medical removal with economic protection when your PbB exceeds certain criteria (see Discussion of Medical Removal Protection - subsection (12)). During the first year of the standard, this removal criterion is 80  $\mu\text{g}/100\text{g}$ . Anytime your PbB exceeds 80  $\mu\text{g}/100\text{g}$  your employer must make available to you a prompt follow-up

PbB test to ascertain your PbB. If the two tests both exceed 80  $\mu\text{g}/100\text{g}$  and you are temporarily removed, then your employer must make successive PbB tests available to you on a monthly basis during the period of your removal.

(E) Medical examinations beyond the initial one must be made available on an annual basis if your blood lead levels exceeds 40  $\mu\text{g}/100\text{g}$  at any time during the preceding year. The initial examination will provide information to establish a baseline to which subsequent data can be compared. An initial medical examination must also be made available (prior to assignment) for each employee being assigned for the first time to an area where the airborne concentration of lead equals or exceeds the action level. In addition, a medical examination or consultation must be made available as soon as possible if you notify your employer that you are experiencing signs or symptoms commonly associated with lead poisoning or that you have difficulty breathing while wearing a respirator or during a respirator fit test. You must also be provided a medical examination or consultation if you notify your employer that you desire medical advice concerning the effects of current or past exposure to lead on your ability to procreate a healthy child.

(F) Finally, appropriate follow-up medical examinations or consultations may also be provided for employees who have been temporarily removed from exposure under the medical removal protection provisions of the standard (see item (ix) below).

(G) The standard specifies the minimum content of pre-assignment and annual medical examinations. The content of other types of medical examinations and consultations is left up to the sound discretion of the examining physician. Pre-assignment and annual medical examinations must include (I) a detailed work history and medical history, (II) a thorough physical examination, and (III) a series of laboratory tests designed to check your blood chemistry and your kidney function. In addition, at any time upon your request, a laboratory evaluation of male fertility will be made (microscopic examination of a sperm sample), or a pregnancy test will be given.

(H) The standard does not require that you participate in any of the medical procedures, tests, etc., which your employer is required to make available to you. Medical surveillance can, however, play a very important role in protecting your health. You are strongly encouraged, therefore, to participate in a meaningful fashion. Generally, your employer will choose the physician who conducts medical surveillance under the lead standard - unless you and your employer can agree on the choice of a physician or physicians. Some companies and unions have agreed in advance, for example, to use certain independent medical laboratories or panels of physicians. Any of these arrangements are acceptable so long as required medical surveillance is made available to workers.

(I) The standard requires your employer to provide certain information to a physician to aid in his or her examination of you. This information includes (I) the standard and its appendices, (II) a description of your duties as they relate to lead exposure, (III) your exposure level, (IV) a description of personal protective equipment you wear, (V) prior blood

level results, and (VI) prior written medical opinions concerning you that the employer has. After a medical examination or consultation the physician must prepare a written report which must contain (I) the physician's opinion as to whether you have any medical conditions which places you at increased risk of material impairment to health from exposure to lead, (II) any recommended special protective measures to be provided to you, (III) any blood lead level determinations, and (IV) any recommended limitation on your use of respirators. This last element must include a determination of whether you can wear a powered air purifying respirator (PAPR) if you are found unable to wear a negative pressure respirator.

(J) The medical surveillance program of the lead standard may at some point in time serve to notify certain workers that they have acquired a disease or other adverse medical condition as a result of occupational lead exposure. If this is true these workers might have legal rights to compensation from public agencies, their employers, firms that supply hazardous products to their employers, or other persons. Some states have laws, including worker compensation laws, that disallow a worker to learn of a job-related health impairment to sue, unless the worker sues within a short period of time after learning of the impairment. (This period of time may be a matter of months or years.) An attorney can be consulted about these possibilities. It should be stressed that WISHA is in no way trying to either encourage or discourage claims or lawsuits. However, since results of the standard's medical surveillance program can significantly affect the legal remedies of a worker who has acquired a job-related disease or impairment, it is proper for WISHA to make you aware of this.

(K) The medical surveillance section of the standard also contains provisions dealing with chelation. Chelation is the use of certain drugs (administered in pill form or injected into the body) to reduce the amount of lead absorbed in body tissues. Experience accumulated by the medical and scientific communities has largely confirmed the effectiveness of this type of therapy for the treatment of very severe lead poisoning. On the other hand it has also been established that there can be a long list of extremely harmful side effects associated with the use of chelating agents. The medical community has balanced the advantages and disadvantages resulting from the use of chelating agents in various circumstances and has established when the use of these agents is acceptable. The standard includes these accepted limitations due to a history of abuse of chelation therapy by some lead companies. The most widely used chelating agents are calcium disodium EDTA, (Ca Na<sub>2</sub>EDTA), Calcium Disodium Versenate (Versenate), and d-penicillamine (penicillamine or Cupramine).

(L) The standard prohibits "prophylactic chelation" of any employee by any person the employer retains, supervises or controls. "Prophylactic chelation" is the routine use of chelating or similarly acting drugs to prevent elevated blood levels in workers who are occupationally exposed to lead, or the use of these drugs to routinely lower blood lead levels to predesignated concentrations believed to be safe. It should be emphasized that where an employer takes a worker who has no symptoms of lead poisoning and has chelation carried out

by a physician (either inside or outside of a hospital) solely to reduce the worker's blood lead level, that will generally be considered prophylactic chelation. The use of a hospital and a physician does not mean that prophylactic chelation is not being performed. Routine chelation to prevent increased or reduce current blood lead levels is unacceptable whatever the setting.

(M) The standard allows the use of "therapeutic" or "diagnostic" chelation if administered under the supervision of a licensed physician in a clinical setting with thorough and appropriate medical monitoring. Therapeutic chelation responds to severe lead poisoning where there are marked symptoms. Diagnostic chelation, involves giving a patient a dose of the drug then collecting all urine excreted for some period of time as an aid to the diagnosis of lead poisoning.

(N) In cases where the examining physician determines that chelation is appropriate, you must be notified in writing of this fact before such treatment. This will inform you of a potentially harmful treatment, and allow you to obtain a second opinion.

(ix) Medical removal protection.

(A) Excessive lead absorption subjects you to increased risk of disease. Medical removal protection (MRP) is a means of protecting you when for whatever reasons, other methods, such as engineering controls, work practices, and respirators, have failed to provide the protection you need. MRP involves the temporary removal of a worker from his or her regular job to a place of significantly lower exposure without any loss of earnings, seniority, or other employment rights or benefits. The purpose of this program is to cease further lead absorption and allow your body to naturally excrete lead which has previously been absorbed. Temporary medical removal can result from an elevated blood lead level, or a medical opinion. Up to eighteen months of protection is provided as a result of either form of removal. The vast majority of removed workers, however, will return to their former jobs long before this eighteen month period expires. The standard contains special provisions to deal with the extraordinary but possible case where a long-term worker's blood lead level does not adequately decline during eighteen months of removal.

(B) During the first year of the standard, if your blood lead level is 80 µg/100g or above you must be removed from any exposure where your air lead level without a respirator would be 100 µg/m<sup>3</sup> or above. If you are removed from your normal job you may not be returned until your blood lead level declines to at least 60 µg/100g. These criteria for removal and return will change according to the following schedule:

TABLE 1

Effective Date	Removal Blood Level (µg/100g)	Air Lead (µg/m <sup>3</sup> )	Return Blood Lead (µg/100g)
9/6/81	At or above 70	50 or above	At or below 50
9/6/82	At or above 60	30 or above	At or below 40
9/6/84	At or above 50 averaged over six months	30 or above	At or below 40

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(C) You may also be removed from exposure even if your blood lead levels are below these criteria if a final medical determination indicates that you temporarily need reduced lead exposure for medical reasons. If the physician who is implementing your employer's medical program makes a final written opinion recommending your removal or other special protective measures, your employer must implement the physician's recommendation. If you are removed in this manner, you may only be returned when the physician indicates it is safe for you to do so.

(D) The standard does not give specific instructions dealing with what an employer must do with a removed worker. Your job assignment upon removal is a matter for you, your employer and your union (if any) to work out consistent with existing procedures for job assignments. Each removal must be accomplished in a manner consistent with existing collective bargaining relationships. Your employer is given broad discretion to implement temporary removals so long as no attempt is made to override existing agreements. Similarly, a removed worker is provided no right to veto an employer's choice which satisfies the standard.

(E) In most cases, employers will likely transfer removed employees to other jobs with sufficiently low lead exposure. Alternatively, a worker's hours may be reduced so that the time weighted average exposure is reduced, or he or she may be temporarily laid off if no other alternative is feasible.

(F) In all of these situations, MRP benefits must be provided during the period of removal - i.e., you continue to receive the same earnings, seniority, and other rights and benefits you would have had if you had not been removed. Earnings include more than just your base wage; it includes overtime, shift differentials, incentives, and other compensation you would have earned if you had not been removed. During the period of removal you must also be provided with appropriate follow-up medical surveillance. If you were removed because your blood lead level was too high, you must be provided with a monthly blood test. If a medical opinion caused your removal, you must be provided medical tests or examinations that the physician believes to be appropriate. If you do not participate in this follow-up medical surveillance, you may lose your eligibility for MRP benefits.

(G) When you are medically eligible to return to your former job, your employer must return you to your "former job status." This means that you are entitled to the position, wages, benefits, etc., you would have had if you had not been removed. If you would still be in your old job if no removal had occurred, that is where you go back. If not, you are returned consistent with whatever job assignment discretion your employer would have had if no removal had occurred. MRP only seeks to maintain your rights, not expand them or diminish them.

(H) If you are removed under MRP and you are also eligible for worker compensation or other compensation for lost wages, your employer's MRP benefits obligation is reduced by the amount that you actually receive from these other sources. This is also true if you obtain other employment during the time you are laid off with MRP benefits.

(I) The standard also covers situations where an employer voluntarily removes a worker from exposure to

lead due to the effects of lead on the employee's medical condition, even though the standard does not require removal. In these situations MRP benefits must still be provided as though the standard required removal. Finally, it is important to note that in all cases where removal is required, respirators cannot be used as a substitute. Respirators may be used before removal becomes necessary, but not as an alternative to a transfer to a low exposure job, or to a lay-off with MRP benefits.

(x) Employee information and training.

(A) Your employer is required to provide an information and training program for all employees exposed to lead above the action level or who may suffer skin or eye irritation from lead. This program must inform these employees of the specific hazards associated with their work environment, protective measures which can be taken, the danger of lead to their bodies (including their reproductive systems), and their rights under the standard. In addition, your employer must make readily available to all employees, including those exposed below the action level, a copy of the standard and its appendices and must distribute to all employees any materials provided to the employer under the Washington Industrial Safety and Health Act (WISHA).

(B) Your employer is required to complete this training for all employees by March 4, 1981. After this date, all new employees must be trained prior to initial assignment to areas where there is possibility of exposure over the action level. This training program must also be provided at least annually thereafter.

(xi) Signs. The standard requires that the following warning sign be posted in work areas where the exposure to lead exceeds the PEL:

WARNING  
LEAD WORK AREA  
NO SMOKING OR EATING

(xii) Recordkeeping.

(A) Your employer is required to keep all records of exposure monitoring for airborne lead. These records must include the name and job classification of employees measured, details of the sampling and analytic techniques, the results of this sampling and the type of respiratory protection being worn by the person sampled. Your employer is also required to keep all records of biological monitoring and medical examination results. These must include the names of the employees, the physician's written opinion and a copy of the results of the examination. All of the above kinds of records must be kept for 40 years, or for at least 20 years after your termination of employment, whichever is longer.

(B) Recordkeeping is also required if you are temporarily removed from your job under the MRP program. This record must include your name and social security number, the date of your removal and return, how the removal was or is being accomplished, and whether or not the reason for the removal was an elevated blood lead level. Your employer is required to keep each medical removal record only for as long as the duration of an employee's employment.

(C) The standard requires that if you request to see or copy environmental monitoring, blood lead level monitoring, or medical removal records, they must be made available to

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you or to a representative that you authorize. Your union also has access to these records. Medical records other than PbBs must also be provided to you upon request, to your physician or to any other person whom you may specifically designate. Your union does not have access to your personal medical records unless you authorize their access.

(xiii) Observations of monitoring. When air monitoring for lead is performed at your work place as required by this standard, your employer must allow you or someone you designate to act as an observer of the monitoring. Observers are entitled to an explanation of the measurement procedure, and to record the results obtained. Since results will not normally be available at the time of the monitoring, observers are entitled to record or receive the results of the monitoring when returned by the laboratory. Your employer is required to provide the observer with any personal protective devices required to be worn by employees working in the areas that is being monitored. The employer must require the observer to wear all such equipment and to comply with all other applicable safety and health procedures.

(xiv) Effective date. The standard's effective date is September 6, 1980, and the employer's obligation under the standard begin to come into effect as of that date. The standard was originally adopted as WAC 296-62-07349 and later recodified to WAC 296-62-07521.

(c) Appendix C. Medical Surveillance Guidelines.

(i) Introduction.

(A) The primary purpose of the Washington Industrial Safety and Health Act of 1973 is to assure, so far as possible, safe and healthful working conditions for every working man and woman. The occupational health standard for inorganic lead\* was promulgated to protect workers exposed to inorganic lead including metallic lead, all inorganic lead compounds and organic lead soaps.

\*The term inorganic lead used throughout the medical surveillance appendices is meant to be synonymous with the definition of lead set forth in the standard.

(B) Under this final standard in effect as of September 6, 1980, occupational exposure to inorganic lead is to be limited to 50 µg/m<sup>3</sup> (micrograms per cubic meter) based on an eight-hour time-weighted average (TWA). This level of exposure eventually must be achieved through a combination of engineering, work practice and other administrative controls. Periods of time ranging from one to ten years are provided for different industries to implement these controls which are based on individual industry considerations. Until these controls are in place, respirators must be used to meet the 50 µg/m<sup>3</sup> exposure limit.

(C) The standard also provides for a program of biological monitoring and medical surveillance for all employees exposed to levels of inorganic lead above the action level of 30 µg/m<sup>3</sup> for more than thirty days per year.

(D) The purpose of this document is to outline the medical surveillance provisions of the standard for inorganic lead, and to provide further information to the physician regarding the examination and evaluation of workers exposed to inorganic lead.

(E) Item (ii) provides a detailed description of the monitoring procedure including the required frequency of blood

testing for exposed workers, provisions for medical removal protection (MRP), the recommended right of the employee to a second medical opinion, and notification and recordkeeping requirements of the employer. A discussion of the requirements for respirator use and respirator monitoring and WISHA's position on prophylactic chelation therapy are also included in this section.

(F) Item (iii) discusses the toxic effects and clinical manifestations of lead poisoning and effects of lead intoxication on enzymatic pathways in heme synthesis. The adverse effects on both male and female reproductive capacity and on the fetus are also discussed.

(G) Item (iv) outlines the recommended medical evaluation of the worker exposed to inorganic lead including details of the medical history, physical examination, and recommended laboratory tests, which are based on the toxic effects of lead as discussed in item (ii).

(H) Item (v) provides detailed information concerning the laboratory tests available for the monitoring of exposed workers. Included also is a discussion of the relative value of each test and the limitations and precautions which are necessary in the interpretation of the laboratory results.

(I) Airborne levels to be achieved without reliance or respirator protection through a combination of engineering and work practice or other administrative controls are illustrated in the following table:

Industry	Permissible Lead Level/Compliance Date		
	200µg/m <sup>3</sup>	100µg/m <sup>3</sup>	50µg/m <sup>3</sup>
Primary Lead Production	1973	06/29/84	06/29/91
Secondary Lead Production			
	1973	06/29/84	06/29/91
Lead Acid Battery Manufacturing			
	1973	06/29/83	06/29/91
Automobile Mfg./Solder, Grinding			
	1973	N/A	03/08/97
Electronics, Gray Iron Foundries, Ink Mfg., Paints and Coatings Mfg., Can Mfg., Wallpaper Mfg., and Printing.			
	1973	N/A	06/29/91
Lead Chemical Mfg., Non-ferrous Foundries, Leaded Steel Mfg., Battery Breaking in the Collection and Processing of Scrap (when not a part of secondary lead smelter) Secondary Copper Smelter, Brass and Bronze Ingot Production.			
	1973	N/A	N/A <sup>1</sup> *
All Other Industries			
	1973	N/A	09/08/92

\* Feasibility of achieving the PEL by engineering and work practice controls for these industries has yet to be resolved in court, therefore no date has been scheduled.

(ii) Medical surveillance and monitoring requirements for workers exposed to inorganic lead.

(A) Under the occupational health standard for inorganic lead, a program of biological monitoring and medical surveillance is to be made available to all employees exposed to lead above the action level of 30 µg/m<sup>3</sup> TWA for more than thirty

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days each year. This program consists of periodic blood sampling and medical evaluation to be performed on a schedule which is defined by previous laboratory results, worker complaints or concerns, and the clinical assessment of the examining physician.

(B) Under this program, the blood lead level of all employees who are exposed to lead above the action level of 30 µg/m<sup>3</sup> is to be determined at least every six months. The frequency is increased to every two months for employees whose last blood lead level was between 40µg/100g whole blood and the level requiring employee medical removal to be discussed below. For employees who are removed from exposure to lead due to an elevated blood lead, a new blood lead level must be measured monthly. Zinc protoporphyrin (ZPP) measurement is required on each occasion that a blood lead level measurement is made.

(C) An annual medical examination and consultation performed under the guidelines discussed in item (iv) is to be made available to each employee for whom a blood test conducted at any time during the preceding twelve months indicated a blood lead level at or above 40µg/100g. Also, an examination is to be given to all employees prior to their assignment to an area in which airborne lead concentrations reach or exceed the action level. In addition, a medical exam-

ination must be provided as soon as possible after notification by an employee that the employee has developed signs or symptoms commonly associated with lead intoxication, that the employee desires medical advice regarding lead exposure and the ability to procreate a healthy child, or that the employee has demonstrated difficulty in breathing during a respirator fitting test or during respirator use. An examination is also to be made available to each employee removed from exposure to lead due to a risk of sustaining material impairment to health, or otherwise limited or specially protected pursuant to medical recommendations.

(D) Results of biological monitoring or the recommendations of an examining physician may necessitate removal of an employee from further lead exposure pursuant to the standard's medical removal program (MRP). The object of the MRP program is to provide temporary medical removals to workers either with substantially elevated blood lead levels or otherwise at risk of sustaining material health impairment from continued substantial exposure to lead. The following guidelines which are summarized in Table 10 were created under the standard for the temporary removal of an exposed employee and his or her subsequent return to work in an exposure area.

TABLE 10

		EFFECTIVE DATE				
		Sept. 6, 1980	Sept. 6, 1981	Sept. 6, 1982	Sept. 6, 1983	Sept. 6, 1984
A.	Blood lead level requiring employee medical removal (level must be confirmed with second follow-up blood lead level within two weeks of first report).	>80 µg/100g.	>70 µg/100g.	>60 µg/100g.	>60 µg/100g.	>60 µg/100g or average of last three blood samples or all blood samples over previous 6 months (whichever is over a longer time period) is 50 µg/100g. or greater unless last sample is 40 µg/100g or less.
B.	Frequency which employees exposed is action level of lead (30 µg/m <sup>3</sup> TWA) must have blood lead level checked. (ZPP is also required in each occasion that a blood test is obtained):					
1.	Last blood lead level less than 40 µg/100g . . . . .	Every 6 months.	Every 6 months.	Every 6 months.	Every 6 months.	Every 6 months.
2.	Last blood lead level between 40 µg/100g and level requiring medical removal (see A above) . . . . .	Every 2 months.	Every 2 months.	Every 2 months.	Every 2 months.	Every 2 months.
3.	Employees removed from exposure to lead because of an elevated blood lead level. . . . .	Every 1 month.	Every 1 month.	Every 1 month.	Every 1 month.	Every 1 month.

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TABLE 10

		EFFECTIVE DATE				
		Sept. 6, 1980	Sept. 6, 1981	Sept. 6, 1982	Sept. 6, 1983	Sept. 6, 1984
C.	Permissible airborne exposure limit for workers removed from work due to an elevated blood lead level (without regard to respirator protection).	100 µg/m <sup>3</sup> 8 hr TWA	50 µg/m <sup>3</sup> 8 hr TWA	30 µg/m <sup>3</sup> 8 hr TWA	30 µg/m <sup>3</sup> 8 hr TWA	30 µg/m <sup>3</sup> 8 hr TWA
D.	Blood lead level confirmed with a second blood analysis, at which employee may return to work. Permissible exposure without regard to respirator protection is listed by industry in Table 1.	60 µg/100g	50 µg/100g	40 µg/100g	40 µg/100g	40 µg/100g

Note: Where medical opinion indicates that an employee is at risk of material impairment from exposure to lead, the physician can remove an employee from exposure exceeding the action level (or less) or recommend special protective measures as deemed appropriate and necessary. Medical monitoring during the medical removal period can be more stringent than noted in the table above if the physician so specifies. Return to work or removal of limitations and special protections is permitted when the physician indicates that the worker is no longer at risk of material impairment.

(E) Under the standard's ultimate worker removal criteria, a worker is to be removed from any work having any eight-hour TWA exposure to lead of 30 µg/m<sup>3</sup> or more whenever either of the following circumstances apply. (I) a blood lead level of 60 µg/100g or greater is obtained and confirmed by a second follow-up blood lead level performed within two weeks after the employer receives the results of the first blood sample test, or (II) the average of the previous three blood lead determinations or the average of all blood lead determinations conducted during the previous six months, whichever encompasses the longest time period, equals or exceeds 50 µg/100g, unless the last blood sample indicates a blood lead level at or below 40 µg/100g, in which case the employee need not be removed. Medical removal is to continue until two consecutive blood lead levels are 40 µg/100g or less.

(F) During the first two years that the ultimate removal criteria are being phased in, the return criteria have been set to assure that a worker's blood lead level has substantially declined during the period of removal. From March 1, 1979, to March 1, 1980, the blood lead level requiring employee medical removal is 80 µg/100g. Workers found to have a confirmed blood lead at this level or greater need only be removed from work having a daily eight hour TWA exposure to lead at or above 100 µg/m<sup>3</sup>. Workers so removed are to be returned to work when their blood lead levels are at or below 60 µg/100g of whole blood. From March 1, 1980, to March 1, 1981, the blood lead level requiring medical removal is 70 µg/100g. During this period workers need only be removed from jobs having a daily eight hour TWA exposure to lead at or above 50 µg/m<sup>3</sup> and are to be returned to work when a level of 50 µg/100g is achieved. Beginning March 1, 1981, return depends on the worker's blood lead level declining to 40 µg/100g of whole blood.

(G) As part of the standard, the employer is required to notify in writing each employee whose whole blood lead

level exceeds 40 µg/100g. In addition, each such employee is to be informed that the standard requires medical removal with MRP benefits, discussed below, when an employee's blood lead level exceeds the above defined limits.

(H) In addition to the above blood lead level criteria, temporary worker removal may also take place as a result of medical determinations and recommendations. Written medical opinions must be prepared after each examination pursuant to the standard. If the examining physician includes medical finding, determination or opinion that the employee has a medical condition which places the employee at increased risk of material health impairment from exposure to lead, then the employee must be removed from exposure to lead at or above the action level. Alternatively, if the examining physician recommends special protective measures for an employee (e.g., use of a powered air purifying respirator) or recommends limitations on an employee's exposure to lead, then the employer must implement these recommendations. Recommendations may be more stringent than the specific provisions of the standard. The examining physician, therefore, is given broad flexibility to tailor special protective procedures to the needs of individual employees. This flexibility extends to the evaluation and management of pregnant workers and male and female workers who are planning to conceive children. Based on the history, physical examination, and laboratory studies, the physician might recommend special protective measures or medical removal for an employee who is pregnant or who is planning to conceive a child when, in the physician's judgment, continued exposure to lead at the current job would pose a significant risk. The return of the employee to his or her former job status, or the removal of special protections or limitations, depends upon the examining physician determining that the employee is no longer at increased risk of material impairment or that the special measures are no longer needed.

(I) During the period of any form of special protection or removal, the employer must maintain the worker's earnings, seniority, and other employment rights and benefits (as

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though the worker has not been removed) for a period of up to eighteen months. This economic protection will maximize meaningful worker participation in the medical surveillance program, and is appropriate as part of the employer's overall obligation to provide a safe and healthful work place. The provisions of MRP benefits during the employee's removal period may, however, be conditioned upon participation in medical surveillance.

(J) On rare occasions, an employee's blood lead level may not acceptably decline within eighteen months of removal. This situation will arise only in unusual circumstances, thus the standard relies on an individual medical examination to determine how to protect such an employee. This medical determination is to be based on both laboratory values, including lead levels, zinc protoporphyrin levels, blood counts, and other tests felt to be warranted, as well as the physician's judgment that any symptoms or findings on physical examination are a result of lead toxicity. The medical determination may be that the employee is incapable of ever safely returning to his or her former job status. The medical determination may provide additional removal time past eighteen months for some employees or specify special protective measures to be implemented.

(K) The lead standard provides for a multiple physician review in cases where the employee wishes a second opinion concerning potential lead poisoning or toxicity. If an employee wishes a second opinion, he or she can make an appointment with a physician of his or her choice. This second physician will review the findings, recommendations or determinations of the first physician and conduct any examinations, consultations or tests deemed necessary in an attempt to make a final medical determination. If the first and second physicians do not agree in their assessment they must try to resolve their differences. If they cannot reach an agreement then they must designate a third physician to resolve the dispute.

(L) The employer must provide examining and consulting physicians with the following specific information: A copy of the lead regulations and all appendices, a description of the employee's duties as related to exposure, the exposure level to lead and any other toxic substances (if applicable), a description of personal protective equipment used, blood lead levels, and all prior written medical opinions regarding the employee in the employer's possession or control. The employer must also obtain from the physician and provide the employee with a written medical opinion containing blood lead levels, the physician's opinion as to whether the employee is at risk of material impairment to health, any recommended protective measures for the employee if further exposure is permitted, as well as any recommended limitations upon an employee's use of respirators.

(M) Employers must instruct each physician not to reveal to the employer in writing or in any other way his or her findings, laboratory results, or diagnoses which are felt to be unrelated to occupational lead exposure. They must also instruct each physician to advise the employee of any occupationally or nonoccupationally related medical condition requiring further treatment or evaluation.

(N) The standard provides for the use of respirators when engineering and other primary controls have not been fully

implemented. However, the use of respirator protection shall not be used in lieu of temporary medical removal due to elevated blood lead levels or findings that an employee is at risk of material health impairment. This is based on the numerous inadequacies of respirators including skin rash where the facepiece makes contact with the skin, unacceptable stress to breathing in some workers with underlying cardiopulmonary impairment, difficulty in providing adequate fit, the tendency for respirators to create additional hazards by interfering with vision, hearing, and mobility, and the difficulties of assuring the maximum effectiveness of a complicated work practice program involving respirators. Respirators do, however, serve a useful function where engineering and work practice are inadequate by providing interim or short-term protection, provided they are properly selected for the environment in which the employee will be working, properly fitted to the employee, maintained and cleaned periodically, and worn by the employee when required.

(O) In its final standard on occupational exposure to inorganic lead, WISHA has prohibited prophylactic chelation. Diagnostic and therapeutic chelation are permitted only under the supervision of a licensed physician with appropriate medical monitoring in an acceptable clinical setting. The decision to initiate chelation therapy must be made on an individual basis and take into account the severity of symptoms felt to be a result of lead toxicity along with blood lead levels, ZPP levels and other laboratory tests as appropriate. EDTA and penicillamine, which are the primary chelating agents used in the therapy of occupational lead poisoning, have significant potential side effects and their use must be justified on the basis of expected benefits to the worker.

(P) Unless frank and severe symptoms are present, therapeutic chelation is not recommended given the opportunity to remove a worker from exposure and allow the body to naturally excrete accumulated lead. As a diagnostic aid, the chelation mobilization test using CA-EDTA has limited applicability. According to some investigators, the tests can differentiate between lead-induced and other nephropathies. The test may also provide an estimation of the mobile fraction of the total body lead burden.

(Q) Employers are required to assure that accurate records are maintained on exposure monitoring, medical surveillance, and medical removal for each employee. Exposure monitoring and medical surveillance records must be kept for forty years or the duration of employment plus twenty years, whichever is longer, while medical removal records must be maintained for the duration of employment. All records required under the standard must be made available upon request to representatives of the director of the department of labor and industries. Employers must also make environmental and biological monitoring and medical removal records available to affected employees and to former employees or their authorized employee representatives. Employees or their specifically designated representatives have access to their entire medical surveillance records.

(R) In addition, the standard requires that the employer inform all workers exposed to lead at or above the action level of the provisions of the standard and all its appendices, the purpose and description of medical surveillance and provisions for medical removal protection if temporary removal

is required. An understanding of the potential health effects of lead exposure by all exposed employees along with full understanding of their rights under the lead standard is essential for an effective monitoring program.

(iii) Adverse health effects of inorganic lead.

(A) Although the toxicity of lead has been known for 2,000 years, the knowledge of the complex relationship between lead exposure and human response is still being refined. Significant research into the toxic properties of lead continues throughout the world, and it should be anticipated that our understanding of thresholds of effects and margins of safety will be improved in future years. The provisions of the lead standard are founded on two prime medical judgments; first, the prevention of adverse health effects from exposure to lead throughout a working lifetime requires that worker blood lead levels be maintained at or below 40  $\mu\text{g}/100\text{g}$ , and second, the blood lead levels of workers, male or female, who intend to parent in the near future should be maintained below 30  $\mu\text{g}/100\text{g}$  to minimize adverse reproduction health effects to the parent and developing fetus. The adverse effects of lead on reproduction are being actively researched and WISHA encourages the physician to remain abreast of recent developments in the area to best advise pregnant workers or workers planning to conceive children.

(B) The spectrum of health effects caused by lead exposure can be sub-divided into five developmental states; normal, physiological changes of uncertain significance, pathophysiological changes, overt symptoms (morbidity), and mortality. Within this process there are no sharp distinctions, but rather a continuum of effects. Boundaries between categories overlap due to the wide variation of individual (~~responses~~ ~~[responses]~~) responses and exposures in the working population. WISHA's development of the lead standard focused on pathophysiological changes as well as later stages of disease.

(I) Heme synthesis inhibition.

a) The earliest demonstrated effect of lead involves its ability to inhibit at least two (~~enzymes~~ ~~[enzymes]~~) enzymes of the heme synthesis pathway at very low blood levels. Inhibition of delta aminolevulinic acid dehydrase (ALA-D) which catalyzes the conversion of delta-aminolevulinic acid (ALA) to protoporphyrin is observed at a blood lead level below 20  $\mu\text{g}/100\text{g}$  whole blood. At a blood lead level of 40  $\mu\text{g}/100\text{g}$ , more than twenty percent of the population would have seventy percent inhibition of ALA-D. There is an exponential increase in ALA excretion at blood lead levels greater than 40  $\mu\text{g}/100\text{g}$ .

b) Another enzyme, ferrochelatase, is also inhibited at low blood lead levels. Inhibition of ferrochelatase leads to increased free erythrocyte protoporphyrin (FEP) in the blood which can then bind to zinc to yield zinc protoporphyrin. At a blood lead level of 50  $\mu\text{g}/100\text{g}$  or greater, nearly 100 percent of the population will have an increase FEP. There is also an exponential relationship between blood lead levels greater than 40  $\mu\text{g}/100\text{g}$  and the associated ZPP level, which has led to the development of the ZPP screening test for lead exposure.

c) While the significance of these effects is subject to debate, it is WISHA's position that these enzyme disturbances are early stages of a disease process which may eventually result in the clinical symptoms of lead poisoning. Whether or not the effects do progress to the later stages of clinical disease, disruption of these enzyme processes over a working lifetime is considered to be a material impairment of health.

d) One of the eventual results of lead-induced inhibition of enzymes in the heme synthesis pathway is anemia which can be asymptomatic if mild but associated with a wide array of symptoms including dizziness, fatigue, and tachycardia when more severe. Studies have indicated that lead levels as low as 50  $\mu\text{g}/100\text{g}$  can be associated with a definite decreased hemoglobin, although most cases of lead-induced anemia, as well as shortened red-cell survival times, occur at lead levels exceeding 80  $\mu\text{g}/100\text{g}$ . Inhibited hemoglobin synthesis is more common in chronic cases whereas shortened erythrocyte life span is more common in acute cases.

e) In lead-induced anemias, there is usually a reticulocytosis along with the presence of basophilic stippling, and ringed sideroblasts, although none of the above are pathognomonic for lead-induced anemia.

(II) Neurological effects.

a) Inorganic lead had been found to have toxic effects on both the central and peripheral nervous systems. The earliest stage of lead-induced central nervous system effects first manifest themselves in the form of behavioral disturbances and central nervous system symptoms including irritability, restlessness, insomnia and other sleep disturbances, fatigue, vertigo, headache, poor memory, tremor, depression, and apathy. With more severe exposure, symptoms can progress to drowsiness, stupor, hallucinations, delirium, convulsions and coma.

b) The most severe and acute form of lead poisoning which usually follows ingestion or inhalation of large amounts of lead is acute encephalopathy which may arise precipitously with the onset of intractable seizures, coma, cardiorespiratory arrest, and death within 48 hours.

c) While there is disagreement about what exposure levels are needed to produce the earliest symptoms, most experts agree that symptoms definitely can occur at blood lead levels of 60  $\mu\text{g}/100\text{g}$  whole blood and therefore recommend a 40  $\mu\text{g}/100\text{g}$  maximum. The central nervous system effects frequently are not reversible following discontinued exposure or chelation therapy and when improvement does occur, it is almost always only partial.

d) The peripheral neuropathy resulting from lead exposure characteristically involves only motor function with minimal sensory damage and has a marked predilection for the extensor muscles of the most active extremity. The peripheral neuropathy can occur with varying degrees of severity. The earliest and mildest form which can be detected in workers with blood lead levels as low as 50  $\mu\text{g}/100\text{g}$  is manifested by slowing or motor nerve conduction velocity often without clinical symptoms. With progression of the neuropathy there is development of painless extensor muscle weakness usually involving the extensor muscles of the fin-

gers and hand in the most active upper extremity, followed in severe cases by wrist drop, much less commonly, foot drop.

e) In addition to slowing of nerve conduction, electromyographical studies in patients with blood lead levels greater than 50 µg/100g have demonstrated a decrease in the number of acting motor unit potentials, an increase in the duration of motor unit potentials, and spontaneous pathological activity including fibrillations and fasciculation. Whether these effects occur at levels of 40 µg/100g is undetermined.

f) While the peripheral neuropathies can occasionally be reversed with therapy, again such recovery is not assured particularly in the more severe neuropathies and often improvement is only partial. The lack of reversibility is felt to be due in part to segmental demyelination.

(III) Gastrointestinal. Lead may also effect the gastrointestinal system producing abdominal colic or diffuse abdominal pain, constipation, obstipation, diarrhea, anorexia, nausea and vomiting. Lead colic rarely develops at blood lead levels below 80 µg/100g.

#### (IV) Renal.

a) Renal toxicity represents one of the most serious health effects of lead poisoning. In the early stages of disease nuclear inclusion bodies can frequently be identified in proximal renal tubular cells. Renal functions remain normal and the changes in this stage are probably reversible. With more advanced disease there is progressive interstitial fibrosis and impaired renal function. Eventually extensive interstitial fibrosis ensues with sclerotic glomeruli and dilated and atrophied proximal tubules; all represent end stage kidney disease. Azotemia can be progressive, eventually resulting in frank uremia necessitating dialysis. There is occasionally associated hypertension and hyperuricemia with or without gout.

b) Early kidney disease is difficult to detect. The urinalysis is normal in early lead nephropathy and the blood urea nitrogen and serum creatinine increase only when two-thirds of kidney function is lost. Measurement of creatinine clearance can often detect earlier disease as can other methods of measurement of glomerular filtration rate. An abnormal Ca-EDTA mobilization test has been used to differentiate between lead-induced and other nephropathies, but this procedure is not widely accepted. A form of Fanconi syndrome with aminoaciduria, glycosuria, and hyperphosphaturia indicating severe injury to the proximal renal tubules is occasionally seen in children.

#### (V) Reproductive effects.

a) Exposure to lead can have serious effects on reproductive function in both males and females. In male workers exposed to lead there can be a decrease in sexual drive, impotence, decreased ability to produce healthy sperm, and sterility. Malformed sperm (teratospermia), decreased number of sperm (hypospermia), and sperm with decreased motility (asthenospermia) can occur. Teratospermia has been noted at mean blood lead levels of 53 µg/100g and hypospermia and asthenospermia at 41 µg/100g. Furthermore, there appears to be a dose-response relationship for teratospermia in lead exposed workers.

b) Women exposed to lead may experience menstrual disturbances including dysmenorrhea, menorrhagia and

amenorrhea. Following exposure to lead, women have a higher frequency of sterility, premature births, spontaneous miscarriages, and stillbirths.

c) Germ cells can be affected by lead and cause genetic damage in the egg or sperm cells before conception and result in failure to implant, miscarriage, stillbirth, or birth defects.

d) Infants of mothers with lead poisoning have a higher mortality during the first year and suffer from lowered birth weights, slower growth, and nervous system disorders.

e) Lead can pass through the placental barrier and lead levels in the mother's blood are comparable to concentrations of lead in the umbilical cord at birth. Transplacental passage becomes detectable at 12-14 weeks of gestation and increases until birth.

f) There is little direct data on damage to the fetus from exposure to lead but it is generally assumed that the fetus and newborn would be at least as susceptible to neurological damage as young children. Blood lead levels of 50-60 µg/100g in children can cause significant neurobehavioral impairments, and there is evidence of hyperactivity at blood levels as low as 25 µg/100g. Given the overall body of literature concerning the adverse health effects of lead in children, WISHA feels that the blood lead level in children should be maintained below 30 µg/100g with a population mean of 15 µg/100g. Blood lead levels in the fetus and newborn likewise should not exceed 30 µg/100g.

g) Because of lead's ability to pass through the placental barrier and also because of the demonstrated adverse effects of lead on reproductive function in both males and females as well as the risk of genetic damage of lead on both the ovum and sperm, WISHA recommends a 30 µg/100g maximum permissible blood lead level in both males and females who wish to bear children.

#### (IV) Other toxic effects.

a) Debate and research continue on the effects of lead on the human body. Hypertension has frequently been noted in occupationally exposed individuals although it is difficult to assess whether this is due to lead's adverse effects on the kidneys or if some other mechanism is involved.

b) Vascular and electrocardiographic changes have been detected but have not been well characterized. Lead is thought to impair thyroid function and interfere with the pituitary-adrenal axis, but again these effects have not been well defined.

#### (iv) Medical evaluation.

(A) The most important principle in evaluating a worker for any occupational disease including lead poisoning is a high index of suspicion on the part of the examining physician. As discussed in Section (ii), lead can affect numerous organ systems and produce a wide array of signs and symptoms, most of which are nonspecific and subtle in nature at least in the early stages of disease. Unless serious concern for lead toxicity is present, many of the early clues to diagnosis may easily be overlooked.

(B) The crucial initial step in the medical evaluation is recognizing that a worker's employment can result in exposure to lead. The worker will frequently be able to define exposures to lead and lead-containing materials but often will not volunteer this information unless specifically asked. In

other situations the worker may not know of any exposures to lead but the suspicion might be raised on the part of the physician because of the industry or occupation of the worker. Potential occupational exposure to lead and its compounds occur in at least 120 occupations, including lead smelting, the manufacture of lead storage batteries, the manufacture of lead pigments and products containing pigments, solder manufacture, shipbuilding and ship repair, auto manufacturing, construction, and painting.

(C) Once the possibility for lead exposure is raised, the focus can then be directed toward eliciting information from the medical history, physical exam, and finally from laboratory data to evaluate the worker for potential lead toxicity.

(D) A complete and detailed work history is important in the initial evaluation. A listing of all previous employment with information on work processes, exposure to fumes or dust, known exposures to lead or other toxic substances, respiratory protection used, and previous medical surveillance should all be included in the worker's record. Where exposure to lead is suspected, information concerning on-the-job personal hygiene, smoking or eating habits in work areas, laundry procedures, and use of any protective clothing or respiratory protection equipment should be noted. A complete work history is essential in the medical evaluation of a worker with suspected lead toxicity, especially when long-term effects such as neurotoxicity and nephrotoxicity are considered.

(E) The medical history is also of fundamental importance and should include a listing of all past and current medical conditions, current medications including proprietary drug intake, previous surgeries and hospitalizations, allergies, smoking history, alcohol consumption, and also nonoccupational lead exposures such as hobbies (hunting, riflery). Also known childhood exposures should be elicited. Any previous history of hematological, neurological, gastrointestinal, renal, psychological, gynecological, genetic, or reproductive problems should be specifically noted.

(F) A careful and complete review of systems must be performed to assess both recognized complaints and subtle or slowly acquired symptoms which the worker might not appreciate as being significant. The review of symptoms should include the following:

- |  |  |
|--|--|
| General                                | - weight loss, fatigue, decreased appetite.  |
| Head, Eyes, Ears, Nose, Throat (HEENT) | - headaches, visual disturbance or decreased visual acuity, hearing deficits or tinnitus, pigmentation of the oral mucosa, or metallic taste in mouth. |
| Cardio-pulmonary                       | - shortness of breath, cough, chest pains, palpitations, or orthopnea.   |
| Gastrointestinal                       | - nausea, vomiting, heartburn, abdominal pain, constipation or diarrhea.   |

- |            |   |
|------------|---|
| Neurologic | - irritability, insomnia, weakness (fatigue), dizziness, loss of memory, confusion, hallucinations, incoordination, ataxia, decreased strength in hands or feet, disturbance in gait, difficulty in climbing stairs, or seizures. |
|------------|---|

- |             |   |
|-------------|---|
| Hematologic | - pallor, easy fatigability, abnormal blood loss, melena. |
|-------------|---|

- |   |  |
|---|--|
| Reproductive (male or female and spouse where relevant) | - history of infertility, impotence, loss of libido, abnormal menstrual periods, history of miscarriages, stillbirths, or children with birth defects. |
|---|--|

- |                  |                           |
|------------------|---------------------------|
| Musculo-skeletal | - muscle and joint pains. |
|------------------|---------------------------|

(G) The physical examination should emphasize the neurological, gastrointestinal, and cardiovascular systems. The worker's weight and blood pressure should be recorded and the oral mucosa checked for pigmentation characteristic of a possible Burtonian or lead line on the gingiva. It should be noted, however, that the lead line may not be present even in severe lead poisoning if good oral hygiene is practiced.

(H) The presence of pallor on skin examination may indicate an anemia, which if severe might also be associated with a tachycardia. If an anemia is suspected, an active search for blood loss should be undertaken including potential blood loss through the gastrointestinal tract.

(I) A complete neurological examination should include an adequate mental status evaluation including a search for behavioral and psychological disturbances, memory testing, evaluation for irritability, insomnia, hallucinations, and mental clouding. Gait and coordination should be examined along with close observation for tremor. A detailed evaluation of peripheral nerve function including careful sensory and motor function testing is warranted. Strength testing particularly of extensor muscle groups of all extremities is of fundamental importance.

(J) Cranial nerve evaluation should also be included in the routine examination.

(K) The abdominal examination should include auscultation for bowel sounds and abnormal bruits and palpation for organomegaly, masses, and diffuse abdominal tenderness.

(L) Cardiovascular examination should evaluate possible early signs of congestive heart failure. Pulmonary status should be addressed particularly if respirator protection is contemplated.

(M) As part of the medical evaluation, the lead standard requires the following laboratory studies.

- (I) Blood lead level.
- (II) Hemoglobin and hematocrit determinations, red cell indices, and examination of the peripheral blood smear to evaluate red blood cell morphology.
- (III) Blood urea nitrogen.
- (IV) Serum creatinine.

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(V) Routine urinalysis with microscopic examination.

(VI) A zinc protoporphyrin level.

(N) In addition to the above, the physician is authorized to order any further laboratory or other tests which he or she deems necessary in accordance with sound medical practice. The evaluation must also include pregnancy testing or laboratory evaluation of male fertility if requested by the employee.

(O) Additional tests which are probably not warranted on a routine basis but may be appropriate when blood lead and ZPP levels are equivocal include delta aminolevulinic acid and coproporphyrin concentrations in the urine, and dark-field illumination for detection of basophilic stippling in red blood cells.

(P) If an anemia is detected further studies including a careful examination of the peripheral smear, reticulocyte count, stool for occult blood, serum iron, total iron binding capacity, bilirubin, and, if appropriate vitamin B12 and folate may be of value in attempting to identify the cause of the anemia.

(Q) If a peripheral neuropathy is suspected, nerve conduction studies are warranted both for diagnosis and as a basis to monitor any therapy.

(R) If renal disease is questioned, a 24-hour urine collection for creatinine clearance, protein, and electrolytes may be indicated. Elevated uric acid levels may result from lead-induced renal disease and a serum uric acid level might be performed.

(S) An electrocardiogram and chest x-ray may be obtained as deemed appropriate.

(T) Sophisticated and highly specialized testing should not be done routinely and where indicated should be under the direction of a specialist.

(v) Laboratory evaluation.

(A) The blood level at present remains the single most important test to monitor lead exposure and is the test used in the medical surveillance program under the lead standard to guide employee medical removal. The ZPP has several advantages over the blood lead level. Because of its relatively recent development and the lack of extensive data concerning its interpretation, the ZPP currently remains an ancillary test.

(B) This section will discuss the blood lead level and ZPP in detail and will outline their relative advantages and disadvantages. Other blood tests currently available to evaluate lead exposure will also be reviewed.

(C) The blood lead level is a good index of current or recent lead absorption when there is no anemia present and when the worker has not taken any chelating agents. However, blood lead levels along with urinary lead levels do not necessarily indicate the total body burden of lead and are not adequate measures of past exposure. One reason for this is that lead has a high affinity for bone and up to 90 percent of the body's total lead is deposited there. A very important component of the total lead body burden is lead in soft tissue (liver, kidneys, and brain). This fraction of the lead body burden, the biologically active lead, is not entirely reflected by blood lead levels since it is a function of the dynamics of lead absorption, distribution, deposition in bone and excretion. Following discontinuation of exposure to lead, the excess body burden is only slowly mobilized from bone and other relatively stable stores and excreted. Consequently, a high

blood lead level may only represent recent heavy exposure to lead without a significant total body excess and likewise a low blood lead level does not exclude an elevated total body burden of lead.

(D) Also due to its correlation with recent exposures, the blood lead level may vary considerably over short time intervals.

(E) To minimize laboratory error and erroneous results due to contamination, blood specimens must be carefully collected after thorough cleaning of the skin with appropriate methods using lead-free containers and analyzed by a reliable laboratory. Under the standard, samples must be analyzed in laboratories which are approved by the Center for Disease Control (CDC) or which have received satisfactory grades in proficiency testing by the CDC in the previous year. Analysis is to be made using atomic absorption spectrophotometry anodic stripping; voltammetry or any method which meets the accuracy requirements set forth by the standard.

(F) The determination of lead in urine is generally considered a less reliable monitoring technique than analysis of whole blood primarily due to individual variability in urinary excretion capacity as well as the technical difficulty of obtaining accurate 24 hour urine collections. In addition, workers with renal insufficiency, whether due to lead or some other cause, may have decreased lead clearance and consequently urine lead levels may underestimate the true lead burden. Therefore, urine lead levels should not be used as a routine test.

(G) The zinc protoporphyrin test, unlike the blood lead determination, measures an adverse metabolic effect of lead and as such is a better indicator of lead toxicity than the level of blood lead itself. The level of ZPP reflects lead absorption over the preceding three to four months, and therefore is a better indicator of lead body burden. The ZPP requires more time than the blood lead to read significantly elevated levels; the return to normal after discontinuing lead exposure is also slower. Furthermore, the ZPP test is simpler, faster, and less expensive to perform and no contamination is possible. Many investigators believe it is the most reliable means of monitoring chronic lead absorption.

(H) Zinc protoporphyrin results from the inhibition of the enzyme ferrochelatase which catalyzes the insertion of an iron molecule into the protoporphyrin molecule, which then becomes heme. If iron is not inserted into the molecule then zinc, having a greater affinity for protoporphyrin, takes place in the iron, forming ZPP.

(I) An elevation in the level of circulating ZPP may occur at blood lead levels as low as 20-30  $\mu\text{g}/100\text{g}$  in some workers. Once the blood lead level has reached 40  $\mu\text{g}/100\text{g}$  there is more marked rise in the ZPP value from its normal range of less than 100  $\mu\text{g}/100\text{ml}$ . Increases in blood lead levels beyond 40  $\mu\text{g}/100\text{g}$  are associated with exponential increases in ZPP.

(J) Whereas blood lead levels fluctuate over short time spans, ZPP levels remain relatively stable. ZPP is measured directly in red blood cells and is present for the cell's entire 120 day lifespan. Therefore, the ZPP level in blood reflects the average ZPP production over the previous three to four

PROPOSED



months and consequently the average lead exposure during that time interval.

(K) It is recommended that a hematocrit be determined whenever a confirmed ZPP of 50  $\mu\text{g}/100\text{ml}$  whole blood is obtained to rule out a significant underlying anemia. If the ZPP is in excess of 100 $\mu\text{g}/100\text{ml}$  and not associated with abnormal elevations in blood lead levels, the laboratory should be checked to be sure the blood leads were determined using atomic absorption spectrophotometry, anodic stripping voltammetry or any method which meets the accuracy requirements set forth by the standard, by a CDC approved laboratory which is experienced in lead level determinations. Repeat periodic blood lead studies should be obtained in all individuals with elevated ZPP levels to be certain that an associated elevated blood lead level has not been missed due to transient fluctuations in blood leads.

(L) ZPP has characteristic fluorescence spectrum with a peak at 594nm which is detectable with a hematofluorimeter. The hematofluorimeter is accurate and portable and can provide on-site, instantaneous results for workers who can be frequently tested via a finger prick.

(M) However, careful attention must be given to calibration and quality control procedures. Limited data on blood lead - ZPP correlations and the ZPP levels which are associated with the adverse health effects discussed in item (ii) are the major limitations of the test. Also it is difficult to correlate ZPP levels with environmental exposure and there is some variation of response with age and sex. Nevertheless, the ZPP promises to be an important diagnostic test for the early detection of lead toxicity and its value will increase as more data is collected regarding its relationship to other manifestations of lead poisoning.

(N) Levels of delta-aminolevulinic acid (ALA) in the urine are also used as a measure of lead exposure. Increasing concentrations of ALA are believed to result from the inhibition of the enzyme delta-aminolevulinic acid dehydrase (ALA-D). Although the test is relatively easy to perform, inexpensive, and rapid, the disadvantages include variability in results, the necessity to collect a complete 24 hour urine sample which has a specific gravity greater than 1.010, and also the fact that ALA decomposes in the presence of light.

(O) The pattern of porphyrin excretion in the urine can also be helpful in identifying lead intoxication. With lead poisoning, the urine concentrations of coproporphyrins I and II, porphobilinogen and uroporphyrin I rise. The most important increase, however, is that of coproporphyrin III; levels may exceed 5,000  $\mu\text{g}/1$  in the urine in lead poisoned individuals, but its correlation with blood lead levels and ZPP are not as good as those of ALA. Increases in urinary porphyrins are not diagnostic of lead toxicity and may be seen in porphyria, some liver diseases, and in patients with high reticulocyte counts.

(vi) Summary.

(A) The WISHA standard for inorganic lead places significant emphasis on the medical surveillance of all workers exposed to levels of inorganic lead above the action level of 30  $\mu\text{g}/\text{m}^3$  TWA. The physician has a fundamental role in this surveillance program, and in the operation of the medical removal protection program.

(B) Even with adequate worker education on the adverse health effects of lead and appropriate training in work practices, personal hygiene and other control measures, the physician has a primary responsibility for evaluating potential lead toxicity in the worker. It is only through a careful and detailed medical and work history, a complete physical examination and appropriate laboratory testing that an accurate assessment can be made. Many of the adverse health effects of lead toxicity are either irreversible or only partially reversible and therefore early detection of disease is very important.

(C) This document outlines the medical monitoring program as defined by the occupational safety and health standard for inorganic lead. It reviews the adverse health effects of lead poisoning and describes the important elements of the history and physical examinations as they relate to these adverse effects.

(D) It is hoped that this review and discussion will give the physician a better understanding of the WISHA standard with the ultimate goal of protecting the health and well-being of the worker exposed to lead under his or her care.

~~(d) Appendix D. ((Qualitative Fit Test Protocols. This appendix specifies the only allowable qualitative fit test (QLFT) protocols permissible for compliance with WAC 296-62-07521 (7)(e)(ii).~~

~~(i) Isoamyl acetate protocol.~~

~~(A) Odor threshold screening.~~

~~(I) Three 1-liter glass jars with metal lids (e.g., Mason or Ball jars) are required.~~

~~(II) Odor free water (e.g., distilled or spring water) at approximately 25° C shall be used for the solutions.~~

~~(III) The isoamyl acetate (IAA) (also known as isopentyl acetate) stock solution is prepared by adding 1 cc of pure IAA to 800 cc of odor free water in a 1 liter jar and shaking for 30 seconds. This solution shall be prepared new at least weekly.~~

~~(IV) The screening test shall be conducted in a room separate from the room used for actual fit testing. The two rooms shall be well ventilated but may not be connected to the same recirculating ventilation system.~~

~~(V) The odor test solution is prepared in a second jar by placing .4 cc of the stock solution into 500 cc of odor free water using a clean dropper or pipette. Shake for 30 seconds and allow to stand two to three minutes so that the IAA concentration above the liquid may reach equilibrium. This solution may be used for only one day.~~

~~(VI) A test blank is prepared in a third jar by adding 500 cc of odor free water.~~

~~(VII) The odor test and test blank jars shall be labeled 1 and 2 for jar identification. If the labels are put on the lids they can be periodically dried off and switched to avoid people thinking the same jars always has the IAA.~~

~~(VIII) The following instructions shall be typed on a card and placed on the table in front of the two test jars (i.e., 1 and 2); "The purpose of this test is to determine if you can smell banana oil at low concentrations. The two bottles in front of you contain water. One of these bottles also contains a small amount of banana oil. Be sure the covers are on tight, then shake each bottle for two seconds. Unscrew the lid of each bottle, one at a time, and sniff at the mouth of the bottle. Indicate to the test conductor which bottle contains banana oil."~~



~~(IX) The mixtures used in the IAA odor detection test shall be prepared in an area separate from where the test is performed, in order to prevent olfactory fatigue in the subject.~~

~~(X) If the test subject is unable to correctly identify the jar containing the odor test solution, the IAA QLFT may not be used.~~

~~(XI) If the test subject correctly identifies the jar containing the odor test solution he or she may proceed to respirator selection and fit testing.~~

~~(B) Respirator selection.~~

~~(I) The test subject shall be allowed to select the most comfortable respirator from a large array of various sizes and manufacturers that includes at least three sizes of elastomeric half facepieces and units of at least two manufacturers.~~

~~(II) The selection process shall be conducted in a room separate from the fit test chamber to prevent odor fatigue. Prior to the selection process, the test subject shall be shown how to put on a respirator, how it should be positioned on the face, how to set strap tension and how to assess a "comfortable" respirator. A mirror shall be available to assist the subject in evaluating the fit and positioning of the respirator. This may not constitute formal training on respirator use, only a review.~~

~~(III) The test subject should understand that he or she is being asked to select the respirator which provides the most comfortable fit. Each respirator represents a different size and shape and, if fit properly, will provide adequate protection.~~

~~(IV) The test subject holds each facepiece up to his or her face and eliminates those which are obviously not giving a comfortable fit. Normally, selection will begin with a half-mask and if a fit cannot be found here, the subject will be asked to go to the full facepiece respirators. (A small percentage of users will not be able to wear any half-masks.)~~

~~(V) The more comfortable facepieces are recorded; the most comfortable mask is donned and worn at least five minutes to assess comfort. Assistance in assessing comfort can be given by discussing the points in (VI) below. If the test subject is not familiar with using a particular respirator, he or she shall be directed to don the mask several times and to adjust the straps each time, so that he or she becomes adept at setting proper tension on the straps.~~

~~(VI) Assessment of comfort shall include reviewing the following points with the test subject:~~

- ~~• Chin properly placed.~~
- ~~• Positioning of mask on nose.~~
- ~~• Strap tension.~~
- ~~• Fit across nose bridge.~~
- ~~• Room for safety glasses.~~
- ~~• Distance from nose to chin.~~
- ~~• Room to talk.~~
- ~~• Tendency to slip.~~
- ~~• Checks filled out.~~
- ~~• Self-observation/in mirror.~~
- ~~• Adequate time for assessment.~~

~~(VII) The test subject shall conduct the conventional negative and positive pressure fit checks (e.g., see ANSI Z88.2-1980). Before conducting the negative or positive pressure checks, the subject shall be told to "seat" his or her~~

~~mask by rapidly moving the head side to side and up and down, taking a few deep breaths:~~

~~(VIII) The test subject is now ready for fit testing.~~

~~(IX) After passing the fit test, the test subjects shall be questioned again regarding the comfort of the respirator. If it has become uncomfortable, another model of respirator shall be tried.~~

~~(X) The employee shall be given the opportunity to select a different facepiece and be retested if during the first two weeks of on the job wear, the chosen facepiece becomes unacceptably uncomfortable.~~

~~(C) Fit test.~~

~~(I) The fit test chamber shall be substantially similar to a clear 55 gallon drum liner suspended inverted over a two foot diameter frame, so that the top of the chamber is about six inches above the test subject's head. The inside top center of the chamber shall have a small hook attached.~~

~~(II) Each respirator used for the fitting and fit testing shall be equipped with organic vapor cartridges or offer protection against organic vapors. The cartridges or masks shall be changed at least weekly.~~

~~(III) After selecting, donning, and properly adjusting a respirator himself or herself, the test subject shall wear it to the fit testing room. This room shall be separate from the room used for odor threshold screening and respirator selection, and shall be well ventilated, as by an exhaust fan or lab hook, to prevent general room contamination.~~

~~(IV) A copy of the following test exercises and rainbow (or equally effective) passage shall be taped to the inside of the test chamber:~~

~~a) Normal breathing.~~

~~b) Deep breathing. Be certain breaths are deep and regular.~~

~~e) Turning head from side to side. Be certain movement is complete. Alert the test subject not to bump the respirator on the shoulders. Have the test subject inhale when his or her head is at either side.~~

~~d) Nodding head up and down. Be sure certain motions are complete and made about every second. Alert the test subject not to bump the respirator on the chest. Have the test subject inhale when his or her head is in the fully up position.~~

~~e) Talking. Talk aloud and slowly for several minutes. The following paragraph is called the Rainbow Passage. Reading it will result in a wide range of facial movements, and thus be useful to satisfy this requirement. Alternative passages which serve the same purpose may also be used.~~

~~Rainbow Passage. When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colors. These take the shape of a long round arch with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look but no one ever finds it. When a man looks for something beyond reach, his friends say he is looking for the pot of gold at the end of the rainbow.~~

~~f) Normal breathing.~~

~~(V) Each test subject shall wear his or her respirator for at least ten minutes before starting the fit test.~~

~~(VI) Upon entering the test chamber, the test subject shall be given a six inch by five inch piece of paper towel or~~

other porous absorbent single ply material, folded in half and wetted with three quarters of one cc of pure IAA. The test subject will hang the wet towel on the hook at the top of the chamber.

(VII) Allow two minutes for the IAA test concentration to be reached before starting the fit test exercises. This would be an appropriate time to talk with the test subject, to explain the fit test, the importance of his or her cooperation, the purpose of the head exercises, or to demonstrate some of the exercises.

(VIII) Each exercise described in segment (IV) above shall be performed for at least one minute.

(IX) If at any time during the test, the subject detects the banana-like odor of IAA, he or she shall quickly exit from the test chamber and leave the test area to avoid olfactory fatigue.

(X) Upon returning to the selection room, the subject shall remove the respirator, repeat the odor sensitivity test, select and put on another respirator, return to the test chamber, etc. The process continues until a respirator that fits well has been found. Should the odor sensitivity test be failed, the subject shall wait about 5 minutes before retesting. Odor sensitivity will usually have returned by this time.

(XI) If a person cannot be fitted with the selection of half mask respirators, include full facepiece models in the selection process. When a respirator is found that passes the test, its efficiency shall be demonstrated for the subject by having him break the face seal and take a breath before exiting the chamber.

(XII) When the test subject leaves the chamber he or she shall remove the saturated towel, returning it to the test conductor. To keep the area from becoming contaminated, the used towels shall be kept in a self-sealing bag. There is no significant IAA concentration buildup in the test chamber from subsequent tests.

(XIII) Persons who have successfully passed this fit test may be assigned the use of the tested respirator in atmospheres with up to ten times the PEL of airborne lead. In other words this IAA protocol may be used to assign a protection factor no higher than ten.

(ii) Saccharin solution aerosol protocol.

(A) Taste threshold screening:

(I) Threshold screening as well as fit testing employees shall use an enclosure about the head and shoulders that is approximately twelve inches in diameter by fourteen inches tall with at least the front portion clear and that allows free movement of the head when a respirator is worn. An enclosure substantially similar to the 3M hood assembly of part #FT 14 and FT 15 combined is adequate.

(II) The test closure shall have a three quarter inch hole in front of the test subject's nose and mouth area to accommodate the nebulizer nozzle.

(III) The entire screening and testing procedure shall be explained to the test subject prior to the conduct of the screening test.

(IV) The test subject shall don the test enclosure. For the threshold screening test, he or she shall breathe through his or her open mouth with tongue extended.

(V) Using a DeVilbiss Model 40 Inhalation Medication Nebulizer or equivalent, the test conductor shall spray the threshold cheek solution into the enclosure. This nebulizer

shall be clearly marked to distinguish it from the fit test solution nebulizer.

(VI) The threshold cheek solution consists of 0.83 grams of sodium saccharin USP in 100 cc of warm water. It can be prepared by putting 1 cc of the test solution (see (C)(VI) below) in 100 cc of water.

(VII) To produce the aerosol the nebulizer bulb is firmly squeezed so that it collapses completely, then is released and allowed to fully expand.

(VIII) Ten squeezes are repeated rapidly and then the test subject is asked whether the saccharin can be tasted.

(IX) If the first response is negative, ten more squeezes are repeated rapidly and the test subject is again asked whether the saccharin is tasted.

(X) If the second response is negative ten more squeezes are repeated rapidly and the test subject is again asked whether the saccharin is tasted.

(XI) The test conductor will take note of the number of squeezes required to elicit a taste response.

(XII) If the saccharin is not tasted after thirty squeezes (Step (A)(IX)) the test subject may not perform the saccharin fit test.

(XIII) If a taste response is elicited, the test subject shall be asked to take note of the taste for reference in the fit test.

(XIV) Correct use of the nebulizer means that approximately 1 cc of liquid is used at a time in the nebulizer body.

(XV) The nebulizer shall be thoroughly rinsed in water, shaken dry, and refilled at least each morning and afternoon or at least every four hours.

(B) Respirator selection. Respirators shall be selected as described in Section (i)(B) above, except that each respirator shall be equipped with a particulate filter cartridge.

(C) Fit test.

(I) The fit test uses the same enclosure described in (i)(B)(I) and (II) above.

(II) Each test subject shall wear his or her respirator for at least ten minutes before starting the fit test.

(III) The test subject shall don the enclosure while wearing the respirator selected on Section (A) above. The respirator shall be properly adjusted and equipped with a particulate filter cartridge.

(IV) The test subject may not eat, drink (except plain water), or chew gum for fifteen minutes before the test.

(V) A second DeVilbiss Model 40 Inhalation Medication Nebulizer or equivalent is used to spray the fit test solution into the enclosure. This nebulizer shall be clearly marked to distinguish it from the screening test solution nebulizer.

(VI) The first test solution is prepared by adding 83 grams of sodium saccharin to 100 cc of warm water.

(VII) As before, the test subject shall breathe through the open mouth with tongue extended.

(VIII) The nebulizer is inserted into the hole in the front of the enclosure and the fit test solution is sprayed into the enclosure using the same technique as for the taste threshold screening and the same number of squeezes required to elicit a taste response in the screening. (See (A)(X) above.)

(IX) After generation of the aerosol the test subject shall be instructed to perform the following exercises for one minute each:

a) Normal breathing.

b) Deep breathing. Be certain breaths are deep and regular.

e) Turning head from side to side. Be certain movement is complete. Alert the test subject not to bump the respirator on the shoulders. Have the test subject inhale when his or her head is at either side.

d) Nodding head up and down. Be certain motions are complete. Alert the test subject not to bump the respirator on the chest. Have the test subject inhale when his or her head is in the fully up position.

e) Talking. Talk aloud and slowly for several minutes. The following paragraph is called the Rainbow Passage. Reading it will result in a wide range of facial movements, and thus be useful to satisfy this requirement. Alternative passages which serve the same purpose may also be used.

**Rainbow Passage.** When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colors. These take the shape of a long round arch with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look but no one ever finds it. When a man looks for something beyond reach, his friends say he is looking for the pot of gold at the end of the rainbow.

(X) Every thirty seconds, the aerosol concentration shall be replenished using one half the number of squeezes as initially (C)(VIII).

(XI) The test subject shall so indicate to the test conductor if at any time during the fit test the taste of saccharin is detected.

(XII) If the saccharin is detected the fit is deemed unsatisfactory and a different respirator shall be tried.

(XIII) Successful completion of the test protocol shall allow the use of the tested respirator in contaminated atmospheres up to ten times the PEL. In other words this protocol may be used to assign protection factors no higher than ten.

(iii) Irritant fume protocol:

(A) Respirator Selection. Respirators shall be selected as described in Section (i)(B) above, except that each respirator shall be equipped with high efficiency cartridges.

(B) Fit Test.

(i) The test subject shall be allowed to smell a weak concentration of the irritant smoke to familiarize him or her with its characteristic odor.

(ii) The test subject shall properly don the respirator selected as above, and wear it for at least ten [ten] minutes before starting the fit test.

(iii) The test conductor shall review this protocol with the test subject before testing.

(iv) The test subject shall perform the conventional positive pressure and negative pressure fit checks. Failure of either check shall be cause to select an alternate respirator.

(v) Break both ends of a ventilation smoke tube containing stannic oxychloride, such as the MSA part No. 5645, or equivalent. Attach a short length of tubing to one end of the smoke tube. Attach the other end of the smoke tube to a low pressure air pump set to deliver 200 milliliters per minute.

(vi) Advise the subject that the smoke can be irritating to the eyes and instruct him or her to keep his or her eyes closed while the test is performed.

(VII) The test conductor shall direct the stream of irritant smoke from the tube toward the face seal area of the test subject. The conductor shall begin at least twelve inches from the facepiece and gradually move to within one inch, moving around the whole perimeter of the mask.

(VIII) The following exercises shall be performed while the respirator seal is being challenged by the smoke. Each shall be performed for one minute.

a) Normal breathing.

b) Deep breathing. Be certain breaths are deep and regular.

e) Turning head from side to side. Be certain movement is complete. Alert the test subject not to bump the respirator on the shoulders. Have the test subject inhale when his or her head is at either side.

d) Nodding head up and down. Be certain motions are complete. Alert the test subject not to bump the respirator on the chest. Have the test subject inhale when his or her head is in the fully up position.

e) Talking slowly and distinctly, count backwards from 100.

f) Normal breathing.

(IX) If the irritant smoke produces an involuntary reaction (cough) by the test subject, the test conductor shall stop the test. In this case the tested respirator is rejected and another respirator shall be selected.

(X) Each test subject passing the smoke test without evidence of a response shall be given a sensitivity check of the smoke from the same tube to determine whether he or she reacts to the smoke. Failure to evoke a response shall void the test.

(XI) Steps (B)(IV), (VII), and (VIII) of this protocol shall be performed in a location with exhaust ventilation sufficient to prevent general contamination of the testing area by the irritant smoke.

(XII) Respirators successfully tested by the protocol may be used in contaminated atmospheres up to ten times the PEL. In other words this protocol may be used to assign protection factors not exceeding ten.

(e) Appendix E:)) Recommendations to employers concerning high-risk tasks (nonmandatory).

The department advises employers that the following tasks have a high risk for lead overexposure (this list is not complete; other tasks also can result in lead over-exposure):

- Any open flame operation involving lead-containing solder in a manner producing molten solder, including the manufacture or repair of motor vehicle radiators;
- Sanding, cutting or grinding of lead-containing solder;
- Breaking, recycling or manufacture of lead-containing batteries;
- Casting objects using lead, brass, or lead-containing alloys;
- Where lead-containing coatings or paints are present:
  - abrasive blasting
  - welding
  - cutting
  - torch burning
  - manual demolition of structures
  - manual scraping
  - manual sanding

- heat gun applications
- power tool cleaning
- rivet busting
- clean-up activities where dry expendable abrasives are used
- abrasive blasting enclosure movement and removal;
- Spray-painting with lead-containing paint;
- Using lead-containing mortar;
- Lead burning;
- Operation or cleaning of shooting facilities where lead bullets are used;
- Formulation or processing of lead-containing pigments or paints;
- Cutting, burning, or melting of lead-containing materials.

The department recommends that annual blood lead testing be offered to all employees potentially overexposed to lead, including those performing the tasks listed above, regardless of air lead levels. Research has shown that air lead levels often do not accurately predict workers' lead overexposure. The blood lead testing will provide the most information if performed during a period of peak lead exposure.

Employers should be aware that the United States Public Health Service has set a goal of eliminating occupational exposures which result in whole blood lead levels of 25 µg/dl or greater. This goal should guide whether employees' blood lead levels indicate lead overexposure.

If blood lead levels are elevated in an employee performing a task associated with lead overexposure, employers should assess the maintenance and effectiveness of exposure controls, hygiene facilities, respiratory protection program, the employee's work practices and personal hygiene, and the employee's respirator use, if any. If a deficiency exists in any of these areas, the employer should correct the problem.

**AMENDATORY SECTION** (Amending Order 88-23, filed 10/6/88, effective 11/7/88)

**WAC 296-62-07523 Benzene.** (1) Scope and application.

(a) This section applies to all occupational exposures to benzene. Chemical Abstracts Service Registry No. 71-43-2, except as provided in (b) and (c) of this subsection.

(b) This section does not apply to:

(i) The storage, transportation, distribution, dispensing, sale or use of gasoline, motor fuels, or other fuels containing benzene subsequent to its final discharge from bulk wholesale storage facilities, except that operations where gasoline or motor fuels are dispensed for more than four hours per day in an indoor location are covered by this section.

(ii) Loading and unloading operations at bulk wholesale storage facilities which use vapor control systems for all loading and unloading operations, except for the provisions of WAC 296-62-054 as incorporated into this section and the emergency provisions of subsections (7) and (9)(d) of this section.

(iii) The storage, transportation, distribution, or sale of benzene or liquid mixtures containing more than 0.1 percent benzene in intact containers or in transportation pipelines while sealed in such a manner as to contain benzene vapors or

liquid, except for the provisions of WAC 296-62-054 as incorporated into this section and the emergency provisions of subsections (7) and (9)(d) of this section.

(iv) Containers and pipelines carrying mixtures with less than 0.1 percent benzene and natural gas processing plants processing gas with less than 0.1 percent benzene.

(v) Work operations where the only exposure to benzene is from liquid mixtures containing 0.5 percent or less of benzene by volume, or the vapors released from such liquids until September 12, 1988; work operations where the only exposure to benzene is from liquid mixtures containing 0.3 percent or less of benzene by volume or the vapors released from such liquids from September 12, 1988, to September 12, 1989; and work operations where the only exposure to benzene is from liquid mixtures containing 0.1 percent or less of benzene by volume or the vapors released from such liquids after September 12, 1989; except that tire building machine operators using solvents with more than 0.1 percent benzene are covered by subsection (9) of this section.

(vi) Oil and gas drilling, production, and servicing operations.

(vii) Coke oven batteries.

(c) The cleaning and repair of barges and tankers which have contained benzene are excluded from subsection (6) of this section (Methods of compliance), subsection (5)(a) of this section (General), and subsection (5)(f) of this section (Accuracy of monitoring). Engineering and work practice controls shall be used to keep exposures below 10 ppm unless it is proven to be not feasible.

(2) Definitions.

(a) "Action level" means an airborne concentration of benzene of 0.5 ppm calculated as an 8-hour time-weighted average.

(b) "Authorized person" means any person specifically authorized by the employer whose duties require the person to enter a regulated area, or any person entering such an area as a designated representative of employees for the purpose of exercising the right to observe monitoring and measuring procedures under subsection (5) of this section, or any other person authorized by the Washington Industrial Safety and Health Act (WISHA) or regulations issued under WISHA.

(c) "Benzene" (C<sub>6</sub>H<sub>6</sub>) (CAS Registry No. 71-43-2) means liquefied or gaseous benzene. It includes benzene contained in liquid mixtures and the benzene vapors released by these liquids. It does not include trace amounts of unreacted benzene contained in solid materials.

(d) "Bulk wholesale storage facility" means a bulk terminal or bulk plant where fuel is stored prior to its delivery to wholesale customers.

(e) "Container" means any barrel, bottle, can, cylinder, drum, reaction vessel, storage tank, or the like, but does not include piping systems.

(f) "Day" means any part of a calendar day.

(g) "Director" means the director of the department of labor and industries, or his/her designated representative.

(h) "Emergency" means any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment which may or does result in an unexpected significant release of benzene.

(i) "Employee exposure" means exposure to airborne benzene which would occur if the employee were not using respiratory protective equipment.

(j) "Regulated area" means any area where airborne concentrations of benzene exceed or can reasonably be expected to exceed, the permissible exposure limits, either the 8-hour time-weighted average exposure of 1 ppm or the short-term exposure limit of 5 ppm for fifteen minutes.

(k) "Vapor control system" means any equipment used for containing the total vapors displaced during the loading of gasoline, motor fuel, or other fuel tank trucks and the displacing of these vapors through a vapor processing system or balancing the vapor with the storage tank. This equipment also includes systems containing the vapors displaced from the storage tank during the unloading of the tank truck which balance the vapors back to the tank truck.

(3) Permissible exposure limits (PELs).

(a) Time-weighted average limit (TWA). The employer shall assure that no employee is exposed to an airborne concentration of benzene in excess of one part of benzene per million parts of air (1 ppm) as an 8-hour time-weighted average.

(b) Short-term exposure limit (STEL). The employer shall assure that no employee is exposed to an airborne concentration of benzene in excess of 5 ppm as averaged over any fifteen minute period.

(4) Regulated areas.

(a) The employer shall establish a regulated area wherever the airborne concentration of benzene exceeds or can reasonably be expected to exceed the permissible exposure limits, either the 8-hour time-weighted average exposure of 1 ppm or the short-term exposure limit of 5 ppm for fifteen minutes.

(b) Access to regulated areas shall be limited to authorized persons.

(c) Regulated areas shall be determined from the rest of the workplace in any manner that minimizes the number of employees exposed to benzene within the regulated area.

(5) Exposure monitoring.

(a) General.

(i) Determinations of employee exposure shall be made from breathing zone air samples that are representative of each employee's average exposure to airborne benzene.

(ii) Representative 8-hour TWA employee exposures shall be determined on the basis of one sample or samples representing the full shift exposure for each job classification in each work area.

(iii) Determinations of compliance with the STEL shall be made from fifteen minute employee breathing zone samples measured at operations where there is reason to believe exposures are high, such as where tanks are opened, filled, unloaded, or gauged; where containers or process equipment are opened and where benzene is used for cleaning or as a solvent in an uncontrolled situation. The employer may use objective data, such as measurements from brief period measuring devices, to determine where STEL monitoring is needed.

(iv) Except for initial monitoring as required under (b) of this subsection, where the employer can document that one shift will consistently have higher employee exposures for an

operation, the employer shall only be required to determine representative employee exposure for that operation during the shift on which the highest exposure is expected.

(b) Initial monitoring.

(i) Each employer who has a place of employment covered under subsection (1)(a) of this section shall monitor each of these workplaces and work operations to determine accurately the airborne concentrations of benzene to which employees may be exposed.

(ii) The initial monitoring required under (b)(i) of this subsection shall be completed by sixty days after the effective date of this standard or within thirty days of the introduction of benzene into the workplace. Where the employer has monitored within one year prior to the effective date of this standard and the monitoring satisfies all other requirements of this section, the employer may rely on such earlier monitoring results to satisfy the requirements of (b)(i) of this subsection.

(c) Periodic monitoring and monitoring frequency.

(i) If the monitoring required by (b)(i) of this subsection reveals employee exposure at or above the action level but at or below the TWA, the employer shall repeat such monitoring for each such employee at least every year.

(ii) If the monitoring required by (b)(i) of this subsection reveals employee exposure above the TWA, the employer shall repeat such monitoring for each such employee at least every six months.

(iii) The employer may alter the monitoring schedule from every six months to annually for any employee for whom two consecutive measurements taken at least seven days apart indicate that the employee exposure has decreased to the TWA or below, but is at or above the action level.

(iv) Monitoring for the STEL shall be repeated as necessary to evaluate exposures of employees subject to short term exposures.

(d) Termination of monitoring.

(i) If the initial monitoring required by (b)(i) of this subsection reveals employee exposure to be below the action level the employer may discontinue the monitoring for that employee, except as otherwise required by (e) of this subsection.

(ii) If the periodic monitoring required by (c) of this subsection reveals that employee exposures, as indicated by at least two consecutive measurements taken at least seven days apart, are below the action level the employer may discontinue the monitoring for that employee, except as otherwise required by (e) of this subsection.

(e) Additional monitoring.

(i) The employer shall institute the exposure monitoring required under (b) and (c) of this subsection when there has been a change in the production, process, control equipment, personnel, or work practices which may result in new or additional exposures to benzene, or when the employer has any reason to suspect a change which may result in new or additional exposures.

(ii) Whenever spills, leaks, ruptures, or other breakdowns occur that may lead to employee exposure, the employer shall monitor (using area or personal sampling) after the cleanup of the spill or repair of the leak, rupture or

other breakdown to ensure that exposures have returned to the level that existed prior to the incident.

(f) Accuracy of monitoring. Monitoring shall be accurate, to a confidence level of ninety-five percent, to within plus or minus twenty-five percent for airborne concentrations of benzene.

(g) Employee notification of monitoring results.

(i) The employer shall, within fifteen working days after the receipt of the results of any monitoring performed under this standard, notify each employee of these results in writing either individually or by posting of results in an appropriate location that is accessible to affected employees.

(ii) Whenever the PELs are exceeded, the written notification required by (g)(i) of this subsection shall contain the corrective action being taken by the employer to reduce the employee exposure to or below the PEL, or shall refer to a document available to the employee which states the corrective actions to be taken.

(6) Methods of compliance.

(a) Engineering controls and work practices.

(i) The employer shall institute engineering controls and work practices to reduce and maintain employee exposure to benzene at or below the permissible exposure limits, except to the extent that the employer can establish that these controls are not feasible or where the provisions of (a)(iii) of this subsection or subsection (7)(a) of this section apply.

(ii) Wherever the feasible engineering controls and work practices which can be instituted are not sufficient to reduce employee exposure to or below the PELs, the employer shall use them to reduce employee exposure to the lowest levels achievable by these controls and shall supplement them by the use of respiratory protection which complies with the requirements of subsection (7) of this section.

(iii) Where the employer can document that benzene is used in a workplace less than a total of thirty days per year, the employer shall use engineering controls, work practice controls or respiratory protection or any combination of these controls to reduce employee exposure to benzene to or below the PELs, except that employers shall use engineering and work practice controls, if feasible, to reduce exposure to or below 10 ppm as an 8-hour TWA.

(b) Compliance program.

(i) When any exposures are over the PEL, the employer shall establish and implement a written program to reduce employee exposure to or below the PEL primarily by means of engineering and work practice controls, as required by (a) of this subsection.

(ii) The written program shall include a schedule for development and implementation of the engineering and work practice controls. These plans shall be reviewed and revised as appropriate based on the most recent exposure monitoring data, to reflect the current status of the program.

(iii) Written compliance programs shall be furnished upon request for examination and copying to the director, affected employees, and designated employee representatives.

(7) Respiratory protection.

(a) General. ~~((The employer shall provide respirators, and assure that they are used, where required by this section. Respirators shall be used in the following circumstances))~~

For employees who use respirators required by this section, the employer must provide respirators that comply with the requirements of this subsection. Respirators must be used during:

(i) ~~((During the time period))~~ Periods necessary to install or implement feasible engineering and work-practice controls;

(ii) ~~((In))~~ Work operations for which the employer establishes that compliance with either the TWA or STEL through the use of engineering and work-practice controls is not feasible ~~((, such as))~~; for example some maintenance and repair activities, vessel cleaning, or other operations where engineering and work-practice controls are infeasible because exposures are intermittent ~~((in nature))~~ and limited in duration;

(iii) ~~((In work situations where))~~ Work operations for which feasible engineering and work-practice controls are not yet sufficient, or are not required under subsection (6)(a)(iii) of this section, to reduce exposure to or below the PELs; ~~((and))~~

(iv) ~~((In))~~ Emergencies.

(b) Respirator ~~((selection))~~ program.

(i) ~~((Where respirators are required or allowed under this section, the employer shall select and provide, at no cost to the employee, the appropriate respirator as specified in Table 1 of this section, and shall assure that the employee uses the respirator provided))~~ The employer must implement a respiratory protection program as required by chapter 296-62 WAC, Part E (except WAC 296-62-07130(1), 296-62-07131(4)(b)(i) and (ii), and 296-62-07150 through 296-62-07156).

(ii) ~~((The employer shall select respirators from among those jointly approved by the Mine Safety and Health Administration and the National Institute for Occupational Safety and Health under the provisions of 30 CFR Part 11. Negative pressure respirators shall have filter elements approved by MSHA/NIOSH for organic vapors or benzene))~~ For air-purifying respirators, the employer must replace the air-purifying element at the expiration of its service life or at the beginning of each shift in which such elements are used, whichever comes first.

(iii) ~~((Any employee who cannot wear a negative pressure respirator shall be given the option of wearing a respirator with less breathing resistance such as a powered air-purifying respirator or supplied-air respirator.~~

(e) ~~Respirator program. The employer shall institute a respiratory protection program in accordance with Part E, Respiratory protection, WAC 296-62-071 through 296-62-07121.~~

(d) ~~Respirator use.~~

(i) ~~Where air-purifying respirators are used, the employer shall replace the air-purifying element at the expiration of service life or at the beginning of each shift in which they will be used, whichever comes first.~~

(ii) ~~If an air-purifying element becomes available with an end of useful life indicator for benzene approved by MSHA/NIOSH, the element may be used until such time as the indicator shows no further useful life.~~

(iii) ~~The employer shall permit employees who wear respirators to leave the regulated area to wash their faces and respirator facepieces as necessary in order to prevent skin~~

irritation associated with respirator use or to change the filter elements of air-purifying respirators whenever they detect a change in breathing resistance or chemical vapor breakthrough.

(e) Respirator fit testing.

(i) The employer shall perform, and certify the results of, either quantitative or qualitative fit tests at the time of initial fitting and at least annually thereafter for each employee wearing a negative pressure respirator. The test shall be used to select a respirator facepiece which exhibits minimum leakage and provides the required protection as prescribed in Table 1 of this section. The employer shall provide and assure that the employee wears a respirator demonstrated by the fit test to provide the required protection.

(ii) The employer shall follow the test protocols outlined in Appendix E of this standard for whichever type of fit testing the employer chooses)) If NIOSH certifies an air-purifying element with an end-of-service-life indicator for benzene, such an element may be used until the indicator shows no further useful life.

(c) Respirator selection.

(i) The employer must select the appropriate respirator from Table 1 of this section.

(ii) Any employee who cannot use a negative-pressure respirator must be allowed to use a respirator with less breathing resistance, such as a powered air-purifying respirator or supplied-air respirator.

TABLE 1. - RESPIRATORY PROTECTION FOR BENZENE

Airborne concentration of benzene or condition of use	Respirator type
(a) Less than or equal to 10 ppm.	(1) Half-mask air-purifying respirator with organic vapor cartridge.
(b) Less than or equal to 50 ppm.	(1) Full facepiece respirator with organic vapor cartridges. (1) Full facepiece gas mask with chin style canister. <sup>1</sup>
(c) Less than or equal to 100 ppm.	(1) Full facepiece powered air-purifying respirator with organic vapor canister. <sup>1</sup>
(d) Less than or equal to 1,000 ppm.	(1) Supplied air respirator with full facepiece in positive-pressure mode.
(e) Greater than 1,000 ppm or unknown concentration.	(1) Self-contained breathing apparatus with full facepiece in positive-pressure mode. (2) Full facepiece positive-pressure supplied-air respirator with auxiliary self-contained air supply.
(f) Escape .....	(1) Any organic vapor gas mask; or (2) Any self-contained breathing apparatus with full facepiece.

TABLE 1. - RESPIRATORY PROTECTION FOR BENZENE

Airborne concentration of benzene or condition of use	Respirator type
(g) Firefighting .....	(1) Full facepiece self-contained breathing apparatus in positive pressure mode.

<sup>1</sup>Canisters must have a minimum service life of four (4) hours when tested at 150 ppm benzene, at a flow rate of 64 LPM, 25° C, and 85% relative humidity for non-powered air purifying respirators. The flow rate shall be 115 LPM and 170 LPM respectively for tight fitting and loose fitting powered air-purifying respirators.

(8) Protective clothing and equipment. Personal protective clothing and equipment shall be worn where appropriate to prevent eye contact and limit dermal exposure to liquid benzene. Protective clothing and equipment shall be provided by the employer at no cost to the employee and the employer shall assure its use where appropriate. Eye and face protection shall meet the requirements of WAC 296-24-07801.

(9) Medical surveillance.

(a) General.

(i) The employer shall make available a medical surveillance program for employees who are or may be exposed to benzene at or above the action level thirty or more days per year; for employees who are or may be exposed to benzene at or above the PELs ten or more days per year; for employees who have been exposed to more than 10 ppm of benzene for thirty or more days in a year prior to the effective date of the standard when employed by their current employer; and for employees involved in the tire building operations called tire building machine operators, who use solvents containing greater than 0.1 percent benzene.

(ii) The employer shall assure that all medical examinations and procedures are performed by or under the supervision of a licensed physician and that all laboratory tests are conducted by an accredited laboratory.

(iii) The employer shall assure that persons other than licensed physicians who administer the pulmonary function testing required by this section shall complete a training course in spirometry sponsored by an appropriate governmental, academic, or professional institution.

(iv) The employer shall assure that all examinations and procedures are provided without cost to the employee and at a reasonable time and place.

(b) Initial examination.

(i) Within sixty days of the effective date of this standard, or before the time of initial assignment, the employer shall provide each employee covered by (a)(i) of this subsection with a medical examination including the following elements:

(A) A detailed occupational history which includes:

(I) Past work exposure to benzene or any other hematological toxins;

(II) A family history of blood dyscrasias including hematological neoplasms;

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(III) A history of blood dyscrasias including genetic hemoglobin abnormalities, bleeding abnormalities, abnormal function of formed blood elements;

(IV) A history of renal or liver dysfunction;

(V) A history of medicinal drugs routinely taken;

(VI) A history of previous exposure to ionizing radiation; and

(VII) Exposure to marrow toxins outside of the current work situation.

(B) A complete physical examination.

(C) Laboratory tests. A complete blood count including a leukocyte count with differential, a quantitative thrombocyte count, hematocrit, hemoglobin, erythrocyte count and erythrocyte indices (MCV, MCH, MCHC). The results of these tests shall be reviewed by the examining physician.

(D) Additional tests as necessary in the opinion of the examining physician, based on alterations to the components of the blood or other signs which may be related to benzene exposure.

(E) For all workers required to wear respirators for at least thirty days a year, the physical examination shall pay special attention to the cardiopulmonary system and shall include a pulmonary function test.

(ii) No initial medical examination is required to satisfy the requirements of (b)(i) of this subsection if adequate records show that the employee has been examined in accordance with the procedures of (b)(i) of this subsection within the twelve months prior to the effective date of this standard.

(c) Periodic examinations.

(i) The employer shall provide each employee covered under (a)(i) of this subsection with a medical examination annually following the previous examination. These periodic examinations shall include at least the following elements:

(A) A brief history regarding any new exposure to potential marrow toxins, changes in medicinal drug use, and the appearance of physical signs relating to blood disorders;

(B) A complete blood count including a leukocyte count with differential, quantitative thrombocyte count, hemoglobin, hematocrit, erythrocyte count and erythrocyte indices (MCV, MCH, MCHC); and

(C) Appropriate additional tests as necessary, in the opinion of the examining physician, in consequence of alterations in the components of the blood or other signs which may be related to benzene exposure.

(ii) Where the employee develops signs and symptoms commonly associated with toxic exposure to benzene, the employer shall provide the employee with an additional medical examination which shall include those elements considered appropriate by the examining physician.

(iii) For persons required to use respirators for at least thirty days a year, a pulmonary function test shall be performed every three years. A specific evaluation of the cardiopulmonary system shall be made at the time of the pulmonary function test.

(d) Emergency examinations.

(i) In addition to the surveillance required by (a)(i) of this subsection, if an employee is exposed to benzene in an emergency situation, the employer shall have the employee provide a urine sample at the end of the employee's shift and have a urinary phenol test performed on the sample within

seventy-two hours. The urine specific gravity shall be corrected to 1.024.

(ii) If the result of the urinary phenol test is below 75 mg phenol/L of urine, no further testing is required.

(iii) If the result of the urinary phenol test is equal to or greater than 75 mg phenol/L of urine, the employer shall provide the employee with a complete blood count including an erythrocyte count, leukocyte count with differential and thrombocyte count at monthly intervals for a duration of three months following the emergency exposure.

(iv) If any of the conditions specified in (e)(i) of this subsection exists, then the further requirements of (e) of this subsection shall be met and the employer shall, in addition, provide the employees with periodic examinations if directed by the physician.

(e) Additional examinations and referrals.

(i) Where the results of the complete blood count required for the initial and periodic examinations indicate any of the following abnormal conditions exist, then the blood count shall be repeated within two weeks.

(A) The hemoglobin level or the hematocrit falls below the normal limit (outside the ninety-five percent confidence interval (C.I.)) as determined by the laboratory for the particular geographic area and/or these indices show a persistent downward trend from the individual's preexposure norms; provided these findings cannot be explained by other medical reasons.

(B) The thrombocyte (platelet) count varies more than twenty percent below the employee's most recent values or falls outside the normal limit (ninety-five percent C.I.) as determined by the laboratory.

(C) The leukocyte count is below 4,000 per mm<sup>3</sup> or there is an abnormal differential count.

(ii) If the abnormality persists, the examining physician shall refer the employee to a hematologist or an internist for further evaluation unless the physician has good reason to believe such referral is unnecessary. (See Appendix C for examples of conditions where a referral may be unnecessary.)

(iii) The employer shall provide the hematologist or internist with the information required to be provided to the physician under this subsection and the medical record required to be maintained by subsection (11)(b)(ii) of this section.

(iv) The hematologist's or internist's evaluation shall include a determination as to the need for additional tests, and the employer shall assure that these tests are provided.

(f) Information provided to the physician. The employer shall provide the following information to the examining physician:

(i) A copy of this regulation and its appendices;

(ii) A description of the affected employee's duties as they relate to the employee's exposure;

(iii) The employee's actual or representative exposure level;

(iv) A description of any personal protective equipment used or to be used; and

(v) Information from previous employment-related medical examinations of the affected employee which is not otherwise available to the examining physician.

(g) Physician's written opinions.



(i) For each examination under this section, the employer shall obtain and provide the employee with a copy of the examining physician's written opinion within fifteen days of the examination. The written opinion shall be limited to the following information:

(A) The occupationally pertinent results of the medical examination and tests;

(B) The physician's opinion concerning whether the employee has any detected medical conditions which would place the employee's health at greater than normal risk of material impairment from exposure to benzene;

(C) The physician's recommended limitations upon the employee's exposure to benzene or upon the employee's use of protective clothing or equipment and respirators.

(D) A statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions resulting from benzene exposure which require further explanation or treatment.

(ii) The written opinion obtained by the employer shall not reveal specific records, findings, and diagnoses that have no bearing on the employee's ability to work in a benzene-exposed workplace.

(h) Medical removal plan.

(i) When a physician makes a referral to a hematologist/internist as required under (e)(ii) of this subsection, the employee shall be removed from areas where exposures may exceed the action level until such time as the physician makes a determination under (h)(ii) of this subsection.

(ii) Following the examination and evaluation by the hematologist/internist, a decision to remove an employee from areas where benzene exposure is above the action level or to allow the employee to return to areas where benzene exposure is above the action level shall be made by the physician in consultation with the hematologist/internist. This decision shall be communicated in writing to the employer and employee. In the case of removal, the physician shall state the required probable duration of removal from occupational exposure to benzene above the action level and the requirements for future medical examinations to review the decision.

(iii) For any employee who is removed pursuant to (h)(ii) of this subsection, the employer shall provide a follow-up examination. The physician, in consultation with the hematologist/internist, shall make a decision within six months of the date the employee was removed as to whether the employee shall be returned to the usual job or whether the employee should be removed permanently.

(iv) Whenever an employee is temporarily removed from benzene exposure pursuant to (h)(i) or (ii) of this subsection, the employer shall transfer the employee to a comparable job for which the employee is qualified (or can be trained for in a short period) and where benzene exposures are as low as possible, but in no event higher than the action level. The employer shall maintain the employee's current wage rate, seniority, and other benefits. If there is no such job available, the employer shall provide medical removal protection benefits until such a job becomes available or for six months, whichever comes first.

(v) Whenever an employee is removed permanently from benzene exposure based on a physician's recommenda-

tion pursuant to (h)(iii) of this subsection, the employee shall be given the opportunity to transfer to another position which is available or later becomes available for which the employee is qualified (or can be trained for in a short period) and where benzene exposures are as low as possible but in no event higher than the action level. The employer shall assure that such employee suffers no reduction in current wage rate, seniority, or other benefits as a result of the transfer.

(i) Medical removal protection benefits.

(i) The employer shall provide to an employee six months of medical removal protection benefits immediately following each occasion an employee is removed from exposure to benzene because of hematological findings pursuant to (h)(i) and (ii) of this subsection, unless the employee has been transferred to a comparable job where benzene exposures are below the action level.

(ii) For the purposes of this section, the requirement that an employer provide medical removal protection benefits means that the employer shall maintain the current wage rate, seniority, and other benefits of an employee as though the employee had not been removed.

(iii) The employer's obligation to provide medical removal protection benefits to a removed employee shall be reduced to the extent that the employee receives compensation for earnings lost during the period of removal either from a publicly or employer-funded compensation program, or from employment with another employer made possible by virtue of the employee's removal.

(10) Communication of benzene hazards to employees.

(a) Signs and labels.

(i) The employer shall post signs at entrances to regulated areas. The signs shall bear the following legend:

DANGER  
BENZENE  
CANCER HAZARD  
FLAMMABLE-NO SMOKING  
AUTHORIZED PERSONNEL ONLY  
RESPIRATOR REQUIRED

(ii) The employer shall ensure that labels or other appropriate forms of warning are provided for containers of benzene within the workplace. There is no requirement to label pipes. The labels shall comply with the requirements of WAC 296-62-05411 and in addition shall include the following legend:

DANGER  
CONTAINS BENZENE  
CANCER HAZARD

(b) Material safety data sheets.

(i) Employers shall obtain or develop, and shall provide access to their employees, to a material safety data sheet (MSDS) which addresses benzene and complies with WAC 296-62-054.

(ii) Employers who are manufacturers or importers shall:

(A) Comply with subsection (1) of this section; and

(B) Comply with the requirement in WISHA's hazard communication standard, WAC 296-62-054 (Hazard communication purpose), that they deliver to downstream employees an MSDS which addresses benzene.

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## (c) Information and training.

(i) The employer shall provide employees with information and training at the time of their initial assignment to a work area where benzene is present. If exposures are above the action level, employees shall be provided with information and training at least annually thereafter.

(ii) The training program shall be in accordance with the requirements of WAC 296-62-05415 (1) and (2), and shall include specific information on benzene for each category of information included in that section.

(iii) In addition to the information required under WAC 296-62-054, the employer shall:

(A) Provide employees with an explanation of the contents of this section, including Appendices A and B, and indicate to them where the standard is available; and

(B) Describe the medical surveillance program required under subsection (9) of this section, and explain the information contained in Appendix C.

## (1) Recordkeeping.

## (a) Exposure measurements.

(i) The employer shall establish and maintain an accurate record of all measurements required by subsection (5) of this section, in accordance with WAC 296-62-052.

## (ii) This record shall include:

(A) The dates, number, duration, and results of each of the samples taken, including a description of the procedure used to determine representative employee exposures;

(B) A description of the sampling and analytical methods used;

(C) A description of the type of respiratory protective devices worn, if any; and

(D) The name, Social Security number, job classification, and exposure levels of the employee monitored and all other employees whose exposure the measurement is intended to represent.

(iii) The employer shall maintain this record for at least the duration of employment plus thirty years, in accordance with Part B, Access to records, WAC 296-62-052 through 296-62-05223.

## (b) Medical surveillance.

(i) The employer shall establish and maintain an accurate record for each employee subject to medical surveillance required by subsection (9) of this section, in accordance with WAC 296-62-052.

## (ii) This record shall include:

(A) The name and Social Security number of the employee;

(B) The employer's copy of the physician's written opinion on the initial, periodic, and special examinations, including results of medical examinations and all tests, opinions, and recommendations;

(C) Any employee medical complaints related to exposure to benzene;

(D) A copy of the information provided to the physician as required by subsection (9)(f)(ii) through (v) of this section; and

(E) A copy of the employee's medical and work history related to exposure to benzene or any other hematologic toxins.

(iii) The employer shall maintain this record for at least the duration of employment plus thirty years, in accordance with Part B, Access to records, WAC 296-62-052 through 296-62-05223.

## (c) Availability.

(i) The employer shall assure that all records required to be maintained by this section shall be made available upon request to the director for examination and copying.

(ii) Employee exposure monitoring records required by this subsection shall be provided upon request for examination and copying to employees, employee representatives, and the director in accordance with WAC 296-62-05201 through 296-62-05209 and 296-62-05213 through 296-62-05217.

(iii) Employee medical records required by this subsection shall be provided upon request for examination and copying, to the subject employee, to anyone having the specific written consent of the subject employee, and to the director in accordance with WAC 296-62-052.

## (d) Transfer of records.

(i) The employer shall comply with the requirements involving transfer of records set forth in WAC 296-62-05205.

(ii) If the employer ceases to do business and there is no successor employer to receive and retain the records for the prescribed period, the employer shall notify the director, at least three months prior to disposal, and transmit them to the director if required by the director within that period.

## (12) Observation of monitoring.

(a) Employee observation. The employer shall provide affected employees, or their designated representatives, an opportunity to observe the measuring or monitoring of employee exposure to benzene conducted pursuant to subsection (5) of this section.

(b) Observation procedures. When observation of the measuring or monitoring of employee exposure to benzene requires entry into areas where the use of protective clothing and equipment or respirators is required, the employer shall provide the observer with personal protective clothing and equipment or respirators required to be worn by employees working in the area, assure the use of such clothing and equipment or respirators, and require the observer to comply with all other applicable safety and health procedures.

(13) ~~(Dates:~~

~~(a) Engineering and work practice controls required by subsection (6)(a) of this section shall be implemented no later than December 10, 1989.~~

~~(b) Coke and coal chemical operations may comply with (b)(ii) of this subsection or alternately include within the compliance program required by subsection (6)(b) of this section, a requirement to phase in engineering controls as equipment is repaired and replaced. For coke and coal chemical operations choosing the latter alternative, compliance with the engineering controls requirements of subsection (6)(a) of this section shall be achieved no later than December 10, 1992. Substantial compliance with the engineering control requirements shall be achieved no later than December 10, 1990.~~

(14)) Appendices. The information contained in WAC 296-62-07525, Appendices A, B, C, and D is not intended, by itself, to create any additional obligations not otherwise

imposed or to detract from any existing obligations. ((The protocols on respiratory fit testing in Appendix E are mandatory.))

**AMENDATORY SECTION** (Amending Order 94-07, filed 7/20/94, effective 9/20/94)

**WAC 296-62-07540 Formaldehyde.** (1) Scope and application. This standard applies to all occupational exposures to formaldehyde, i.e., from formaldehyde gas, its solutions, and materials that release formaldehyde.

(2) Definitions. For purposes of this standard, the following definitions shall apply:

(a) "Action level" means a concentration of 0.5 part formaldehyde per million parts of air (0.5 ppm) calculated as an 8-hour time-weighted average (TWA) concentration.

(b) "Approved" means approved by the director of the department of labor and industries or his/her authorized representative: *Provided, however,* That should a provision of this chapter state that approval by an agency or organization other than the department of labor and industries is required, such as Underwriters' Laboratories or the Mine Safety and Health Administration and the National Institute for Occupational Safety and Health, the provision of WAC 296-24-006 shall apply.

(c) "Authorized person" means any person required by work duties to be present in regulated work areas, or authorized to do so by the employer, by this section of the standard, or by the WISHA Act.

(d) "Director" means the director of the department of labor and industries, or his/her designated representative.

(e) "Emergency" is any occurrence, such as but not limited to equipment failure, rupture of containers, or failure of control equipment that results in an uncontrolled release of a significant amount of formaldehyde.

(f) "Employee exposure" means the exposure to airborne formaldehyde which would occur without corrections for protection provided by any respirator that is in use.

(g) "Formaldehyde" means the chemical substance, HCHO, Chemical Abstracts Service Registry No. 50-00-0.

(3) Permissible exposure limit (PEL).

(a) TWA: The employer shall assure that no employee is exposed to an airborne concentration of formaldehyde which exceeds 0.75 part formaldehyde per million parts of air as an 8-hour TWA.

(b) Short term exposure limit (STEL): The employer shall assure that no employee is exposed to an airborne concentration of formaldehyde which exceeds two parts formaldehyde per million parts of air (2 ppm) as a fifteen-minute STEL.

(4) Exposure monitoring.

(a) General.

(i) Each employer who has a workplace covered by this standard shall monitor employees to determine their exposure to formaldehyde.

(ii) Exception. Where the employer documents, using objective data, that the presence of formaldehyde or formaldehyde-releasing products in the workplace cannot result in airborne concentrations of formaldehyde that would cause any employee to be exposed at or above the action level or the

STEL under foreseeable conditions of use, the employer will not be required to measure employee exposure to formaldehyde.

(iii) When an employee's exposure is determined from representative sampling, the measurements used shall be representative of the employee's full shift or short-term exposure to formaldehyde, as appropriate.

(iv) Representative samples for each job classification in each work area shall be taken for each shift unless the employer can document with objective data that exposure levels for a given job classification are equivalent for different workshifts.

(b) Initial monitoring. The employer shall identify all employees who may be exposed at or above the action level or at or above the STEL and accurately determine the exposure of each employee so identified.

(i) Unless the employer chooses to measure the exposure of each employee potentially exposed to formaldehyde, the employer shall develop a representative sampling strategy and measure sufficient exposures within each job classification for each workshift to correctly characterize and not underestimate the exposure of any employee within each exposure group.

(ii) The initial monitoring process shall be repeated each time there is a change in production, equipment, process, personnel, or control measures which may result in new or additional exposure to formaldehyde.

(iii) If the employer receives reports or signs or symptoms of respiratory or dermal conditions associated with formaldehyde exposure, the employer shall promptly monitor the affected employee's exposure.

(c) Periodic monitoring.

(i) The employer shall periodically measure and accurately determine exposure to formaldehyde for employees shown by the initial monitoring to be exposed at or above the action level or at or above the STEL.

(ii) If the last monitoring results reveal employee exposure at or above the action level, the employer shall repeat monitoring of the employees at least every six months.

(iii) If the last monitoring results reveal employee exposure at or above the STEL, the employer shall repeat monitoring of the employees at least once a year under worst conditions.

(d) Termination of monitoring. The employer may discontinue periodic monitoring for employees if results from two consecutive sampling periods taken at least seven days apart show that employee exposure is below the action level and the STEL. The results must be statistically representative and consistent with the employer's knowledge of the job and work operation.

(e) Accuracy of monitoring. Monitoring shall be accurate, at the ninety-five percent confidence level, to within plus or minus twenty-five percent for airborne concentrations of formaldehyde at the TWA and the STEL and to within plus or minus thirty-five percent for airborne concentrations of formaldehyde at the action level.

(f) Employee notification of monitoring results. Within fifteen days of receiving the results of exposure monitoring conducted under this standard, the employer shall notify the affected employees of these results. Notification shall be in

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writing, either by distributing copies of the results to the employees or by posting the results. If the employee exposure is over either PEL, the employer shall develop and implement a written plan to reduce employee exposure to or below both PELs, and give written notice to employees. The written notice shall contain a description of the corrective action being taken by the employer to decrease exposure.

(g) Observation of monitoring.

(i) The employer shall provide affected employees or their designated representatives an opportunity to observe any monitoring of employee exposure to formaldehyde required by this standard.

(ii) When observation of the monitoring of employee exposure to formaldehyde requires entry into an area where the use of protective clothing or equipment is required, the employer shall provide the clothing and equipment to the observer, require the observer to use such clothing and equipment, and assure that the observer complies with all other applicable safety and health procedures.

(5) Regulated areas.

(a) The employer shall establish regulated areas where the concentration of airborne formaldehyde exceeds either the TWA or the STEL and post all entrances and accessways with signs bearing the following information:

DANGER  
FORMALDEHYDE  
IRRITANT AND POTENTIAL CANCER HAZARD  
AUTHORIZED PERSONNEL ONLY

(b) The employer shall limit access to regulated areas to authorized persons who have been trained to recognize the hazards of formaldehyde.

(c) An employer at a multi-employer worksite who establishes a regulated area shall communicate the access restrictions and locations of these areas to other employers with work operations at that worksite.

(6) Methods of compliance.

(a) Engineering controls and work practices. The employer shall institute engineering and work practice controls to reduce and maintain employee exposures to formaldehyde at or below the TWA and the STEL.

(b) Exception. Whenever the employer has established that feasible engineering and work practice controls cannot reduce employee exposure to or below either of the PELs, the employer shall apply these controls to reduce employee exposures to the extent feasible and shall supplement them with respirators which satisfy this standard.

(7) Respiratory protection.

(a) General. ~~(Where respiratory protection is required, the employer shall provide the respirators at no cost to the employee and shall assure that they are properly used. The respirators shall comply with the requirements of this standard and shall reduce the concentration of formaldehyde inhaled by the employee to at or below both the TWA and the STEL. Respirators shall be used in the following circumstances)~~ For employees who use respirators required by this section, the employer must provide respirators that comply with the requirements of this subsection. Respirators must be used during:

(i) ~~((During the interval))~~ Periods necessary to install or implement feasible engineering and work-practice controls;

(ii) ~~((In))~~ Work operations, such as maintenance and repair activities or vessel cleaning, for which the employer establishes that engineering and work-practice controls are not feasible;

(iii) ~~((In work situations where))~~ Work operations for which feasible engineering and work-practice controls are not yet sufficient to reduce exposure to or below the PELs; ~~((and))~~

(iv) ~~((In))~~ Emergencies.

(b) Respirator ~~((selection))~~ program.

~~(i) ((The appropriate respirators as specified in Table 1 shall be selected from those approved by the Mine Safety and Health Administration (MSHA) and by the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR Part 11))~~ The employer must implement a respiratory protection program as required by chapter 296-62 WAC, Part E (except WAC 296-62-07130(1), 296-62-07131 (4)(b)(i) and (ii), and 296-62-07150 through 296-62-07156).

~~(ii) ((The employer shall make available a powered air-purifying respirator adequate to protect against formaldehyde exposure to any employee who experiences difficulty wearing a negative-pressure respirator to reduce exposure to formaldehyde))~~ If air-purifying chemical-cartridge respirators are used, the employer must:

(A) Replace the cartridge after three hours of use or at the end of the workshift, whichever occurs first, unless the cartridge contains a NIOSH-certified end-of-service-life indicator (ESLI) to show when breakthrough occurs.

(B) Unless the canister contains a NIOSH-certified ESLI to show when breakthrough occurs, replace canisters used in atmospheres up to 7.5 ppm (10 x PEL) every four hours and industrial-sized canisters used in atmospheres up to 75 ppm (100 x PEL) every two hours, or at the end of the workshift, whichever occurs first.

(c) Respirator ~~((usage))~~ selection.

~~(i) ((Whenever respirator use is required by this standard, the employer shall institute a respiratory protection program in accordance with WAC 296-62-07109, 296-62-07111, 296-62-07115, and 296-62-07117.~~

~~(ii) The employer shall perform either quantitative or qualitative face fit tests in accordance with the procedures outlined in Appendix E at the time of initial fitting and at least annually thereafter for all employees required by this standard to wear negative pressure respirators.~~

~~(A) Respirators selected shall be from those exhibiting the best facepiece fit.~~

~~(B) No respirator shall be chosen that would potentially permit the employee to inhale formaldehyde at concentrations in excess of either the TWA or the STEL))~~ The employer must select appropriate respirators from Table 1 of this section.

TABLE 1  
MINIMUM REQUIREMENTS FOR RESPIRATORY PROTECTION  
AGAINST FORMALDEHYDE

Condition of use or formaldehyde concentration (ppm)	Minimum respirator required <sup>1</sup>
Up to 7.5 ppm (10 x PEL) . . . . .	Full facepiece with cartridges or canisters specifically approved for protection against formaldehyde <sup>2</sup> .
Up to 75 ppm (100 x PEL) . . . . .	Full-face mask with chin style or chest or back mounted type industrial size canister specifically approved for protection against formaldehyde.  Type C supplied-air respirator pressure demand or continuous flow type, with full facepiece, hood, or helmet.
Above 75 ppm or unknown (emergencies) (100 x PEL) . . . . .	Self-contained breathing apparatus (SCBA) with positive-pressure full facepiece.  Combination supplied-air, full facepiece positive-pressure respirator with auxiliary self-contained air supply.
Fire fighting . . . . .	SCBA with positive-pressure in full facepiece.
Escape . . . . .	SCBA in demand or pressure demand mode.  Full-face mask with chin style or front or back mounted type industrial size canister specifically approved for protection against formaldehyde.

<sup>1</sup>Respirators specified for use at higher concentrations may be used at lower concentrations.

<sup>2</sup> A half-mask respirator with cartridges specifically approved for protection against formaldehyde can be substituted for the full facepiece respirator providing that effective gas-proof goggles are provided and used in combination with the half-mask respirator.

~~((iii) Where air-purifying chemical cartridge respirators are used, the cartridges shall be replaced after three hours of use or at the end of the workshift, whichever is sooner unless the cartridge contains a NIOSH approved end-of-service indicator to show when breakthrough occurs.~~

~~(iv) Unless the canister contains a NIOSH approved end-of-service life indicator to show when breakthrough occurs, canisters used in atmospheres up to 7.5 ppm (10 x PEL) shall be replaced every four hours and industrial sized canisters used in atmospheres up to 75 ppm (100 x PEL) shall be replaced every two hours or at the end of the workshift, whichever is sooner.~~

~~(v) Employers shall permit employees to leave the work area to wash their faces and respirator facepieces as needed to prevent skin irritation from respirator use-)) (ii) The employer must provide a powered air-purifying respirator adequate to protect against formaldehyde exposure to any employee who has difficulty using a negative-pressure respirator.~~

(8) Protective equipment and clothing. Employers shall comply with the provisions of WAC 296-24-07501 and 296-

24-07801. When protective equipment or clothing is provided under these provisions, the employer shall provide these protective devices at no cost to the employee and assure that the employee wears them.

(a) Selection. The employer shall select protective clothing and equipment based upon the form of formaldehyde to be encountered, the conditions of use, and the hazard to be prevented.

(i) All contact of the eyes and skin with liquids containing one percent or more formaldehyde shall be prevented by the use of chemical protective clothing made of material impervious to formaldehyde and the use of other personal protective equipment, such as goggles and face shields, as appropriate to the operation.

(ii) Contact with irritating or sensitizing materials shall be prevented to the extent necessary to eliminate the hazard.

(iii) Where a face shield is worn, chemical safety goggles are also required if there is a danger of formaldehyde reaching the area of the eye.

(iv) Full body protection shall be worn for entry into areas where concentrations exceed 100 ppm and for emergency reentry into areas of unknown concentration.

(b) Maintenance of protective equipment and clothing.

(i) The employer shall assure that protective equipment and clothing that has become contaminated with formaldehyde is cleaned or laundered before its reuse.

(ii) When ventilating formaldehyde-contaminated clothing and equipment, the employer shall establish a storage area so that employee exposure is minimized. Containers for contaminated clothing and equipment and storage areas shall have labels and signs containing the following information:

DANGER

FORMALDEHYDE-CONTAMINATED (CLOTHING) EQUIPMENT  
AVOID INHALATION AND SKIN CONTACT

(iii) The employer shall assure that only persons trained to recognize the hazards of formaldehyde remove the contaminated material from the storage area for purposes of cleaning, laundering, or disposal.

(iv) The employer shall assure that no employee takes home equipment or clothing that is contaminated with formaldehyde.

(v) The employer shall repair or replace all required protective clothing and equipment for each affected employee as necessary to assure its effectiveness.

(vi) The employer shall inform any person who launders, cleans, or repairs such clothing or equipment of formaldehyde's potentially harmful effects and of procedures to safely handle the clothing and equipment.

(9) Hygiene protection.

(a) The employer shall provide change rooms, as described in WAC 296-24-120 for employees who are required to change from work clothing into protective clothing to prevent skin contact with formaldehyde.

(b) If employees' skin may become splashed with solutions containing one percent or greater formaldehyde, for example because of equipment failure or improper work practices, the employer shall provide conveniently located

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quick drench showers and assure that affected employees use these facilities immediately.

(c) If there is any possibility that an employee's eyes may be splashed with solutions containing 0.1 percent or greater formaldehyde, the employer shall provide acceptable eye-wash facilities within the immediate work area for emergency use.

(10) Housekeeping. For operations involving formaldehyde liquids or gas, the employer shall conduct a program to detect leaks and spills, including regular visual inspections.

(a) Preventative maintenance of equipment, including surveys for leaks, shall be undertaken at regular intervals.

(b) In work areas where spillage may occur, the employer shall make provisions to contain the spill, to decontaminate the work area, and to dispose of the waste.

(c) The employer shall assure that all leaks are repaired and spills are cleaned promptly by employees wearing suitable protective equipment and trained in proper methods for cleanup and decontamination.

(d) Formaldehyde-contaminated waste and debris resulting from leaks or spills shall be placed for disposal in sealed containers bearing a label warning of formaldehyde's presence and of the hazards associated with formaldehyde.

(11) Emergencies. For each workplace where there is the possibility of an emergency involving formaldehyde, the employer shall assure appropriate procedures are adopted to minimize injury and loss of life. Appropriate procedures shall be implemented in the event of an emergency.

(12) Medical surveillance.

(a) Employees covered.

(i) The employer shall institute medical surveillance programs for all employees exposed to formaldehyde at concentrations at or exceeding the action level or exceeding the STEL.

(ii) The employer shall make medical surveillance available for employees who develop signs and symptoms of overexposure to formaldehyde and for all employees exposed to formaldehyde in emergencies. When determining whether an employee may be experiencing signs and symptoms of possible overexposure to formaldehyde, the employer may rely on the evidence that signs and symptoms associated with formaldehyde exposure will occur only in exceptional circumstances when airborne exposure is less than 0.1 ppm and when formaldehyde is present in materials in concentrations less than 0.1 percent.

(b) Examination by a physician. All medical procedures, including administration of medical disease questionnaires, shall be performed by or under the supervision of a licensed physician and shall be provided without cost to the employee, without loss of pay, and at a reasonable time and place.

(c) Medical disease questionnaire. The employer shall make the following medical surveillance available to employees prior to assignment to a job where formaldehyde exposure is at or above the action level or above the STEL and annually thereafter. The employer shall also make the following medical surveillance available promptly upon determining that an employee is experiencing signs and symptoms indicative of possible overexposure to formaldehyde.

(i) Administration of a medical disease questionnaire, such as in Appendix D, which is designed to elicit information on work history, smoking history, any evidence of eye, nose, or throat irritation; chronic airway problems or hyperreactive airway disease; allergic skin conditions or dermatitis; and upper or lower respiratory problems.

(ii) A determination by the physician, based on evaluation of the medical disease questionnaire, of whether a medical examination is necessary for employees not required to wear respirators to reduce exposure to formaldehyde.

(d) Medical examinations. Medical examinations shall be given to any employee who the physician feels, based on information in the medical disease questionnaire, may be at increased risk from exposure to formaldehyde and at the time of initial assignment and at least annually thereafter to all employees required to wear a respirator to reduce exposure to formaldehyde. The medical examination shall include:

(i) A physical examination with emphasis on evidence of irritation or sensitization of the skin and respiratory system, shortness of breath, or irritation of the eyes.

(ii) Laboratory examinations for respirator wearers consisting of baseline and annual pulmonary function tests. As a minimum, these tests shall consist of forced vital capacity (FVC), forced expiratory volume in one second (FEV1), and forced expiratory flow (FEF).

(iii) Any other test which the examining physician deems necessary to complete the written opinion.

(iv) Counseling of employees having medical conditions that would be directly or indirectly aggravated by exposure to formaldehyde on the increased risk of impairment of their health.

(e) Examinations for employees exposed in an emergency. The employer shall make medical examinations available as soon as possible to all employees who have been exposed to formaldehyde in an emergency.

(i) The examination shall include a medical and work history with emphasis on any evidence of upper or lower respiratory problems, allergic conditions, skin reaction or hypersensitivity, and any evidence of eye, nose, or throat irritation.

(ii) Other examinations shall consist of those elements considered appropriate by the examining physician.

(f) Information provided to the physician. The employer shall provide the following information to the examining physician:

(i) A copy of this standard and Appendices A, C, D, and E;

(ii) A description of the affected employee's job duties as they relate to the employee's exposure to formaldehyde;

(iii) The representative exposure level for the employee's job assignment;

(iv) Information concerning any personal protective equipment and respiratory protection used or to be used by the employee; and

(v) Information from previous medical examinations of the affected employee within the control of the employer.

(vi) In the event of a nonroutine examination because of an emergency, the employer shall provide to the physician as soon as possible: A description of how the emergency occurred and the exposure the victim may have received.

(g) Physician's written opinion.

(i) For each examination required under this standard, the employer shall obtain a written opinion from the examining physician. This written opinion shall contain the results of the medical examination except that it shall not reveal specific findings or diagnoses unrelated to occupational exposure to formaldehyde. The written opinion shall include:

(A) The physician's opinion as to whether the employee has any medical condition that would place the employee at an increased risk of material impairment of health from exposure to formaldehyde;

(B) Any recommended limitations on the employee's exposure or changes in the use of personal protective equipment, including respirators;

(C) A statement that the employee has been informed by the physician of any medical conditions which would be aggravated by exposure to formaldehyde, whether these conditions may have resulted from past formaldehyde exposure or from exposure in an emergency, and whether there is a need for further examination or treatment.

(ii) The employer shall provide for retention of the results of the medical examination and tests conducted by the physician.

(iii) The employer shall provide a copy of the physician's written opinion to the affected employee within fifteen days of its receipt.

(h) Medical removal.

(i) The provisions of this subdivision apply when an employee reports significant irritation of the mucosa of the eyes or of the upper airways, respiratory sensitization, dermal irritation, or dermal sensitization attributed to workplace formaldehyde exposure. Medical removal provisions do not apply in case of dermal irritation or dermal sensitization when the product suspected of causing the dermal condition contains less than 0.05% formaldehyde.

(ii) An employee's report of signs or symptoms of possible overexposure to formaldehyde shall be evaluated by a physician selected by the employer pursuant to (c) of this subsection. If the physician determines that a medical examination is not necessary under (c)(ii) of this subsection, there shall be a two-week evaluation and remediation period to permit the employer to ascertain whether the signs or symptoms subside untreated or with the use of creams, gloves, first aid treatment, or personal protective equipment. Industrial hygiene measures that limit the employee's exposure to formaldehyde may also be implemented during this period. The employee shall be referred immediately to a physician prior to expiration of the two-week period if the signs or symptoms worsen. Earnings, seniority, and benefits may not be altered during the two-week period by virtue of the report.

(iii) If the signs or symptoms have not subsided or been remedied by the end of the two-week period, or earlier if signs or symptoms warrant, the employee shall be examined by a physician selected by the employer. The physician shall presume, absent contrary evidence, that observed dermal irritation or dermal sensitization are not attributable to formaldehyde when products to which the affected employee is exposed contain less than 0.1% formaldehyde.

(iv) Medical examinations shall be conducted in compliance with the requirements of (e)(i) and (ii) of this subsec-

tion. Additional guidelines for conducting medical exams are contained in WAC 296-62-07546, Appendix C.

(v) If the physician finds that significant irritation of the mucosa of the eyes or the upper airways, respiratory sensitization, dermal irritation, or dermal sensitization result from workplace formaldehyde exposure and recommends restrictions or removal. The employer shall promptly comply with the restrictions or recommendations of removal. In the event of a recommendation of removal, the employer shall remove the affected employee from the current formaldehyde exposure and if possible, transfer the employee to work having no or significantly less exposure to formaldehyde.

(vi) When an employee is removed pursuant to item (v) of this subdivision, the employer shall transfer the employee to comparable work for which the employee is qualified or can be trained in a short period (up to six months), where the formaldehyde exposures are as low as possible, but not higher than the action level. The employer shall maintain the employee's current earnings, seniority, and other benefits. If there is no such work available, the employer shall maintain the employee's current earnings, seniority, and other benefits until such work becomes available, until the employee is determined to be unable to return to workplace formaldehyde exposure, until the employee is determined to be able to return to the original job status, or for six months, whichever comes first.

(vii) The employer shall arrange for a follow-up medical examination to take place within six months after the employee is removed pursuant to this subsection. This examination shall determine if the employee can return to the original job status, or if the removal is to be permanent. The physician shall make a decision within six months of the date the employee was removed as to whether the employee can be returned to the original job status, or if the removal is to be permanent.

(viii) An employer's obligation to provide earnings, seniority, and other benefits to a removed employee may be reduced to the extent that the employee receives compensation for earnings lost during the period of removal either from a publicly or employer-funded compensation program or from employment with another employer made possible by virtue of the employee's removal.

(ix) In making determinations of the formaldehyde content of materials under this subsection the employer may rely on objective data.

(i) Multiple physician review.

(i) After the employer selects the initial physician who conducts any medical examination or consultation to determine whether medical removal or restriction is appropriate, the employee may designate a second physician to review any findings, determinations, or recommendations of the initial physician and to conduct such examinations, consultations, and laboratory tests as the second physician deems necessary and appropriate to evaluate the effects of formaldehyde exposure and to facilitate this review.

(ii) The employer shall promptly notify an employee of the right to seek a second medical opinion after each occasion that an initial physician conducts a medical examination or consultation for the purpose of medical removal or restriction.

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(iii) The employer may condition its participation in, and payment for, the multiple physician review mechanism upon the employee doing the following within fifteen days after receipt of the notification of the right to seek a second medical opinion, or receipt of the initial physician's written opinion, whichever is later:

(A) The employee informs the employer of the intention to seek a second medical opinion; and

(B) The employee initiates steps to make an appointment with a second physician.

(iv) If the findings, determinations, or recommendations of the second physician differ from those of the initial physician, then the employer and the employee shall assure that efforts are made for the two physicians to resolve the disagreement. If the two physicians are unable to quickly resolve their disagreement, then the employer and the employee through their respective physicians shall designate a third physician who shall be a specialist in the field at issue:

(A) To review the findings, determinations, or recommendations of the prior physicians; and

(B) To conduct such examinations, consultations, laboratory tests, and discussions with prior physicians as the third physician deems necessary to resolve the disagreement of the prior physicians.

(v) In the alternative, the employer and the employee or authorized employee representative may jointly designate such third physician.

(vi) The employer shall act consistent with the findings, determinations, and recommendations of the third physician, unless the employer and the employee reach an agreement which is otherwise consistent with the recommendations of at least one of the three physicians.

#### (13) Hazard communication.

(a) General. Notwithstanding any exemption granted in WAC 296-62-05403 (6)(c) for wood products, each employer who has a workplace covered by this standard shall comply with the requirements of WAC 296-62-05409 through 296-62-05419. The definitions of the hazard communication standard shall apply under this standard.

(i) The following shall be subject to the hazard communication requirements of this section: Formaldehyde gas, all mixtures or solutions composed of greater than 0.1 percent formaldehyde, and materials capable of releasing formaldehyde into the air under reasonably foreseeable concentrations reaching or exceeding 0.1 ppm.

(ii) As a minimum, specific health hazards that the employer shall address are: Cancer, irritation and sensitization of the skin and respiratory system, eye and throat irritation, and acute toxicity.

(b) Manufacturers and importers who produce or import formaldehyde or formaldehyde-containing products shall provide downstream employers using or handling these products with an objective determination through the required labels and MSDSs if these items may constitute a health hazard within the meaning of WAC 296-62-05407 under normal conditions of use.

#### (c) Labels.

(i) The employer shall assure that hazard warning labels complying with the requirements of WAC 296-62-05411 are affixed to all containers of materials listed in (a)(i) of this

subsection, except to the extent that (a)(i) of this subsection is inconsistent with this item.

(ii) Information on labels. As a minimum, for all materials listed in (a)(i) of this subsection, capable of releasing formaldehyde at levels of 0.1 ppm to 0.5 ppm, labels shall identify that the product contains formaldehyde: List the name and address of the responsible party; and state that physical and health hazard information is readily available from the employer and from material safety data sheets.

(iii) For materials listed in (a)(i) of this subsection, capable of releasing formaldehyde at levels above 0.5 ppm, labels shall appropriately address all the hazards as defined in Part C, WAC 296-62-054 through 296-62-05425, and Appendices A and B, including respiratory sensitization, and shall contain the words "Potential Cancer Hazard."

(iv) In making the determinations of anticipated levels of formaldehyde release, the employer may rely on objective data indicating the extent of potential formaldehyde release under reasonably foreseeable conditions of use.

(v) Substitute warning labels. The employer may use warning labels required by other statutes, regulations, or ordinances which impart the same information as the warning statements required by this subitem.

#### (d) Material safety data sheets.

(i) Any employer who uses formaldehyde-containing materials listed in (a)(i) of this subsection shall comply with the requirements of WAC 296-62-05413 with regard to the development and updating of material safety data sheets.

(ii) Manufacturers, importers, and distributors of formaldehyde containing materials listed in (a)(i) of this subsection shall assure that material safety data sheets and updated information are provided to all employers purchasing such materials at the time of the initial shipment and at the time of the first shipment after a material safety data sheet is updated.

(e) Written hazard communication program. The employer shall develop, implement, and maintain at the workplace, a written hazard communication program for formaldehyde exposures in the workplace, which at a minimum describes how the requirements specified in this section for labels and other forms of warning and material safety data sheets, and subsection (14) of this section for employee information and training, will be met. Employees in multi-employer workplaces shall comply with the requirements of WAC 296-62-05409 (2)(b).

#### (14) Employee information and training.

(a) Participation. The employer shall assure that all employees who are assigned to workplaces where there is a health hazard from formaldehyde participate in a training program, except that where the employer can show, using objective data, that employees are not exposed to formaldehyde at or above 0.1 ppm, the employer is not required to provide training.

(b) Frequency. Employers shall provide such information and training to employees at the time of their initial assignment and whenever a new exposure to formaldehyde is introduced into their work area. The training shall be repeated at least annually.

(c) Training program. The training program shall be conducted in a manner which the employee is able to understand and shall include:



(i) A discussion of the contents of this regulation and the contents of the material safety data sheet;

(ii) The purpose for and a description of the medical surveillance program required by this standard, including:

(A) A description of the potential health hazards associated with exposure to formaldehyde and a description of the signs and symptoms of exposure to formaldehyde.

(B) Instructions to immediately report to the employer the development of any adverse signs or symptoms that the employee suspects is attributable to formaldehyde exposure.

(iii) Description of operations in the work area where formaldehyde is present and an explanation of the safe work practices appropriate for limiting exposure to formaldehyde in each job;

(iv) The purpose for, proper use of, and limitations of personal protective clothing ~~((and equipment))~~;

(v) Instructions for the handling of spills, emergencies, and clean-up procedures;

(vi) An explanation of the importance of engineering and work practice controls for employee protection and any necessary instruction in the use of these controls; ~~((and))~~

(vii) A review of emergency procedures including the specific duties or assignments of each employee in the event of an emergency; and

(viii) The purpose, proper use, limitations, and other training requirements for respiratory protection as required by chapter 296-62 WAC, Part E.

(d) Access to training materials.

(i) The employer shall inform all affected employees of the location of written training materials and shall make these materials readily available, without cost, to the affected employees.

(ii) The employer shall provide, upon request, all training materials relating to the employee training program to the director of labor and industries, or his/her designated representative.

(15) Recordkeeping.

(a) Exposure measurements. The employer shall establish and maintain an accurate record of all measurements taken to monitor employee exposure to formaldehyde. This record shall include:

(i) The date of measurement;

(ii) The operation being monitored;

(iii) The methods of sampling and analysis and evidence of their accuracy and precision;

(iv) The number, durations, time, and results of samples taken;

(v) The types of protective devices worn; and

(vi) The names, job classifications, Social Security numbers, and exposure estimates of the employees whose exposures are represented by the actual monitoring results.

(b) Exposure determinations. Where the employer has determined that no monitoring is required under this standard, the employer shall maintain a record of the objective data relied upon to support the determination that no employee is exposed to formaldehyde at or above the action level.

(c) Medical surveillance. The employer shall establish and maintain an accurate record for each employee subject to

medical surveillance under this standard. This record shall include:

(i) The name and Social Security number of the employee;

(ii) The physician's written opinion;

(iii) A list of any employee health complaints that may be related to exposure to formaldehyde; and

(iv) A copy of the medical examination results, including medical disease questionnaires and results of any medical tests required by the standard or mandated by the examining physician.

~~((d))~~ ~~((Respirator fit testing-~~

~~((i) The employer shall establish and maintain accurate records for employees subject to negative pressure respirator fit testing required by this standard.~~

~~((ii) This record shall include:~~

~~((A) A copy of the protocol selected for respirator fit testing;~~

~~((B) A copy of the results of any fit testing performed;~~

~~((C) The size and manufacturer of the types of respirators available for selection; and~~

~~((D) The date of the most recent fit testing, the name and Social Security number of each tested employee, and the respirator type and facepiece selected.~~

~~((e))~~ Record retention. The employer shall retain records required by this standard for at least the following periods:

(i) Exposure records and determinations shall be kept for at least thirty years; and

(ii) Medical records shall be kept for the duration of employment plus thirty years ~~((+and~~

~~((iii) Respirator fit testing records shall be kept until replaced by a more recent record)).~~

~~((f))~~ ~~((e))~~ Availability of records.

(i) Upon request, the employer shall make all records maintained as a requirement of this standard available for examination and copying to the director of labor and industries, or his/her designated representative.

(ii) The employer shall make employee exposure records, including estimates made from representative monitoring and available upon request for examination and copying, to the subject employee, or former employee, and employee representatives in accordance with WAC 296-62-052 through 296-62-05209 and 296-62-05213 through 296-62-05217.

(iii) Employee medical records required by this standard shall be provided upon request for examination and copying, to the subject employee, or former employee, or to anyone having the specific written consent of the subject employee or former employee in accordance with WAC 296-62-05201 through 296-62-05209, and 296-62-05213 through 296-62-05217.

AMENDATORY SECTION (Amending Order 92-15, filed 2/3/93, effective 3/15/93)

WAC 296-62-07615 Respiratory protection. (1) General. ~~((The employer shall provide respirators, and ensure that they are used, where required by this section. Respirators shall be used in the following circumstances))~~ For employees who use respirators required by this section, the employer

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must provide respirators that comply with the requirements of this subsection. Respirators must be used during:

(a) ~~((During the time period))~~ Periods necessary to install or implement feasible engineering and work-practice controls;

(b) ~~((In))~~ Work operations for which the employer establishes that engineering and work-practice controls are not feasible;

(c) ~~((In work situations where))~~ Work operations for which feasible engineering and work-practice controls are not yet sufficient to reduce exposure to or below the PEL; ~~((and))~~

(d) ~~((In))~~ Emergencies.

(2) Respirator ~~((selection.~~

~~(a) Where respirators are required or allowed under WAC 296-62-076, the employer shall select and provide, at no cost to the employee, the appropriate respirator as specified in Table 1, and shall assure that the employee uses the respirator provided.~~

~~(b) The employer shall select respirators from among those approved by the Mine Safety and Health Administration and the National Institute for Occupational Safety and Health under the provisions of 30 C.F.R. Part 11 and Part E of this chapter.~~

~~(c) Any employee who cannot wear a negative pressure respirator shall be given the option of wearing a positive pressure respirator or any supplied-air respirator operated in the continuous flow or pressure demand mode.)~~ program. The employer must implement a respiratory protection program as required by chapter 296-62 WAC, Part E (except WAC 296-62-07130(1) and 296-62-07150 through 296-62-07156).

~~(3) Respirator ((program. The employer shall institute a respiratory protection program in accordance with Part E of this chapter.~~

~~(4) Respirator use.~~

~~(a) Where air purifying respirators (cartridge or canister) are used, the employer shall replace the air purifying element as needed to maintain the effectiveness of the respirator. The employer shall ensure that each cartridge is dated at the beginning of use.~~

~~(b) Employees who wear respirators shall be allowed to leave the regulated area to readjust the facepiece or to wash their faces and to wipe clean the facepieces on their respirators in order to minimize potential skin irritation associated with respirator use))~~ selection.

(i) The employer must select, and ensure that employees use, the appropriate respirator from Table 1 of this section.

Table 1.—Respiratory Protection for MDA

Airborne concentration of MDA or condition of use	Respirator type
a. Less than or equal to 10xPEL	(1) Half-mask respirator with HEPA <sup>1</sup> cartridge <sup>2</sup> .
b. Less than or equal to 50xPEL	(1) Full facepiece respirator with HEPA <sup>1</sup> cartridge or canister <sup>2</sup> .
c. Less than or equal to 1000xPEL	(1) Full facepiece powered air-purifying respirator with HEPA <sup>1</sup> cartridges <sup>2</sup> .

Table 1.—Respiratory Protection for MDA

d. Greater than 1000xPEL or	(1) Self-contained breathing unknown concentrations apparatus with full facepiece in positive pressure mode;
	(2) Full facepiece positive pressure demand supplied-air respirator with auxiliary self-contained air supply.
e. Escape	(1) Any full facepiece air-purifying respirator with HEPA <sup>1</sup> cartridges <sup>2</sup> ;
	(2) Any positive pressure or continuous flow self-contained breathing apparatus with full facepiece or hood.
f. Fire fighting	(1) Full facepiece self-contained breathing apparatus in positive pressure demand mode.

Note: Respirators assigned for higher environmental concentrations may be used at lower concentrations.

<sup>1</sup> High efficiency particulate in air filter (HEPA) means a filter that is at least 99.97 percent efficient against mono-dispersed particles of 0.3 micrometers or larger.

<sup>2</sup> Combination HEPA/organic vapor cartridges shall be used whenever MDA in liquid form or a process requiring heat is used.

~~((5) Respirator fit testing.~~

~~(a) The employer shall perform and record the results of either quantitative or qualitative fit tests at the time of initial fitting and at least annually thereafter for each employee wearing a negative pressure respirator. The test shall be used to select a respirator facepiece which provides the required protection as prescribed in Table 1.~~

~~(b) The employer shall follow the test protocols outlined in Appendix E of this standard for whichever type of fit testing the employer chooses.)~~ (ii) Any employee who cannot use a negative-pressure respirator must be given the option of using a positive-pressure respirator, or a supplied-air respirator operated in the continuous-flow or pressure-demand mode.

**AMENDATORY SECTION** (Amending WSR 97-19-014, filed 9/5/97, effective 11/5/97)

**WAC 296-62-07715 Respiratory protection.** (1) General. ~~((The employer shall provide respirators, and ensure that they are used, where required by WAC 296-62-077 through 296-62-07753. Respirators shall be used in the following circumstances))~~ For employees who use respirators required by WAC 296-62-077 through 296-62-07747, the employer must provide respirators that comply with the requirements of this section. Respirators must be used during:

~~(a) ((During the interval))~~ Periods necessary to install or implement feasible engineering and work-practice controls;

~~(b) ((In))~~ Work operations, such as maintenance and repair activities, ~~((or other activities))~~ for which engineering and work-practice controls are not feasible;

~~(c) ((In work situations where))~~ Work operations for which feasible engineering and work-practice controls are

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not yet sufficient to reduce employee exposure to or below the permissible exposure limits;

(d) ~~((In))~~ Emergencies;

(e) ~~((In))~~ Work operations in all regulated areas, except for construction activities which follow requirements set forth in WAC 296-62-07715 (1)(g);

(f) Work operations whenever employee exposure exceeds the permissible exposure limits;

(g) ~~((During))~~ The following construction activities:

(i) ~~((During all))~~ Class I asbestos ((jobs)) work;

(ii) ~~((During all))~~ Class II work where the ACM is not removed in a substantially intact state;

(iii) ~~((During all))~~ Class II and Class III work which is not performed using wet methods, ~~((provided, however, that respirators need not be worn during))~~ except for removal of ACM from sloped roofs when a negative-exposure assessment has been made and the ACM is removed in an intact state;

(iv) ~~((During all))~~ Class II and Class III asbestos ((jobs where the employer does not produce a—"")) work for which a negative-exposure assessment((")) has not been conducted;

(v) ~~((During all))~~ Class III ((jobs where)) work when TSI or surfacing ACM or PACM is being disturbed; ~~((and))~~

(vi) ~~((During all))~~ Class IV work performed within regulated areas where employees who are performing other work are required to wear respirators.

(2) Respirator ((selection)) program.

(a) ~~((Where respirators are used, the employer shall select and provide, at no cost to the employee, the appropriate respirator as specified in Table 1 of this section or in WAC 296-62-07715(2), and shall ensure that the employee uses the respirator provided))~~ The employer must implement a respiratory protection program as required by chapter 296-62 WAC, Part E (except WAC 296-62-07130(1) and 296-62-07150 through 296-62-07156).

(b) ~~((The employer shall select respirators from among those jointly approved as being acceptable for protection by the Mine Safety and Health Administration (MSHA) and the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR Part 11))~~ The employer must provide a tight-fitting, powered, air-purifying respirator instead of any negative-pressure respirators specified in Table 1 of this section when an employee chooses to use this type of respirator and the respirator provides adequate protection to the employee.

(c) ~~((The employer shall provide a tight fitting powered, air-purifying respirator in lieu of any negative pressure respirator specified in Table 1 of this section whenever:~~

(i) ~~An employee chooses to use this type of respirator; and~~

~~((ii) This respirator will provide adequate protection to the employee))~~ The employer must inform any employee required to wear a respirator under this section that the employee may require the employer to provide a tight-fitting, powered, air-purifying respirator instead of any negative-pressure respirator specified in Table 1 of this section.

(d) ~~((The employer shall inform any employee required to wear a respirator under this subsection that the employee may require the employer to provide a powered air purifying respirator in lieu of a negative pressure respirator.~~

~~(e) In addition to the selection criterion below, the employer shall provide a half-mask air purifying respirator, other than a disposable respirator, equipped with high efficiency filters whenever the employee performs the following activities: Class II and III asbestos jobs where the employer does not produce a negative exposure assessment; and Class III jobs where TSI or surfacing ACM or PACM is being disturbed)~~ No employee must be assigned to tasks requiring the use of respirators if, based on their most recent medical examination, the examining physician determines that the employee will be unable to function normally using a respirator, or that the safety or health of the employee or other employees will be impaired by the use of a respirator. Such employees must be assigned to another job or given the opportunity to transfer to a different position, the duties of which they can perform. If such a transfer position is available, the position must be with the same employer, in the same geographical area, and with the same seniority, status, and rate of pay the employee had just prior to such transfer.

(3) Respirator selection.

(a) The employer must select and provide the appropriate respirator from Table 1 of this section, and ensure that the employee uses the respirator provided.

(b) The employer must provide a half-mask, air-purifying respirator, other than a disposable respirator, that is equipped with a high-efficiency filter when the employee performs:

(i) Class II and III asbestos work and the employer has not conducted a negative-exposure assessment;

(ii) Class III asbestos work when TSI or surfacing ACM or PACM is being disturbed.

TABLE 1—RESPIRATORY PROTECTION FOR ASBESTOS FIBERS

Airborne concentration of asbestos or conditions of use	Required respirator. (See Note a.)
Not in excess of 1 f/cc (10 X PEL), or otherwise as required independent of exposure	Half-mask air-purifying respirator other than a disposable respirator, equipped with high efficiency filters. (See Note b.)
Not in excess of 5 f/cc (50 X PEL)	Full facepiece air-purifying respirator equipped with high efficiency filters.
Not in excess of 10 f/cc (100 X PEL)	Any powered air-purifying respirator equipped with high efficiency filters or any supplied-air respirator operated in continuous flow mode.
Not in excess of 100 f/cc (1,000 X PEL)	Full facepiece supplied-air respirator operated in pressure demand mode.

Greater than 100 f/cc (1,000 X PEL) or unknown concentration Full facepiece supplied-air respirator operated in pressure demand mode, equipped with an auxiliary positive pressure self-contained breathing apparatus or HEPA filter egress cartridges. (See Note c.)

Note:

- a. Respirators assigned for higher environmental concentrations may be used at lower concentrations.
- b. A high-efficiency filter means a filter that is capable of trapping and retaining at least 99.97 percent of all monodispersed particles of 0.3 micrometers mean aerodynamic diameter or larger.
- (c. See subsection (5)(c) of this section for fit testing requirements.

~~(3))~~ (4) Special respiratory protection requirements.

(a) Unless specifically identified in this subsection, respirator selection for asbestos removal, demolition, and renovation operations shall be in accordance with Table 1 of subsection ~~((2))~~ (3) of this section. The employer shall provide and require to be worn, at no cost to the employee, a full facepiece supplied-air respirator operated in the pressure demand mode equipped with either an auxiliary positive pressure self-contained breathing apparatus or a HEPA filter egress cartridge, to employees engaged in the following asbestos operations:

(i) Inside negative pressure enclosures used for removal, demolition, and renovation of friable asbestos from walls, ceilings, vessels, ventilation ducts, elevator shafts, and other structural members, but does not include pipes or piping systems; or

(ii) Any dry removal of asbestos.

(b) For all Class I work excluded or not specified in (a)(i) and (ii) of this subsection, ~~((the employer shall provide a tight-fitting powered air purifying respirator equipped with high efficiency filters or a full facepiece supplied-air respirator operated in the pressure demand mode equipped with HEPA filter egress cartridges or an auxiliary positive pressure self-contained breathing apparatus for all employees within the regulated area where asbestos work is being performed for which a negative exposure assessment has not been produced and, the exposure assessment indicates the exposure level will not exceed 1 f/cc as an 8-hour time weighted average. A full facepiece supplied-air respirator operated in the pressure demand mode equipped with an auxiliary positive pressure self-contained breathing apparatus, or a HEPA filter egress cartridge, shall be provided under such conditions, if the exposure assessment indicates exposure levels above 1 f/cc as an 8-hour time weighted average))~~ when a negative exposure assessment of the area has not been produced, and the exposure assessment of the area indicates the exposure level will not exceed 1 f/cc as an 8-hour time weighted average, employers must provide the employees with one of the following respirators:

(i) A tight-fitting, powered, air-purifying respirator equipped with high-efficiency filters;

(ii) A full facepiece supplied-air respirator operated in the pressure-demand mode equipped with HEPA egress cartridges; or

(iii) A full facepiece supplied-air respirator operated in the pressure-demand mode equipped with an auxiliary positive-pressure self-contained breathing apparatus. A full facepiece supplied-air respirator operated in the pressure-demand mode equipped with an auxiliary positive-pressure self-contained breathing apparatus must be provided under such conditions when the exposure assessment indicates exposure levels above 1 f/cc as an 8-hour time weighted average.

EXCEPTION: In lieu of the supplied-air respirator required by subsection ~~((3))~~ (4) of this section, an employer may provide and require to be worn, at no cost to the employee, a full facepiece supplied-air respirator operated in the continuous flow mode equipped with either an auxiliary positive pressure self-contained breathing apparatus or a back-up HEPA filter egress cartridge where daily and historical personal monitoring data indicates the concentration of asbestos fibers is not reasonably expected to exceed 10 f/cc. The continuous flow respirator shall be operated at a minimum air flow rate of six cubic feet per minute at the facepiece using respirable air supplied ~~((in accordance with WAC 296-62-0711))~~ as required by chapter 296-62 WAC, Part E.

~~((4))~~ Respirator program.

~~(a) Where respiratory protection is used, the employer shall institute a respirator program in accordance with WAC 296-62-071.~~

~~(b) The employer shall permit each employee who uses a filter respirator to change the filter elements whenever an increase in breathing resistance is detected and shall maintain an adequate supply of filter elements for this purpose.~~

~~(c) Employees who wear respirators shall be permitted to leave work areas to wash their faces and respirator facepieces whenever necessary to prevent skin irritation associated with respirator use.~~

~~(d) No employee shall be assigned to tasks requiring the use of respirators if, based upon his or her most recent examination, an examining physician determines that the employee will be unable to function normally wearing a respirator, or that the safety or health of the employee or other employees will be impaired by the use of a respirator. Such employee shall be assigned to another job or given the opportunity to transfer to a different position whose duties he or she is able to perform with the same employer, in the same geographical area and with the same seniority, status, and rate of pay the employee had just prior to such transfer, if such a different position is available.)~~

(5) Respirator fit testing.

~~(a) ((The employer shall ensure that the respirator issued to the employee exhibits the least possible facepiece leakage and that the respirator is fitted properly.~~

~~(b))~~ For each employee wearing negative pressure respirators, employers shall perform either quantitative or qualitative face fit tests at the time of initial fitting and at least ~~((every six months))~~ annually thereafter. The qualitative fit tests may be used only for testing the fit of half-mask respirators where they are permitted to be worn ~~((and shall be conducted in accordance with WAC 296-62-07739, Appendix C.~~

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~~The tests shall be used to select facepieces that provide the required protection as prescribed in Table 1 of this section).~~

~~((e)) (b) Any supplied-air respirator facepiece equipped with a back-up HEPA filter egress cartridge shall be quantitatively fit tested ((with the air supply disconnected at the time of initial fitting and at least every six months thereafter. The quantitative fit tests shall be conducted using the procedures described in WAC 296-62-07739(2), Appendix C, for negative pressure respirators)) (see WAC 296-62-07160 through 296-62-07162 and 296-62-07201 through 296-62-07248).~~

**AMENDATORY SECTION** (Amending WSR 97-01-079, filed 12/17/96, effective 3/1/97)

**WAC 296-62-07722 Employee information and training.** (1) Certification.

(a) All individuals working or supervising asbestos projects, as defined in WAC 296-65-003 shall be certified as required by WAC 296-65-010, 296-65-012, and 296-65-030.

(b) In cases where certification requirements of chapter 296-65 WAC do not apply, all employees shall be trained according to provisions of this section regardless of their exposure levels.

(2) Training shall be provided prior to or at the time of initial assignment, unless the employee has received equivalent training within the previous twelve months, and at least annually thereafter.

(3) Training for employees performing Class I and Class II operations.

(a) Training for Class I and Class II operations shall be the certified asbestos worker training specified in WAC 296-65-003, 296-65-010, and 296-65-030.

(b) Exceptions. For employees whose Class II work with intact asbestos-containing materials involves only the removal and/or disturbance of one generic category of intact building/vessel material, such as intact roofing material, bituminous or asphaltic pipeline coating, intact flooring/decking material, siding materials and ceiling tiles, or transite panels, such employers are required to train employees who perform such work by providing a training course which includes as a minimum all elements of subsection (5) of this section and in addition the specific work practices and engineering controls set forth in WAC 296-62-07712 and 296-62-07713 which specifically relate to that material category. Such course shall include "hands-on" training, and shall take at least 8 hours.

(i) For Class II operations involving intact materials not specified in (b) of this subsection, training shall include the requirements of (b) of this subsection and specific work practices and engineering controls specified in WAC 296-62-07712 which specifically relates to the category of material being removed, and shall include hands-on training in the work practices applicable to each category of material the employee removes and each removal method that the employee uses.

(ii) Employees performing Class II operations that require the use of critical barriers (or equivalent isolation methods) and/or negative pressure enclosures, shall be certified as required by WAC 296-65-010, 296-65-012, and 296-65-030.

(4) Training for Class III and IV operations.

(a) Training for employees performing Class III and IV operations shall be the certified asbestos worker training specified in WAC 296-65-003, 296-65-001, and 296-65-030.

(b) Training for Class III asbestos work exempted from certification requirements in chapter 296-65 WAC, safety standards for asbestos removal and encapsulation shall be the equivalent in curriculum and training method to the 16-hour operations and maintenance course developed by EPA for maintenance and custodial workers who conduct activities that will result in the disturbance of ACM. (See 40 CFR 763.92(a)(2).) Such course shall include "hands-on" training in the use of respiratory protection and work practices and shall take at least 16 hours.

(c) Training for Class IV asbestos work exempted from certification requirements in chapter 296-65 WAC, safety standards for asbestos removal and encapsulation shall be the equivalent in curriculum and training method to the awareness training course developed by EPA for maintenance and custodial workers who work in buildings containing asbestos-containing material. (See 40 CFR 763.92(a)(1).) Such course shall include available information concerning the locations of PACM an ACM, and asbestos-containing flooring material, or flooring material where the absence of asbestos has not been certified; and instruction in recognition of damage, deterioration, and delamination of asbestos-containing building materials. Such a course shall take at least 2 hours.

(5) The training program shall be conducted in a manner which the employee is able to understand. The employer shall ensure that each employee is informed of the following:

(a) The health effects associated with asbestos exposure;

(b) The relationship between smoking and exposure to asbestos producing lung cancer;

(c) Methods of recognizing asbestos and quantity, location, manner of use, release (including the requirements of WAC 296-62-07721 (1)(c) and (2)(b) to presume certain building materials contain asbestos), and storage of asbestos and the specific nature of operations which could result in exposure to asbestos;

(d) The engineering controls and work practices associated with the employee's job assignment;

(e) The specific procedures implemented to protect employees from exposure to asbestos, such as appropriate work practices, housekeeping procedures, hygiene facilities, decontamination procedures, emergency and clean-up procedures (including where Class III and IV work is performed, the contents "Managing Asbestos In Place" (EPA 20T-2003, July 1990) or its equivalent in content), personal protective equipment to be used, waste disposal procedures, and any necessary instructions in the use of these controls and procedures;

(f) The purpose, proper use, and limitations of (~~respirators and~~) protective clothing;

(g) The purpose and a description of the medical surveillance program required by WAC 296-62-07725;

(h) The content of this standard, including appendices;

(i) The names, addresses and phone numbers of public health organizations which provide information, materials, and/or conduct programs concerning smoking cessation. The

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employer may distribute the list of such organizations contained in Appendix I, to comply with this requirement; ~~((and))~~

(j) The requirements for posting signs and affixing labels and the meaning of the required legends for such signs and labels; ~~and~~

(k) The purpose, proper use, limitations, and other training requirements for respiratory protection as required by chapter 296-62 WAC, Part E (see WAC 296-62-07117, 296-62-07172, and 296-62-07186 through 296-62-07190).

(6) The employer shall also provide, at no cost to employees who perform housekeeping operations in a facility which contains ACM or PACM, an asbestos awareness training course, which shall at a minimum contain the following elements: Health effects of asbestos, locations of ACM and PACM in the building/facility, recognition of ACM and PACM damage and deterioration, requirements in this standard relating to housekeeping, and proper response to fiber release episodes, to all employees who are or will work in areas where ACM and/or PACM is present. Each such employee shall be so trained at least once a year.

(7) Access to information and training materials.

(a) The employer shall make a copy of this standard and its appendices readily available without cost to all affected employees.

(b) The employer shall provide, upon request, all materials relating to the employee information and training program to the director.

(c) The employer shall inform all employees concerning the availability of self-help smoking cessation program material. Upon employee request, the employer shall distribute such material, consisting of NIH Publication No. 89-1647, or equivalent self-help material, which is approved or published by a public health organization listed in Appendix I, WAC 296-62-07751.

**AMENDATORY SECTION** (Amending WSR 97-01-079, filed 12/17/96, effective 3/1/97)

**WAC 296-62-07733 Appendices.** (1) Appendices A, ~~((C-))~~ D, E, and F to this part are incorporated as part of this section and the contents of these appendices are mandatory.

(2) Appendices B, G, H, I, J and K to this part are informational and are not intended to create any additional obligations not otherwise imposed or to detract from any existing obligations.

**AMENDATORY SECTION** (Amending Order 81-20, filed 7/27/81)

**WAC 296-62-11019 Spray-finishing operations.** (1) Definitions.

(a) "Spray-finishing operations" means employment of methods wherein organic or inorganic materials are utilized in dispersed form from deposit on surfaces to be coated, treated or cleaned. Such methods of deposit may involve either automatic, manual, or electrostatic deposition but do not include metal spraying or metallizing, dipping, flow coating, roller coating, tumbling, centrifuging, or spray washing

and degreasing as conducted in self-contained washing and degreasing machines or systems.

(b) "Spray booth" spray booths are defined and described in WAC 296-24-370 through 296-24-37007. (See sections 103, 104, and 105 of the Standard for Spray Finishing Using Flammable and Combustible Materials, NFPA No. 33-1969.)

(c) "Spray room" means a room in which spray-finishing operations not conducted in a spray booth are performed separately from other areas.

(d) "Minimum maintained velocity" means the velocity of air movement which must be maintained in order to meet minimum specified requirements for health and safety.

(2) Location and application. Spray booths or spray rooms are to be used to enclose or confine all operations. Spray-finishing operations shall be located as provided in sections 201 through 206 of the Standard for Spray Finishing Using Flammable and Combustible Materials, NFPA No. 33-1969.

(3) Design and construction of spray booths.

(a) Spray booths shall be designed and constructed in accordance with WAC 296-24-370 through 296-24-37007 (see sections 301-304 and 306-310 of the Standard for Spray Finishing Using Flammable and Combustible Materials, NFPA No. 33-1969), for general construction specifications.

Note: For a more detailed discussion of fundamentals relating to this subject, see ANSI Z9.2-1960.

(i) Lights, motors, electrical equipment and other sources of ignition shall conform to the requirements of WAC 296-24-370. (See section 310 and chapter 4 of the Standard for Spray Finishing Using Flammable and Combustible Materials, NFPA No. 33-1969.)

(ii) In no case shall combustible material be used in the construction of a spray booth and supply or exhaust duct connected to it.

(b) Unobstructed walkways shall not be less than 6 1/2 feet high and shall be maintained clear of obstruction from any work location in the booth to a booth exit or open booth front. In booths where the open front is the only exit, such exits shall be not less than 3 feet wide. In booths having multiple exits, such exits shall not be less than 2 feet wide, provided that the maximum distance from the work location to the exit is 25 feet or less. Where booth exits are provided with doors, such doors shall open outward from the booth.

(c) Baffles, distribution plates, and dry-type overspray collectors shall conform to the requirements of WAC 296-24-370. (See sections 304 and 305 of the Standard for Spray Finishing Using Flammable and Combustible Materials, NFPA No. 33-1969.)

(i) Overspray filters shall be installed and maintained in accordance with the requirements of WAC 296-24-370, (See section 305 of the Standard for Spray Finishing Using Flammable and Combustible Materials, NFPA No. 33-1969), and shall only be in a location easily accessible for inspection, cleaning, or replacement.

(ii) Where effective means, independent of the overspray filters are installed which will result in design air distribution across the booth cross section, it is permissible to operate the booth without the filters in place.

(d)(i) For wet or water-wash spray booths, the water-chamber enclosure, within which intimate contact of contaminated air and cleaning water or other cleaning medium is maintained, if made of steel, shall be 18 gauge or heavier and adequately protected against corrosion.

(ii) Chambers may include scrubber spray nozzles, headers, troughs, or other devices. Chambers shall be provided with adequate means for creating and maintaining scrubbing action for removal of particulate matter from the exhaust air stream.

(e) Collecting tanks shall be of welded steel construction or other suitable noncombustible material. If pits are used as collecting tanks, they shall be concrete, masonry, or other material having similar properties.

(i) Tanks shall be provided with weirs, skimmer plates, or screens to prevent sludge and floating paint from entering the pump suction box. Means for automatically maintaining the proper water level shall also be provided. Fresh water inlets shall not be submerged. They shall terminate at least one pipe diameter above the safety overflow level of the tank.

(ii) Tanks shall be so constructed as to discourage accumulation of hazardous deposits.

(f) Pump manifolds, risers, and headers shall be adequately sized to insure sufficient water flow to provide efficient operation of the water chamber.

(4) Design and construction of spray rooms.

(a) Spray rooms, including floors, shall be constructed of masonry, concrete, or other noncombustible material.

(b) Spray rooms shall have noncombustible fire doors and shutters.

(c) Spray rooms shall be adequately ventilated so that the atmosphere in the breathing zone of the operator shall be maintained in accordance with the requirements of (6)(b) of this section.

(d) Spray rooms used for production spray-finishing operations shall conform to the requirements of spray booths.

(5) Ventilation.

(a) Ventilation shall be provided in accordance with provisions of WAC 296-24-370, (See chapter 5 of the Standard for Spray Finishing Using Flammable or Combustible Materials, NFPA No. 33-1969), and in accordance with the following:

(i) Where a fan plenum is used to equalize or control the distribution of exhaust air movement through the booth, it shall be of sufficient strength or rigidity to withstand the differential air pressure or other superficially imposed loads for which the equipment is designed and also to facilitate cleaning. Construction specifications shall be at least equivalent to those of (5)(c) of this section.

(ii) All fan ratings shall be in accordance with Air Moving and Conditioning Association Standard Test Code for Testing Air Moving Devices, Bulletin 210, April 1962.

(b) Inlet or supply ductwork used to transport makeup air to spray booths or surrounding areas shall be constructed of noncombustible materials.

(i) If negative pressure exists within inlet ductwork, all seams and joints shall be sealed if there is a possibility of infiltration of harmful quantities of noxious gases, fumes, or mists from areas through which ductwork passes.

(ii) Inlet ductwork shall be sized in accordance with volume flow requirements and provide design air requirements at the spray booth.

(iii) Inlet ductwork shall be so supported throughout its length to sustain at least its own weight plus any negative pressure which is exerted upon it under normal operating conditions.

(c) Ducts shall be so constructed as to provide structural strength and stability at least equivalent to sheet steel of not less than the following thickness:

DIAMETER OR GREATER DIMENSION	(U.S. gauge)
Up to 8 inches inclusive . . . . .	No. 24
Over 8 inches to 18 inches inclusive . . . . .	No. 22
Over 18 inches to 30 inches inclusive . . . . .	No. 20
Over 30 inches . . . . .	No. 18

(i) Exhaust ductwork shall be adequately supported throughout its length to sustain its weight plus any normal accumulation in interior during normal operating conditions and any negative pressure exerted upon it.

(ii) Exhaust ductwork shall be sized in accordance with good design practice which shall include consideration of fan capacity, length of duct, number of turns and elbows, variation in size, volume, and character of materials being exhausted. See American National Standard Z9.2-1960 for further details and explanation concerning elements of design.

(iii) Longitudinal joints in sheet steel ductwork shall be either lock-seamed, riveted, or welded. For other than steel construction, equivalent securing of joints shall be provided.

(iv) Circumferential joints in ductwork shall be substantially fastened together and lapped in the direction of airflow. At least every fourth joint shall be provided with connecting flanges, bolted together or of equivalent fastening security.

(v) Inspection or clean-out doors shall be provided for every 9 to 12 feet of running length for ducts up to 12 inches in diameter, but the distance between clean-out doors may be greater for larger pipes. (See 8.3.21 of American National Standard Z9.1-1960.) A clean-out door or doors shall be provided for servicing the fan, and where necessary, a drain shall be provided.

(vi) Where ductwork passes through a combustible roof or wall, the roof or wall shall be protected at the point of penetration by open space or fire-resistive material between the duct and the roof or wall. When ducts pass through fire-walls, they shall be provided with automatic fire dampers on both sides of the wall, except that three-eighth-inch steel plates may be used in lieu of automatic fire dampers for ducts not exceeding 18 inches in diameter.

(vii) Ductwork used for ventilating any process covered in this standard shall not be connected to ducts ventilating any other process or any chimney or flue used for conveying any products of combustion.

(6) Velocity and air flow requirements.

(a) Except where a spray booth has an adequate air replacement system, the velocity of air into all openings of a

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spray booth shall be not less than that specified in Table 14 for the operating conditions specified. An adequate air replacement system is one which introduces replacement air upstream or above the object being sprayed and is so designed that the velocity of air in the booth cross section is not less than that specified in Table 14 when measured upstream or above the object being sprayed.

**TABLE 14**  
MINIMUM MAINTAINED VELOCITIES  
INTO SPRAY BOOTHS

Operating Airflow conditions for object completely inside booth	Crossdraft f.p.m.	Velocities, f.p.m.	
		Design	Range
Electrostatic and automatic airless operation contained in booth without operator.	Negligible . . . . .	50 large booth	50-75
		100 small booth	75-125
Air-operated guns, manual or automatic	Up to 50 . . . . .	100 large booth	75-125
		150 small booth	125-175
Air-operated guns, manual or automatic	Up to 100 . . . . .	150 large booth	125-175
		200 small booth	150-250

Notes:

- (1) Attention is invited to the fact that the effectiveness of the spray booth is dependent upon the relationship of the depth of the booth to its height and width.
- (2) Crossdrafts can be eliminated through proper design and such design should be sought. Crossdrafts in excess of 100 fpm (feet per minute) should not be permitted.
- (3) Excessive air pressures result in loss of both efficiency and material waste in addition to creating a backlash that may carry overspray and fumes into adjacent work areas.
- (4) Booths should be designed with velocity shown in the column headed "Design." However, booths operating with velocities shown in the column headed "Range" are in compliance with this standard.

(b) In addition to the requirements in (6)(a) of this section the total air volume exhausted through a spray booth shall be such as to dilute solvent vapor to at least 25 percent of the lower explosive limit of the solvent being sprayed. An example of the method of calculating this volume is given below.

Example: To determine the lower explosive limits of the most common solvents used in spray finishing, see Table 15. Column 1 gives the number of cubic feet of vapor per gallon of solvent and column 2 gives the lower explosive limit (LEL) in percentage by volume of air. Note that the quantity of solvent will be diminished by the quantity of solids and nonflammable contained in the finish.

To determine the volume of air in cubic feet necessary to dilute the vapor from 1 gallon of solvent to 25 percent of the lower explosive limit, apply the following formula:

$$\text{Dilution volume required per gallon of solvent} = \frac{4 (100\text{-LEL}) (\text{cubic feet of vapor per gallon})}{\text{LEL}}$$

Using toluene as the solvent.

- (1) LEL of toluene from Table 15, column 2, is 1.4 percent.
- (2) Cubic feet of vapor per gallon from Table 15, column 1, is 30.4 cubic feet per gallon.

$$(3) \text{ Dilution volume required} = \frac{4 (100-1.4) 30.4}{1.4} = 8,564 \text{ cubic feet.}$$

(4) To convert to cubic feet per minute of required ventilation, multiply the dilution volume required per gallon of solvent by the number of gallons of solvent evaporated per minute.

**TABLE 15**  
LOWER EXPLOSIVE LIMIT OF SOME  
COMMONLY USED SOLVENTS

Solvent	Cubic feet of vapor per gallon of liquid at 70°F.		Lower explosive limit in percent by volume of air at 70°F.
	Column 1	Column 2	
Acetone . . . . .	44.0	2.6	
Amyl Acetate (iso) . . . . .	21.6	1.0 <sup>1</sup>	
Amyl Alcohol (n) . . . . .	29.6	1.2	
Amyl Alcohol (iso) . . . . .	29.6	1.2	
Benzene . . . . .	36.8	1.4 <sup>1</sup>	
Butyl Acetate (n) . . . . .	24.8	1.7	
Butyl Alcohol (n) . . . . .	35.2	1.4	
Butyl Cellosolve . . . . .	24.8	1.1	
Cellosolve . . . . .	33.6	1.8	
Cellosolve Acetate . . . . .	23.2	1.7	
Cyclohexanone . . . . .	31.2	1.1 <sup>1</sup>	
1,1 Dichloroethylene . . . . .	42.4	5.6	
1,2 Dichloroethylene . . . . .	42.4	9.7	
Ethyl Acetate . . . . .	32.8	2.5	
Ethyl Alcohol . . . . .	55.2	4.3	
Ethyl Lactate . . . . .	28.0	1.5 <sup>1</sup>	
Methyl Acetate . . . . .	40.0	3.1	
Methyl Alcohol . . . . .	80.8	7.3	
Methyl Cellosolve . . . . .	40.8	2.5	
Methyl Ethyl Ketone . . . . .	36.0	1.8	
Methyl n-Propyl Ketone . . . . .	30.4	1.5	
Naphtha (VM&P) (76° Naphtha) . . . . .	22.4	0.9	
Naphtha (100° Flash) Safety Solvent-Stoddard Solvent . . . . .	23.2	1.1	
Propyl Acetate (n) . . . . .	27.2	2.0	
Propyl Acetate (iso) . . . . .	28.0	1.8	
Propyl Alcohol (n) . . . . .	44.8	2.1	
Propyl Alcohol (iso) . . . . .	44.0	2.0	

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Toluene . . . . .	30.4	1.4
Turpentine . . . . .	20.8	0.8
Xylene (o) . . . . .	26.4	1.0

<sup>1</sup>At 212°F.

(c)(i) When an operator (~~((must position himself))~~) is in a booth downstream of the object being sprayed, an air-supplied respirator or other type of respirator (~~((listed in the applicable provisions of chapter 296-62 WAC))~~) certified by NIOSH under 42 CFR part 84 for the material being sprayed should be used by the operator.

(ii) Where downdraft booths are provided with doors, such doors shall be closed when spray painting.

(7) Make-up air.

(a) Clean fresh air, free of contamination from adjacent industrial exhaust systems, chimneys, stacks, or vents, shall be supplied to a spray booth or room in quantities equal to the volume of air exhausted through the spray booth.

(b) Where a spray booth or room receives make-up air through self-closing doors, dampers, or louvers, they shall be fully open at all times when the booth or room is in use for spraying. The velocity of air through such doors, dampers, or louvers shall not exceed 200 feet per minute. If the fan characteristics are such that the required air flow through the booth will be provided, higher velocities through the doors, dampers, or louvers may be used.

(c)(i) Where the air supply to a spray booth or room is filtered, the fan static pressure shall be calculated on the assumption that the filters are dirty to the extent that they require cleaning or replacement.

(ii) The rating of filters shall be governed by test data supplied by the manufacturer of the filter. A pressure gauge shall be installed to show the pressure drop across the filters. This gauge shall be marked to show the pressure drop at which the filters require cleaning or replacement. Filters shall be replaced or cleaned whenever the pressure drop across them becomes excessive or whenever the air flow through the face of the booth falls below that specified in Table 14.

(d)(i) Means of heating make-up air to any spray booth or room, before or at the time spraying is normally performed, shall be provided in all places where the outdoor temperature may be expected to remain below 55° F. for appreciable periods of time during the operation of the booth except where adequate and safe means of radiant heating for all operating personnel affected is provided. The replacement air during the heating seasons shall be maintained at not less than 65° F. at the point of entry into the spray booth or spray room. When otherwise unheated make-up air would be at a temperature of more than 10° F. below room temperature, its temperature shall be regulated as provided in section 3.6 of ANSI Z9.2-1960.

(ii) As an alternative to an air replacement system complying with the preceding section, general heating of the building in which the spray room or booth is located may be employed provided that all occupied parts of the building are maintained at not less than 65° F. when the exhaust system is in operation or the general heating system supplemented by

other sources of heat may be employed to meet this requirement.

(iii) No means of heating make-up air shall be located in a spray booth.

(iv) Where make-up air is heated by coal or oil, the products of combustion shall not be allowed to mix with the make-up air, and the products of combustion shall be conducted outside the building through a flue terminating at a point remote from all points where make-up air enters the building.

(v) Where make-up air is heated by gas, and the products of combustion are not mixed with the make-up air but are conducted through an independent flue to a point outside the building remote from all points where make-up air enters the building, it is not necessary to comply with (7)(d)(vi) of this section.

(vi) Where make-up air to any manually operated spray booth or room is heated by gas and the products of combustion are allowed to mix with the supply air, the following precautions must be taken:

(A) The gas must have a distinctive and strong enough odor to warn workmen in a spray booth or room of its presence if in an unburned state in the make-up air.

(B) The maximum rate of gas supply to the make-up air heater burners must not exceed that which would yield in excess of 200 p.p.m. (parts per million) of carbon monoxide or 2,000 p.p.m. of total combustible gases in the mixture if the unburned gas upon the occurrence of flame failure were mixed with all of the make-up air supplied.

(C) A fan must be provided to deliver the mixture of heated air and products of combustion from the plenum chamber housing the gas burners to the spray booth or room.

(8) Scope. Spray booths or spray rooms are to be used to enclose or confine all spray finishing operations covered by this paragraph. This paragraph does not apply to the spraying of the exteriors of buildings, fixed tanks, or similar structures, nor to small portable spraying apparatus not used repeatedly in the same location.

**AMENDATORY SECTION** (Amending Order 91-07, filed 11/22/91, effective 12/24/91)

**WAC 296-62-11021 Open surface tanks.** (1) General.

(a) This section applies to all operations involving the immersion of materials in liquids, or in the vapors of such liquids, for the purpose of cleaning or altering the surface or adding to or imparting a finish thereto or changing the character of the materials, and their subsequent removal from the liquid or vapor, draining, and drying. These operations include washing, electroplating, anodizing, pickling, quenching, dyeing, dipping, tanning, dressing, bleaching, degreasing, alkaline cleaning, stripping, rinsing, digesting, and other similar operations.

(b) Except where specific construction specifications are prescribed in this section, hoods, ducts, elbows, fans, blowers, and all other exhaust system parts, components, and supports thereof shall be so constructed as to meet conditions of service and to facilitate maintenance and shall conform in construction to the specifications contained in American

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National Standard Fundamentals Governing the Design and Operation of Local Exhaust Systems, Z9.2-1960.

(2) Classification of open-surface tank operations.

(a) Open-surface tank operations shall be classified into 16 classes, numbered A-1 to D-4, inclusive.

(b) Determination of class. Class is determined by two factors, hazard potential designated by a letter from A to D, inclusive, and rate of gas, vapor, or mist evolution designated by a number from 1 to 4, inclusive (for example, B.3).

(c) Hazard potential is an index, on a scale of from A to D, inclusive, of the severity of the hazard associated with the substance contained in the tank because of the toxic, flammable, or explosive nature of the vapor, gas, or mist produced therefrom. The toxic hazard is determined from the concentration, measured in parts by volume of a gas or vapor, per million parts by volume of contaminated air (ppm), or in milligrams of mist per cubic meter of air (mg/m<sup>3</sup>), below which ill effects are unlikely to occur to the exposed worker. The concentrations shall be those in WAC 296-62-075 through 296-62-07515.

(d) The relative fire or explosion hazard is measured in degrees Fahrenheit in terms of the closed-cup flash point of the substance in the tank. Detailed information on the prevention of fire hazards in dip tanks may be found in Dip Tanks Containing Flammable or Combustible Liquids, NFPA No. 34-1966, National Fire Protection Association. Where the tank contains a mixture of liquids, other than organic solvents, whose effects are additive, the hygienic standard of the most toxic component (for example, the one having the lowest ppm or mg/m<sup>3</sup>) shall be used, except where such substance constitutes an insignificantly small fraction of the mixture. For mixtures of organic solvents, their combined effect, rather than that of either individually, shall determine the hazard potential. In the absence of information to the contrary, the effects shall be considered as additive. If the sum of the ratios of the airborne concentration of that contaminant exceeds unity, the toxic concentration shall be considered to have been exceeded. (See Note A of (2)(e) of this section.)

(e) Hazard potential shall be determined from Table 16, with the value indicating greater hazard being used. When the hazardous material may be either a vapor with a permissible exposure limit in ppm or a mist with a TLV in mg/m<sup>3</sup>, the TLV indicating the greater hazard shall be used (for example, A takes precedence over B or C; B over C; C over D).

Note A:

$$\frac{c_1}{PEL} + \frac{c_2}{PEL} + \frac{c_3}{PEL} + \dots + \frac{c_N}{PEL} > 1$$

where:

c = Concentration measured at the operation in ppm.

TABLE 16  
DETERMINATION OF HAZARD POTENTIAL

Hazard potential	Toxicity Group		
	Gas or vapor (ppm)	Mist (mg/m <sup>3</sup> )	Flash point (in degrees F.)
A .....	0 - 10	0 - 0.1	....

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Hazard potential	Toxicity Group		
	Gas or vapor (ppm)	Mist (mg/m <sup>3</sup> )	Flash point (in degrees F.)
B .....	11 - 100	0.11 - 1.0	Under 100
C .....	101 - 500	1.1 - 10	100-200
D .....	Over 500	Over 10	Over 200

(f) Rate of gas, vapor, or mist evolution is a numerical index, on a scale of from 1 to 4, inclusive, both of the relative capacity of the tank to produce gas, vapor, or mist and of the relative energy with which it is projected or carried upwards from the tank. Rate is evaluated in terms of;

(i) The temperature of the liquid in the tank in degrees Fahrenheit;

(ii) The number of degrees Fahrenheit that this temperature is below the boiling point of the liquid in degrees Fahrenheit;

(iii) The relative evaporation of the liquid in still air at room temperature in an arbitrary scale—fast, medium, slow, or nil; and

(iv) The extent that the tank gases or produces mist in an arbitrary scale—high, medium, low, and nil. (See Table 17, Note 2.) Gassing depends upon electrochemical or mechanical processes, the effects of which have to be individually evaluated for each installation (see Table 17, Note 3).

(g) Rate of evolution shall be determined from Table 17. When evaporation and gassing yield different rates, the lowest numerical value shall be used.

TABLE 17  
DETERMINATION OF RATE OF GAS, VAPOR, OR MIST EVOLUTION<sup>1</sup>

Rate	Liquid temperature, °F	Degrees below boiling point	Evaporation <sup>2</sup>	Relative Gassing <sup>3</sup>
1 .....	Over 200	0-20	Fast .....	High
2 .....	150-200	21-50	Medium ...	Medium
3 .....	94-149	51-100	Slow .....	Low
4 .....	Under 94	Over 100	Nil .....	Nil

Note 1. In certain classes of equipment, specifically vapor degreasers, an internal condenser or vapor level thermostat is used to prevent the vapor from leaving the tank during normal operations. In such cases, rate of vapor evolution from the tank into the workroom is not dependent upon the factors listed in the table, but rather upon abnormalities of operating procedure, such as carry out of vapors from excessively fast action, dragout of liquid by entrainment in parts, contamination of solvent by water and other materials, or improper heat balance. When operating procedure is excellent, effective rate of evolution may be taken as 4. When operating procedures are average, the effective rate of evolution may be taken as 3. When operation is poor, a rate of 2 or 1 is indicated, depending upon observed conditions.

Note 2. Relative evaporation rate is determined according to the methods described by A. K. Doolittle in Industrial and Engineering Chemistry, vol. 27, p. 1169, (3) where time for 100—percent evaporation is as follows: Fast: 0-3 hours; Medium: 3-12 hours; Slow: 12-50 hours; Nil: more than

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50 hours.

Note 3. Gassing means the formation by chemical or electrochemical action of minute bubbles of gas under the surface of the liquid in the tank and is generally limited to aqueous solutions.

(3) Ventilation. Where ventilation is used to control potential exposures to workers as defined in (2)(c) of this section, it shall be adequate to reduce the concentration of the air contaminant to the degree that a hazard to the worker does not exist. Methods of ventilation are discussed in American National Standard Fundamentals Governing the Design and Operation of Local Exhaust Systems, Z9.2-1960.

(4) Control requirements.

(a) Control velocities shall conform to Table 18 in all cases where the flow of air past the breathing or working zone of the operator and into the hoods is undisturbed by local environmental conditions, such as open windows, wall fans, unit heaters, or moving machinery.

(b) All tanks exhausted by means of hoods which;

(i) Project over the entire tank;

(ii) Are fixed in position in such a location that the head of the workman, in all his normal operating positions while working at the tank, is in front of all hood openings; and

(iii) Are completely enclosed on at least two sides, shall be considered to be exhausted through an enclosing hood.

(iv) The quantity of air in cubic feet per minute necessary to be exhausted through an enclosing hood shall be not less than the product of the control velocity times the net area of all openings in the enclosure through which air can flow into the hood.

TABLE 18

CONTROL VELOCITIES IN FEET PER MINUTE (F.P.M.) FOR UNDISTURBED LOCATIONS

Class (See Sub-paragraph (2) and Tables 16 and 17)	Enclosing hood (See Subparagraph (4)(ii))		Lateral exhaust <sup>1</sup> (See Subparagraph (4)(iii))	Canopy hood <sup>2</sup> (See Subparagraph (4)(iv))	
	One open side	Two open sides		Three open sides	Four open sides
A-1 and A-2	100	150	150	Do not use	Do not use
A-3 (Note 2), B-1, B-2, and C-1	75	100	100	125	175
B-3, C-2, and D-1 (Note 3)	65	90	75	100	150
A-4 (Note 2), C-3, and D-2 (Note 3)	50	75	50	75	125

TABLE 18

CONTROL VELOCITIES IN FEET PER MINUTE (F.P.M.) FOR UNDISTURBED LOCATIONS

Class (See Sub-paragraph (2) and Tables 16 and 17)	Enclosing hood (See Subparagraph (4)(ii))		Lateral exhaust <sup>1</sup> (See Subparagraph (4)(iii))	Canopy hood <sup>2</sup> (See Subparagraph (4)(iv))	
	One open side	Two open sides		Three open sides	Four open sides
B-4, C-4, D-3 (Note 3), and D-4	General room ventilation required.				

<sup>1</sup> See Table 19 for computation of ventilation rate.

<sup>2</sup> Do not use canopy hood for Hazard Potential A processes.

<sup>3</sup> Where complete control of hot water is desired, design as next highest class.

(c) All tanks exhausted by means of hoods which do not project over the entire tank, and in which the direction of air movement into the hood or hoods is substantially horizontal, shall be considered to be laterally exhausted. The quantity of air in cubic feet per minute necessary to be laterally exhausted per square foot of tank area in order to maintain the required control velocity shall be determined from Table 19 for all variations in ratio of tank width (W) to tank length (L). The total quantity of air in cubic feet per minute required to be exhausted per tank shall be not less than the product of the area of tank surface times the cubic feet per minute per square foot of tank area, determined from Table 19.

(i) For lateral exhaust hoods over 42 inches wide, or where it is desirable to reduce the amount of air removed from the workroom, air supply slots or orifices shall be provided along the side or the center of the tank opposite from the exhaust slots. The design of such systems shall meet the following criteria:

(A) The supply air volume plus the entrained air shall not exceed 50 percent of the exhaust volume.

(B) The velocity of the supply airstream as it reaches the effective control area of the exhaust slot shall be less than the effective velocity over the exhaust slot area.

(C) The vertical height of the receiving exhaust hood, including any baffle, shall not be less than one-quarter the width of the tank.

(D) The supply airstream shall not be allowed to impinge on obstructions between it and the exhaust slot in such a manner as to significantly interfere with the performance of the exhaust hood.

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**TABLE 19**  
**MINIMUM VENTILATION RATE IN CUBIC FEET OF AIR PER**  
**MINUTE PER SQUARE FOOT OF TANK AREA FOR LATERAL**  
**EXHAUST**

Required minimum control velocity, f.p.m. (from Table)	C.f.m. per sq. ft. to maintain required minimum velocities at following ratios (tank width (W)/tank length (L)). <sup>1 3</sup>				
	0.0-0.09	0.1-0.24	0.25-0.49	0.5-0.99	1.0-2.0
<b>Hood along one side or two parallel sides of tank when one hood is against a wall or baffle.<sup>2</sup></b>					
<b>Also for a manifold along tank centerline.<sup>3</sup></b>					
50	50	60	75	90	100
75	75	90	110	130	150
100	100	125	150	175	200
150	150	190	225	260	300
<b>Hood along one side or two parallel sides of free standing tank not against wall or baffle.</b>					
50	75	90	100	110	125
75	110	130	150	170	190
100	150	175	200	225	250
150	225	260	300	340	375

<sup>1</sup> It is not practicable to ventilate across the long dimension of a tank whose ratio W/L exceeds 2.0.

It is understandable to do so when W/L exceeds 1.0. For circular tanks with lateral exhaust along up the circumference use W/L= 1.0 for over one-half the circumference use W/L= 0.5.

<sup>2</sup> Baffle is a vertical plate the same length as the tank, and with the top of the plate as high as the tank is wide. If the exhaust hood is on the side of a tank against a building wall or close to it, it is perfectly baffled.

<sup>3</sup> Use W/L as tank width in computing when manifold is along centerline, or when hoods are used on two parallel sides of a tank.

Tank Width (W) means the effective width over which the hood must pull air to operate (for example, where the hood face is not back from the edge of the tank, this set back must be added in measuring tank width). The surface area of tanks can frequently be reduced and better control obtained (particularly on conveyORIZED systems) by using covers extending from the upper edges of the slots toward the center of the tank.

(E) Since most failure of push-pull systems result from excessive supply air volumes and pressures, methods of measuring and adjusting the supply air shall be provided. When satisfactory control has been achieved, the adjustable features of the hood shall be fixed so that they will not be altered.

(d) All tanks exhausted by means of hoods which project over the entire tank, and which do not conform to the definition of enclosing hoods, shall be considered to be overhead canopy hoods. The quantity of air in cubic feet per minute necessary to be exhausted through a canopy hood shall be not less than the product of the control velocity times the net area of all openings between the bottom edges of the hood and the top edges of the tank.

(e) The rate of vapor evolution (including steam or products of combustion) from the process shall be estimated. If the rate of vapor evolution is equal to or greater than 10 per-

cent of the calculated exhaust volume required, the exhaust volume shall be increased in equal amount.

(5) Spray cleaning and degreasing. Wherever spraying or other mechanical means are used to disperse a liquid above an open-surface tank, control must be provided for the airborne spray. Such operations shall be enclosed as completely as possible. The inward air velocity into the enclosure shall be sufficient to prevent the discharge of spray into the workroom. Mechanical baffles may be used to help prevent the discharge of spray. Spray painting operations are covered in WAC 296-62-11019.

(6) Control means other than ventilation. Tank covers, foams, beads, chips, or other materials floating on the tank surface so as to confine gases, mists, or vapors to the area under the cover or to the foam, bead, or chip layer; or surface tension depressive agents added to the liquid in the tank to minimize mist formation, or any combination thereof, may all be used as gas, mist, or vapor control means for open-surface tank operations, provided that they effectively reduce the concentrations of hazardous materials in the vicinity of the worker below the limits set in accordance with (2) of this section.

(7) System design.

(a) The equipment for exhausting air shall have sufficient capacity to produce the flow of air required in each of the hoods and openings of the system.

(b) The capacity required in (7)(a) of this section shall be obtained when the airflow producing equipment is operating against the following pressure losses, the sum of which is the static pressure:

(i) Entrance losses into the hood.

(ii) Resistance to airflow in branch pipe including bends and transformations.

(iii) Entrance loss into the main pipe.

(iv) Resistance to airflow in main pipe including bends and transformations.

(v) Resistance of mechanical equipment; that is, filters, washers, condensers, absorbers, etc., plus their entrance and exit losses.

(vi) Resistance in outlet duct and discharge stack.

(c) Two or more operations shall not be connected to the same exhaust system where either one or the combination of the substances removed may constitute a fire, explosion, or chemical reaction hazard in the duct system. Traps or other devices shall be provided to insure that condensate in ducts does not drain back into any tank.

(d) The exhaust system, consisting of hoods, ducts, air mover, and discharge outlet shall be designed in accordance with American National Standard Fundamentals Governing the Design and Operation of Local Exhaust Systems, Z9.2-1960, or the manual, Industrial Ventilation, published by the American Conference of Governmental Industrial Hygienists. Airflow and pressure loss data provided by the manufacturer of any air cleaning device shall be included in the design calculations.

(8) Operation.

(a) The required airflow shall be maintained at all times during which gas, mist, or vapor is emitted from the tank, and at all times the tank, the draining, or the drying area is in operation or use. When the system is first installed, the air-

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flow from each hood shall be measured by means of a pitot traverse in the exhaust duct and corrective action taken if the flow is less than that required. When the proper flow is obtained, the hood static pressure shall be measured and recorded. At intervals of not more than 3 months operation, or after a prolonged shutdown period, the hoods and duct system shall be inspected for evidence of corrosion or damage. In any case where the airflow is found to be less than required, it shall be increased to the required value. (Information on airflow and static pressure measurement and calculations may be found in American National Standard Fundamentals Governing the Design and Operation of Local Exhaust Systems, Z9.2-1960, or in the manual, Industrial Ventilation, published by the American Conference of Governmental Industrial Hygienists.)

(b) The exhaust system shall discharge to the outer air in such a manner that the possibility of its effluent entering any building is at a minimum. Recirculation shall only be through a device for contaminant removal which will prevent the creation of a health hazard in the room or area to which the air is recirculated.

(c) A volume of outside air in the range of 90 percent to 110 percent of the exhaust volume shall be provided to each room having exhaust hoods. The outside air supply shall enter the workroom in such a manner as not to be detrimental to any exhaust hood. The airflow of the makeup air system shall be measured on installation. Periodically, thereafter, the airflow should be remeasured, and corrective action shall be taken when the airflow is below that required. The makeup air shall be uncontaminated.

#### (9) Personal protection.

(a) All employees working in and around open surface tank operations must be instructed as to the hazards of their respective jobs, and in the personal protection and first aid procedures applicable to these hazards.

(b) All persons required to work in such a manner that their feet may become wet shall be provided with rubber or other impervious boots or shoes, rubbers, or wooden-soled shoes sufficient to keep feet dry.

(c) All persons required to handle work wet with a liquid other than water shall be provided with gloves impervious to such a liquid and of a length sufficient to prevent entrance of liquid into the tops of the gloves. The interior of gloves shall be kept free from corrosive or irritating contaminants.

(d) All persons required to work in such a manner that their clothing may become wet shall be provided with such aprons, coats, jackets, sleeves, or other garments made of rubber, or of other materials impervious to liquids other than water, as are required to keep their clothing dry. Aprons shall extend well below the top of boots to prevent liquid splashing into the boots. Provision of dry, clean, cotton clothing along with rubber shoes or short boots and an apron impervious to liquids other than water shall be considered a satisfactory substitute where small parts are cleaned, plated, or acid dipped in open tanks and rapid work is required.

(e) Whenever there is a danger of splashing, for example, when additions are made manually to the tanks, or when acids and chemicals are removed from the tanks, the employees so engaged shall be required to wear either tight-fitting

chemical goggles or an effective face shield. (See WAC 296-24-078.)

(f) When, during emergencies as described in (11)(e) of this section, ~~((workers))~~ employees must be in areas where concentrations of air contaminants are greater than the limit set by (2)(c) of this section~~((;))~~ or oxygen concentrations are less than 19.5%, they ~~((shall))~~ must be required to wear respirators adequate to reduce their exposure to a level below these limits~~((;))~~ or ~~((to))~~ that provide adequate oxygen. Such respirators ~~((shall))~~ must also be provided in marked, quickly accessible storage compartments built for the purpose, when there exists the possibility of accidental release of hazardous concentrations of air contaminants. ~~((Respirators shall meet the applicable provisions of chapter 296-62 WAC and shall be selected by a competent industrial hygienist or other technically qualified source.))~~ Respirators ~~((shall))~~ must be certified by NIOSH under 42 CFR part 84 and used in accordance with the applicable provisions of chapter 296-62 WAC~~((, and persons who may require them shall be trained in their use))~~ Part E.

(g) Near each tank containing a liquid which may burn, irritate, or otherwise be harmful to the skin if splashed upon the worker's body, there shall be a supply of clean cold water. The water pipe (carrying a pressure not exceeding 25 pounds) shall be provided with a quick opening valve and at least 48 inches of hose not smaller than three-fourths inch, so that no time may be lost in washing off liquids from the skin or clothing. Alternatively, deluge showers and eye flushes shall be provided in cases where harmful chemicals may be splashed on parts of the body.

(h) Operators with sores, burns, or other skin lesions requiring medical treatment shall not be allowed to work at their regular operations until so authorized by a physician. Any small skin abrasions, cuts, rash, or open sores which are found or reported shall be treated by a properly designated person so that chance of exposures to the chemicals are removed. Workers exposed to chromic acids shall have a periodic examination made of the nostrils and other parts of the body, to detect incipient ulceration.

(i) Sufficient washing facilities, including soap, individual towels, and hot water, shall be provided for all persons required to use or handle any liquids which may burn, irritate, or otherwise be harmful to the skin, on the basis of at least one basin (or its equivalent) with a hot water faucet for every 10 employees. (See WAC 296-24-12009.)

(j) Locker space or equivalent clothing storage facilities shall be provided to prevent contamination of street clothing.

(k) First aid facilities specific to the hazards of the operations conducted shall be readily available.

(10) Special precautions for cyanide. Dikes or other arrangements shall be provided to prevent the possibility of intermixing of cyanide and acid in the event of tank rupture.

(11) Inspection, maintenance, and installation.

(a) Floors and platforms around tanks shall be prevented from becoming slippery both by original type of construction and by frequent flushing. They shall be firm, sound, and of the design and construction to minimize the possibility of tripping.

(b) Before cleaning the interior of any tank, the contents shall be drained off, and the cleanout doors shall be opened

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where provided. All pockets in tanks or pits, where it is possible for hazardous vapors to collect, shall be ventilated and cleared of such vapors.

(c) Tanks which have been drained to permit employees to enter for the purposes of cleaning, inspection, or maintenance may contain atmospheres which are hazardous to life or health, through the presence of flammable or toxic air contaminants, or through the absence of sufficient oxygen. Before employees shall be permitted to enter any such tank, appropriate tests of the atmosphere shall be made to determine if the limits set by (2)(c) of this section are exceeded, or if the oxygen concentration is less than 19.5%.

(d) If the tests made in accordance with (11)(c) of this section indicate that the atmosphere in the tank is unsafe, before any employee is permitted to enter the tank, the tank shall be ventilated until the hazardous atmosphere is removed, and ventilation shall be continued so as to prevent the occurrence of a hazardous atmosphere as long as an employee is in the tank.

(e) If, in emergencies, such as rescue work, it is necessary to enter a tank which may contain a hazardous atmosphere, suitable respirators, such as self-contained breathing apparatus; hose mask with blower, if there is a possibility of oxygen deficiency; or a gas mask, selected and operated in accordance with (9)(f) of this section, shall be used. If a contaminant in the tank can cause dermatitis, or be absorbed through the skin, the employee entering the tank shall also wear protective clothing. At least one trained standby employee, with suitable respirator, shall be present in the nearest uncontaminated area. The standby employee must be able to communicate with the employee in the tank and be well able to haul him out of the tank with a lifeline if necessary.

(f) Maintenance work requiring welding or open flame, where toxic metal fumes such as cadmium, chromium, or lead may be evolved, shall be done only with sufficient local exhaust ventilation to prevent the creation of a health hazard, or be done with respirators selected and used in accordance with (9)(f) of this section. Welding, or the use of open flames near any solvent cleaning equipment shall be permitted only after such equipment has first been thoroughly cleared of solvents and vapors.

(12) Vapor degreasing tanks.

(a) In any vapor degreasing tank equipped with a condenser and vapor level thermostat, the condenser or thermostat shall keep the level of vapors below the top edge of the tank by a distance at least equal to one-half the tank width, or at least 36 inches, whichever is shorter.

(b) Where gas is used as a fuel for heating vapor degreasing tanks, the combustion chamber shall be of tight construction, except for such openings as the exhaust flue, and those that are necessary for supplying air for combustion. Flues shall be of corrosion-resistant construction and shall extend to the outer air. If mechanical exhaust is used on this flue, a draft diverter shall be used. Special precautions must be taken to prevent solvent fumes from entering the combustion air of this or any other heater when chlorinated or fluorinated hydrocarbon solvents (for example, trichloroethylene; Freon) are used.

(c) Heating elements shall be so designed and maintained that their surface temperature will not cause the solvent or mixture to decompose, break down, or be converted into an excessive quantity of vapor.

(d) Tanks or machines of more than 4 square feet of vapor area, used for solvent cleaning or vapor degreasing, shall be equipped with suitable cleanout or sludge doors located near the bottom of each tank or still. These doors shall be so designed and gasketed that there will be no leakage of solvent when they are closed.

(13) Scope.

(a) This paragraph applies to all operations involving the immersion of materials in liquids, or in the vapors of such liquids, for the purpose of cleaning or altering their surfaces, or adding or imparting a finish thereto, or changing the character of the materials, and their subsequent removal from the liquids or vapors, draining, and drying. Such operations include washing, electroplating, anodizing, pickling, quenching, dyeing, dipping, tanning, dressing, bleaching, degreasing, alkaline cleaning, stripping, rinsing, digesting, and other similar operations, but do not include molten materials handling operations, or surface coating operations.

(b) "Molten materials handling operations" means all operations, other than welding, burning, and soldering operations, involving the use, melting, smelting, or pouring of metals, alloys, salts, or other similar substances in the molten state. Such operations also include heat treating baths, descaling baths, die casting stereotyping, galvanizing, tinning, and similar operations.

(c) "Surface coating operations" means all operations involving the application of protective, decorative, adhesive, or strengthening coating or impregnation to one or more surfaces, or into the interstices of any object or material, by means of spraying, spreading, flowing, brushing, roll coating, pouring, cementing, or similar means; and any subsequent draining or drying operations, excluding open-tank operations.

AMENDATORY SECTION (Amending Order 87-24, filed 11/30/87)

**WAC 296-62-14533 Cotton dust.** (1) Scope and application.

(a) This section, in its entirety, applies to the control of employee exposure to cotton dust in all workplaces where employees engage in yarn manufacturing, engage in slashing and weaving operations, or work in waste houses for textile operations.

(b) This section does not apply to the handling or processing of woven or knitted materials; to maritime operations covered by chapters 296-56 and 296-304 WAC; to harvesting or ginning of cotton; or to the construction industry.

(c) Only subsection (8) Medical surveillance, subsection (11) (b) Medical surveillance, subsection (11)(c) Availability, subsection (11)(d) Transfer of records, and Appendices B, C, and D of this section apply in all work places where employees exposed to cotton dust engage in cottonseed processing or waste processing operations.

(d) This section applies to yarn manufacturing and slashing and weaving operations exclusively using washed cotton

(as defined by subsection (14) of this section) only to the extent specified by subsection (14) of this section.

(e) This section, in its entirety, applies to the control of all employees exposure to the cotton dust generated in the preparation of washed cotton from opening until the cotton is thoroughly wetted.

(f) This section does not apply to knitting, classing or warehousing operations except that employers with these operations, if requested by WISHA, shall grant WISHA access to their employees and workplaces for exposure monitoring and medical examinations for purposes of a health study to be performed by WISHA on a sampling basis.

(2) Definitions applicable to this section:

(a) "Blow down" - the cleaning of equipment and surfaces with compressed air.

(b) "Blow off" - the use of compressed air for cleaning of short duration and usually for a specific machine or any portion of a machine.

(c) "Cotton dust" - dust present in the air during the handling or processing of cotton, which may contain a mixture of many substances including ground-up plant matter, fiber, bacteria, fungi, soil, pesticides, noncotton plant matter and other contaminants which may have accumulated with the cotton during the growing, harvesting and subsequent processing or storage periods. Any dust present during the handling and processing of cotton through the weaving or knitting of fabrics, and dust present in other operations or manufacturing processes using raw or waste cotton fibers or cotton fiber byproducts from textile mills are considered cotton dust within this definition. Lubricating oil mist associated with weaving operations is not considered cotton dust.

(d) "Director" - the director of labor and industries or his authorized representative.

(e) "Equivalent instrument" - a cotton dust sampling device that meets the vertical elutriator equivalency requirements as described in subsection (4)(a)(iii) of this section.

(f) "Lint-free respirable cotton dust" - particles of cotton dust of approximately 15 microns or less aerodynamic equivalent diameter.

(g) "Vertical elutriator cotton dust sampler" or "vertical elutriator" - a dust sampler which has a particle size cut-off at approximately 15 microns aerodynamic equivalent diameter when operating at the flow rate of  $7.4 \pm 0.2$  liters per minute.

(h) "Waste processing" - waste recycling (sorting, blending, cleaning and willowing) and garnetting.

(i) "Yarn manufacturing" - all textile mill operations from opening to, but not including, slashing and weaving.

(3) Permissible exposure limits and action levels.

(a) Permissible exposure limits (PEL).

(i) The employer shall assure that no employee who is exposed to cotton dust in yarn manufacturing and cotton washing operations is exposed to airborne concentrations of lint-free respirable cotton dust greater than  $200 \mu\text{g}/\text{m}^3$  mean concentration, averaged over an eight-hour period, as measured by a vertical elutriator or an equivalent instrument.

(ii) The employer shall assure that no employee who is exposed to cotton dust in textile mill waste house operations or is exposed in yarn manufacturing to dust from "lower grade washed cotton" as defined in subsection (14)(e) of this

section is exposed to airborne concentrations of lint-free respirable cotton dust greater than  $500 \mu\text{g}/\text{m}^3$  mean concentration, averaged over an eight-hour period, as measured by a vertical elutriator or an equivalent instrument.

(iii) The employer shall assure that no employee who is exposed to cotton dust in the textile processes known as slashing and weaving is exposed to airborne concentrations of lint-free respirable cotton dust greater than  $750 \mu\text{g}/\text{m}^3$  mean concentration, averaged over an eight-hour period, as measured by a vertical elutriator or an equivalent instrument.

(b) Action levels.

(i) The action level for yarn manufacturing and cotton washing operations is an airborne concentration of lint-free respirable cotton dust of  $100 \mu\text{g}/\text{m}^3$  mean concentration, averaged over an eight-hour period, as measured by a vertical elutriator or an equivalent instrument.

(ii) The action level for waste houses for textile operations is an airborne concentration of lint-free respirable cotton dust of  $250 \mu\text{g}/\text{m}^3$  mean concentration, averaged over an eight-hour period, as measured by a vertical elutriator or an equivalent instrument.

(iii) The action level for the textile processes known as slashing and weaving is an airborne concentration of lint-free respirable cotton dust of  $375 \mu\text{g}/\text{m}^3$  mean concentration, averaged over an eight-hour period, as measured by a vertical elutriator or an equivalent instrument.

(4) Exposure monitoring and measurement.

(a) General.

(i) For the purposes of this section, employee exposure is that exposure which would occur if the employee were not using a respirator.

(ii) The sampling device to be used shall be either the vertical elutriator cotton dust sampler or an equivalent instrument.

(iii) If an alternative to the vertical elutriator cotton dust sampler is used, the employer shall establish equivalency by demonstrating that the alternative sampling devices:

(A) It collects respirable particulates in the same range as the vertical elutriator (approximately 15 microns);

(B) Replicate exposure data used to establish equivalency are collected in side-by-side field and laboratory comparisons; and

(C) A minimum of 100 samples over the range of 0.5 to 2 times the permissible exposure limit are collected, and ninety percent of these samples have an accuracy range of plus or minus twenty-five percent of the vertical elutriator reading with a ninety-five percent confidence level as demonstrated by a statistically valid protocol. (An acceptable protocol for demonstrating equivalency is described in Appendix E of this section.)

(iv) WISHA will issue a written opinion stating that an instrument is equivalent to a vertical elutriator cotton dust sampler if:

(A) A manufacturer or employer requests an opinion in writing and supplies the following information:

(I) Sufficient test data to demonstrate that the instrument meets the requirements specified in this paragraph and the protocol specified in Appendix E of this section;

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(II) Any other relevant information about the instrument and its testing requested by WISHA; and

(III) A certification by the manufacturer or employer that the information supplied is accurate, and

(B) If WISHA finds, based on information submitted about the instrument, that the instrument meets the requirements for equivalency specified by this subsection.

(b) Initial monitoring. Each employer who has a place of employment within the scope of subsections (1)(a), (d) or (e) of this section shall conduct monitoring by obtaining measurements which are representative of the exposure of all employees to airborne concentrations of lint-free respirable cotton dust over an eight-hour period. The sampling program shall include at least one determination during each shift for each work area.

(c) Periodic monitoring.

(i) If the initial monitoring required by (4)(b) of this section or any subsequent monitoring reveals employee exposure to be at or below the permissible exposure limit, the employer shall repeat the monitoring for those employees at least annually.

(ii) If the initial monitoring required by (4)(b) of this section or any subsequent monitoring reveals employee exposure to be above the PEL, the employer shall repeat the monitoring for those employees at least every six months.

(iii) Whenever there has been a production, process, or control change which may result in new or additional exposure to cotton dust, or whenever the employer has any other reason to suspect an increase in employee exposure, the employer shall repeat the monitoring and measurements for those employees affected by the change or increase.

(d) Employee notification.

(i) Within twenty working days after the receipt of monitoring results, the employer shall notify each employee in writing of the exposure measurements which represent that employee's exposure.

(ii) Whenever the results indicate that the employee's exposure exceeds the applicable permissible exposure limit specified in subsection (3) of this section, the employer shall include in the written notice a statement that the permissible exposure limit was exceeded and a description of the corrective action taken to reduce exposure below the permissible exposure limit.

(5) Methods of compliance.

(a) Engineering and work practice controls. The employer shall institute engineering and work practice controls to reduce and maintain employee exposure to cotton dust at or below the permissible exposure limit specified in subsection (3) of this section, except to the extent that the employer can establish that such controls are not feasible.

(b) Whenever feasible engineering and work practice controls are not sufficient to reduce employee exposure to or below the permissible exposure limit, the employer shall nonetheless institute these controls to immediately reduce exposure to the lowest feasible level, and shall supplement these controls with the use of respirators which shall comply with the provisions of subsection (6) of this section.

(c) Compliance program.

(i) Where the most recent exposure monitoring data indicates that any employee is exposed to cotton dust levels

greater than the permissible exposure limit, the employer shall establish and implement a written program sufficient to reduce exposures to or below the permissible exposure limit solely by means of engineering controls and work practices as required by (a) of this subsection.

(ii) The written program shall include at least the following:

(A) A description of each operation or process resulting in employee exposure to cotton dust;

(B) Engineering plans and other studies used to determine the controls for each process;

(C) A report of the technology considered in meeting the permissible exposure limit;

(D) Monitoring data obtained in accordance with subsection (4) of this section;

(E) A detailed schedule for development and implementation of engineering and work practice controls, including exposure levels projected to be achieved by such controls;

(F) Work practice program; and

(G) Other relevant information.

(iii) The employer's schedule as set forth in the compliance program, shall project completion of the implementation of the compliance program no later than March 27, 1984 or as soon as possible if monitoring after March 27, 1984 reveals exposures over the PEL, except as provided in (13)(b)(ii)(B) of this section.

(iv) The employer shall complete the steps set forth in his program by the dates in the schedule.

(v) Written programs shall be submitted, upon request, to the director, and shall be available at the worksite for examination and copying by the director, and any affected employee or their designated representatives.

(vi) The written programs required under subsection (5)(c) of this section shall be revised and updated at least every six months to reflect the current status of the program and current exposure levels.

(d) Mechanical ventilation. When mechanical ventilation is used to control exposure, measurements which demonstrate the effectiveness of the system to control exposure, such as capture velocity, duct velocity, or static pressure shall be made at reasonable intervals.

(6) Use of respirators.

(a) General. (~~Where the use of respirators is required under this section, the employer shall provide, at no cost to the employee, and assure the use of respirators which comply with the requirements of this subsection (6). Respirators shall be used in the following circumstances~~) For employees who are required to use respirators by this section, the employer must provide respirators that comply with the requirements of this section. Respirators must be used during:

(i) (~~During the time~~) Periods necessary to install or implement feasible engineering controls and work-practice controls;

(ii) (~~During~~) Maintenance and repair activities (~~in~~) for which engineering and work-practice controls are not feasible;

(iii) (~~In work situations where~~) Work operations for which feasible engineering and work-practice controls are not yet sufficient to reduce employee exposure to or below the permissible exposure limits;



(iv) ~~((~~It~~))~~ Work operations specified under subsection (7)(a) of this section; ((and))

(v) ~~((Whenever))~~ Periods for which an employee requests a respirator.

(b) Respirator ((selection)) program.

~~((Where respirators are required under this section, the employer shall select the appropriate respirator from Table I and shall assure that the employee uses the respirator provided))~~ The employer must implement a respiratory protection program as required by chapter 296-62 WAC, Part E (except WAC 296-62-07130(1) and 296-62-07150 through 296-62-07156).

(ii) Whenever a physician determines that an employee who works in an area in which the cotton-dust concentration exceeds the PEL is unable to use a respirator, including a powered air-purifying respirator, the employee must be given the opportunity to transfer to an available position, or to a position that becomes available later, that has a cotton-dust concentration at or below the PEL. The employer must ensure that such employees retain their current wage rate or other benefits as a result of the transfer.

(c) Respirator selection.

(i) The employer must select the appropriate respirator from Table 1 of this section.

TABLE - ((4)) 1

Cotton dust concentration	Required respirator
Not greater than—	
(a) 5 x the applicable permissible exposure limit (PEL).	A disposable respirator with a particulate filter.
(b) 10 x the applicable PEL.	A quarter or half-mask respirator, other than a disposable respirator, equipped with particulate filters.
(c) 100 x the applicable PEL.	A full facepiece respirator equipped with high-efficiency particulate filters.
(d) Greater than 100 x the applicable PEL.	A powered air-purifying respirator equipped with high-efficiency particulate filters.

- Notes
1. A disposable respirator means the filter element is an inseparable part of the respirator.
  2. Any respirators permitted at higher environmental concentrations can be used at lower concentrations.
  3. Self-contained breathing apparatus are not required respirators but are permitted respirators.
  4. Supplied air respirators are not required but are permitted under the following conditions: Cotton dust concentration not greater than 10X the PEL—Any supplied air respirator; not greater than 100X the PEL—Any supplied air respirator with full facepiece, helmet or hood; greater than 100X the PEL—A supplied air respirator operated in positive pressure mode.

~~((The employer shall select respirators from those tested and approved for protection against dust by the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR Part 11.~~

~~((iii) Whenever respirators are required by this section for concentrations not greater than 100 x the applicable permissible exposure limit, the employer shall, upon the request of the employee, provide a powered air purifying respirator with a~~

~~high efficiency particulate filter in lieu of the respirator specified in paragraphs (a), (b), or (c) of Table I.~~

~~((iv) Whenever a physician determines that an employee who works in an area in which the dust level exceeds the PEL is unable to wear any form of respirator, including a powered air purifying respirator, the employee shall be given the opportunity to transfer to another position which is available or which later becomes available having a dust level at or below the PEL. The employer shall assure that an employee who is transferred from an area in which the dust level exceeds the PEL due to an inability to wear a respirator suffers no reduction in current wage rate or other benefits as a result of the transfer.~~

~~((e) Respirator program. The employer shall institute a respirator program in accordance with WAC 296-62-071.~~

~~((d) Respirator usage:~~

~~((i) The employer shall assure that the respirator used by each employee exhibits minimum face piece leakage and that the respirator is fitted properly.~~

~~((ii) The employer shall allow each employee who uses a filter respirator, to change the filter elements whenever an increase in breathing resistance is detected by the employee. The employer shall maintain an adequate supply of filter elements for this purpose.~~

~~((iii) The employer shall allow employees who wear respirators to wash their faces and respirator face pieces to prevent skin irritation associated with respirator use))~~ Whenever respirators are required by this section for cotton-dust concentrations that do not exceed the applicable permissible exposure limit by a multiple of 100 (100 x), the employer must, when requested by an employee, provide a powered air-purifying respirator with a high-efficiency particulate filter instead of the respirator specified in (a), (b), or (c) of Table 1 of this section.

(7) Work practices. Each employer shall, regardless of the level of employee exposure, immediately establish and implement a written program of work practices which shall minimize cotton dust exposure. The following shall be included where applicable:

(a) Compressed air "blow down" cleaning shall be prohibited, where alternative means are feasible. Where compressed air is used for cleaning, the employees performing the "blow down" or "blow off" shall wear suitable respirators. Employees whose presence is not required to perform "blow down" or "blow off" shall be required to leave the area affected by the "blow down" or "blow off" during this cleaning operation.

(b) Cleaning of clothing or floors with compressed air shall be prohibited.

(c) Floor sweeping shall be performed with a vacuum or with methods designed to minimize dispersal of dust.

(d) In areas where employees are exposed to concentrations of cotton dust greater than the permissible exposure limit, cotton and cotton waste shall be stacked, sorted, baled, dumped, removed or otherwise handled by mechanical means, except where the employer can show that it is infeasible to do so. Where infeasible, the method used for handling cotton and cotton waste shall be the method which reduces exposure to the lowest level feasible.

(8) Medical surveillance.

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## (a) General.

(i) Each employer covered by the standard shall institute a program of medical surveillance for all employees exposed to cotton dust.

(ii) The employer shall assure that all medical examinations and procedures are performed by or under the supervision of a licensed physician and are provided without cost to the employee.

(iii) Persons other than licensed physicians, who administer the pulmonary function testing required by this section shall have completed a NIOSH approved training course in spirometry.

(b) Initial examinations. The employer shall provide medical surveillance to each employee who is or may be exposed to cotton dust. For new employees' this examination shall be provided prior to initial assignment. The medical surveillance shall include at least the following:

(i) A medical history;

(ii) The standardized questionnaire contained in WAC 296-62-14537; and

(iii) A pulmonary function measurement, including a determination of forced vital capacity (FVC) and forced expiratory volume in one second (FEV<sub>1</sub>), the FEV<sub>1</sub>/FVC ratio, and the percentage that the measured values of FEV<sub>1</sub> and FVC differ from the predicted values, using the standard tables in WAC 296-62-14539. These determinations shall be made for each employee before the employee enters the workplace on the first day of the work week, preceded by at least thirty-five hours of no exposure to cotton dust. The tests shall be repeated during the shift, no less than four hours and no more than ten hours after the beginning of the work shift; and, in any event, no more than one hour after cessation of exposure. Such exposure shall be typical of the employee's usual workplace exposure. The predicted FEV<sub>1</sub> and FVC for blacks shall be multiplied by 0.85 to adjust for ethnic differences.

(iv) Based upon the questionnaire results, each employee shall be graded according to Schilling's byssinosis classification system.

## (c) Periodic examinations.

(i) The employer shall provide at least annual medical surveillance for all employees exposed to cotton dust above the action level in yarn manufacturing, slashing and weaving, cotton washing and waste house operations. The employer shall provide medical surveillance at least every two years for all employees exposed to cotton dust at or below the action level, for all employees exposed to cotton dust from washed cotton (except from washed cotton defined in subsection (9)(c) of this section), and for all employees exposed to cotton dust in cottonseed processing and waste processing operations. Periodic medical surveillance shall include at least an update of the medical history, standardized questionnaire (Appendix B-111), Schilling byssinosis grade, and the pulmonary function measurements in (b)(iii) of this subsection.

(ii) Medical surveillance as required in (c)(i) of this subsection shall be provided every six months for all employees in the following categories:

(A) An FEV<sub>1</sub> of greater than eighty percent of the predicted value, but with an FEV<sub>1</sub> decrement of five percent or 200 ml. on a first working day;

(B) An FEV<sub>1</sub> of less than eighty percent of the predicted value; or

(C) Where, in the opinion of the physician, any significant change in questionnaire findings, pulmonary function results, or other diagnostic tests have occurred.

(iii) An employee whose FEV<sub>1</sub> is less than sixty percent of the predicted value shall be referred to a physician for a detailed pulmonary examination.

(iv) A comparison shall be made between the current examination results and those of previous examinations and a determination made by the physician as to whether there has been a significant change.

(d) Information provided to the physician. The employer shall provide the following information to the examining physician:

(i) A copy of this regulation and its appendices;

(ii) A description of the affected employee's duties as they relate to the employee's exposure;

(iii) The employee's exposure level or anticipated exposure level;

(iv) A description of any personal protective equipment used or to be used; and

(v) Information from previous medical examinations of the affected employee which is not readily available to the examining physician.

## (e) Physician's written opinion.

(i) The employer shall obtain and furnish the employee with a copy of a written opinion from the examining physician containing the following:

(A) The results of the medical examination and tests including the FEV<sub>1</sub>, FVC, and FEV<sub>1</sub>/FVC ratio;

(B) The physician's opinion as to whether the employee has any detected medical conditions which would place the employee at increased risk of material impairment of the employee's health from exposure to cotton dust;

(C) The physician's recommended limitations upon the employee's exposure to cotton dust or upon the employee's use of respirators including a determination of whether an employee can wear a negative pressure respirator, and where the employee cannot, a determination of the employee's ability to wear a powered air purifying respirator; and

(D) A statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions which require further examination or treatment.

(ii) The written opinion obtained by the employer shall not reveal specific findings or diagnoses unrelated to occupational exposure.

## (9) Employee education and training.

## (a) Training program.

(i) The employer shall provide a training program for all employees exposed to cotton dust and shall assure that each employee is informed of the following:

(A) The acute and long term health hazards associated with exposure to cotton dust;

(B) The names and descriptions of jobs and processes which could result in exposure to cotton dust at or above the PEL.

(C) The measures, including work practices required by subsection (7) of this section, necessary to protect the employee from exposures in excess of the permissible exposure limit;

(D) The purpose, proper use ~~((and)), limitations ((of respirators)), and other training requirements for respiratory protection as required by subsection (6) of this section and chapter 296-62 WAC. Part E (see WAC 296-62-07117, 296-62-07172, and 296-62-01786 through 296-62-07190);~~

(E) The purpose for and a description of the medical surveillance program required by subsection (8) of this section and other information which will aid exposed employees in understanding the hazards of cotton dust exposure; and

(F) The contents of this standard and its appendices.

(ii) The training program shall be provided prior to initial assignment and shall be repeated annually for each employee exposed to cotton dust, when job assignments or work processes change and when employee performance indicates a need for retraining.

(b) Access to training materials.

(i) Each employer shall post a copy of this section with its appendices in a public location at the workplace, and shall, upon request, make copies available to employees.

(ii) The employer shall provide all materials relating to the employee training and information program to the director upon request.

(10) Signs. The employer shall post the following warning sign in each work area where the permissible exposure limit for cotton dust is exceeded:

WARNING  
COTTON DUST WORK AREA  
MAY CAUSE ACUTE OR DELAYED LUNG INJURY  
(BYSSINOSIS)  
RESPIRATORS REQUIRED IN THIS AREA

(11) Recordkeeping.

(a) Exposure measurements.

(i) The employer shall establish and maintain an accurate record of all measurements required by subsection (4) of this section.

(ii) The record shall include:

(A) A log containing the items listed in WAC 296-62-14535 (4)(a), and the dates, number, duration, and results of each of the samples taken, including a description of the procedure used to determine representative employee exposures;

(B) The type of protective devices worn, if any, and length of time worn; and

(C) The names, social security number, job classifications, and exposure levels of employees whose exposure the measurement is intended to represent.

(iii) The employer shall maintain this record for at least twenty years.

(b) Medical surveillance.

(i) The employer shall establish and maintain an accurate medical record for each employee subject to medical surveillance required by subsection (8) of this section.

(ii) The record shall include:

(A) The name and social security number and description of the duties of the employee;

(B) A copy of the medical examination results including the medical history, questionnaire response, results of all tests, and the physician's recommendation;

(C) A copy of the physician's written opinion;

(D) Any employee medical complaints related to exposure to cotton dust;

(E) A copy of this standard and its appendices, except that the employer may keep one copy of the standard and the appendices for all employees, provided that he references the standard and appendices in the medical surveillance record of each employee; and

(F) A copy of the information provided to the physician as required by subsection (8)(d) of this section.

(iii) The employer shall maintain this record for at least twenty years.

(c) Availability.

(i) The employer shall make all records required to be maintained by subsection (11) of this section available to the director for examination and copying.

(ii) Employee exposure measurement records and employee medical records required by this subsection shall be provided upon request to employees, designated representatives, and the assistant director in accordance with WAC 296-62-05201 through 296-62-05209 and 296-62-05213 through 296-62-05217.

(d) Transfer of records.

(i) Whenever the employer ceases to do business, the successor employer shall receive and retain all records required to be maintained by subsection (11) of this section.

(ii) Whenever the employer ceases to do business, and there is no successor employer to receive and retain the records for the prescribed period, these records shall be transmitted to the director.

(iii) At the expiration of the retention period for the records required to be maintained by this section, the employer shall notify the director at least three months prior to the disposal of such records and shall transmit those records to the director if he requests them within that period.

(iv) The employer shall also comply with any additional requirements involving transfer of records set forth in WAC 296-62-05215.

(12) Observation of monitoring.

(a) The employer shall provide affected employees or their designated representatives an opportunity to observe any measuring or monitoring of employee exposure to cotton dust conducted pursuant to subsection (4) of this section.

(b) Whenever observation of the measuring or monitoring of employee exposure to cotton dust requires entry into an area where the use of personal protective equipment is required, the employer shall provide the observer with and assure the use of such equipment and shall require the observer to comply with all other applicable safety and health procedures.

(c) Without interfering with the measurement, observers shall be entitled to:

(i) An explanation of the measurement procedures;

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(ii) An opportunity to observe all steps related to the measurement of airborne concentrations of cotton dust performed at the place of exposure; and

(iii) An opportunity to record the results obtained.

(13) ~~(Effective date.~~

~~(a) General. This emergency rule is effective upon filing with the code reviser, except as otherwise provided below.~~

~~(b) Startup dates.~~

~~(i) Initial monitoring. The initial monitoring required by subsection (4)(b) of this section shall be completed as soon as possible but no later than September 27, 1980.~~

~~(ii) Methods of compliance;~~

~~(A) The engineering and work practice controls required by subsection (5) of this section shall be implemented no later than March 27, 1984 except as set forth in (13)(b)(ii)(B) of this section.~~

~~(B) The engineering and work practice controls required by subsection (5) of this section shall be implemented no later than March 27, 1986, for ring spinning operations (including only ring spinning and winding, twisting, spooling, beaming and warping following ring spinning) where the operations meet the following criteria:~~

~~(I) The weight of the yarn being run is one hundred percent cotton and the average yarn count by weight is eighteen or below;~~

~~(II) The average weight of the yarn run is eighty percent or more cotton and the average yarn count by weight is sixteen or below; or~~

~~(III) The average weight of the yarn being run is fifty percent or more cotton and the average yarn count by weight is fourteen or below;~~

~~(C) When the provisions of (b)(ii)(B) of this subsection are being relied upon, the following definitions shall apply:~~

~~(I) The average cotton content shall be determined by dividing the total weight of cotton in the yarns being run by the total weight of all the yarns being run in the relevant work area.~~

~~(II) The average yarn count shall be determined by multiplying the yarn count times the pounds of each particular yarn being run to get the "total hank" for each of the yarns being run in the relevant area. The "total hank" values for all of the yarns being run should then be summed and divided by the total pounds of yarn being run, to produce the average yarn count number for all the yarns being run in the relevant work area.~~

~~(D) Where the provisions of (b)(ii)(B) of this subsection are being relied upon, the employer shall update the employer's compliance plan no later than February 13, 1986, to indicate the steps being taken to reduce cotton dust levels to 200  $\mu\text{g}/\text{m}^3$  through the use of engineering and work practice controls by March 27, 1986.~~

~~(E) Where the provisions of (b)(ii)(B) of this subsection are being relied upon, the employer shall maintain airborne concentrations of cotton dust below 1000  $\mu\text{g}/\text{m}^3$  mean concentration averaged over an eight-hour period measured by a vertical elutriator or an equivalent instrument with engineering and work practice controls and shall maintain the permissible exposure limit specified by subsection (3)(a)(i) of this~~

~~section with any combination of engineering controls, work practice controls and respirators.~~

~~(iii) Compliance program. The compliance program required by subsection (5)(c) of this section shall be established no later than March 27, 1981.~~

~~(iv) Respirators. The respirators required by subsection (6) of this section shall be provided no later than April 27, 1980.~~

~~(v) Work practices. The work practices required by subsection (7) of this section shall be implemented no later than June 27, 1980.~~

~~(vi) Medical surveillance. The medical surveillance required by subsection (8) of this section shall be completed no later than March 27, 1981 for the textile industry and no later than June 13, 1986 for the cotton seed processing and waste processing industry.~~

~~(vii) Employee education and training. The initial education and training required by subsection (9) of this section shall be completed as soon as possible but no later than June 27, 1980.~~

~~(14)) Washed cotton.~~

~~(a) Exemptions. Cotton, after it has been washed by the processes described in this section is exempt from all or parts of this section as specified if the requirements of this section are met.~~

~~(b) Initial requirements.~~

~~(i) In order for an employer to qualify as exempt or partially exempt from this standard for operations using washed cotton, the employer must demonstrate that the cotton was washed in a facility which is open to inspection by the director and the employer must provide sufficient accurate documentary evidence to demonstrate that the washing methods utilized meet the requirements of this section.~~

~~(ii) An employer who handles or processes cotton which has been washed in a facility not under the employer's control and claims an exemption or partial exemption under this paragraph, must obtain from the cotton washer and make available at the worksite, to the director, or his designated representative, to any affected employee, or to their designated representative the following:~~

~~(A) A certification by the washer of the cotton of the grade of cotton, the type of washing process, and that the batch meets the requirements of this section;~~

~~(B) Sufficient accurate documentation by the washer of the cotton grades and washing process; and~~

~~(C) An authorization by the washer that the director may inspect the washer's washing facilities and documentation of the process.~~

~~(c) Medical and dyed cotton. Medical grade (USP) cotton, cotton that has been scoured, bleached and dyed, and mercerized yarn shall be exempt from all provisions of this standard.~~

~~(d) Higher grade washed cotton. The handling or processing of cotton classed as "low middling light spotted or better" which has been washed:~~

~~(i) On a continuous batt system or a rayon rinse system.~~

~~(ii) With water,~~

~~(iii) At a temperature of no less than 60°C,~~

~~(iv) With a water-to-fiber ratio of no less than 40:1, and~~

(v) With bacterial levels in the wash water controlled to limit bacterial contamination of the cotton, shall be exempt from all provisions of the standard except the requirements of subsection (8) Medical surveillance, subsection (11)(b) Medical surveillance, subsection (11)(c) Availability, subsection (11)(d) Transfer of records, and Appendices B, C, and D of this section.

(e) Lower grade washed cotton. The handling and processing of cotton of grades lower than "low middling light spotted," that has been washed as specified in (d) of this subsection and has also been bleached, shall be exempt from all provisions of the standard except the requirements of subsection (3)(a) Permissible exposure limits, subsection (4) Exposure monitoring and measurement, subsection (8) Medical surveillance, subsection (11) Recordkeeping, and Appendices B, C and D of this section.

(f) Mixed grades of washed cotton. If more than one grade of washed cotton is being handled or processed together, the requirements of the grade with the most stringent exposure limit, medical and monitoring requirements shall be followed.

~~((15))~~ (14) Appendices.

(a) Appendix B (B-I, B-II and B-III), WAC 296-62-14537, Appendix C, WAC 296-62-14539 and Appendix D, WAC 296-62-14541 are incorporated as part of this chapter and the contents of these appendices are mandatory.

(b) Appendix A of this chapter, WAC 296-62-14535 contains information which is not intended to create any additional obligations not otherwise imposed or to detract from any existing obligations.

(c) Appendix E of this chapter is a protocol which may be followed in the validation of alternative measuring devices as equivalent to the vertical elutriator cotton dust sampler. Other protocols may be used if it is demonstrated that they are statistically valid, meet the requirements in subsection (4)(a)(iii) of this section, and are appropriate for demonstrating equivalency.

AMENDATORY SECTION (Amending Order 86-28, filed 7/25/86)

**WAC 296-62-20011 Respiratory protection.** (1) General.

~~((a) Where respiratory protection is required under this section, the employer shall provide and assure the use of respirators which comply with the requirements of this section. Compliance with the permissible limit exposure may not be achieved by the use of respirators except))~~ For employers who use respirators required by this section, the employer must provide respirators that comply with the requirements of this section. Compliance with the permissible exposure limit may not be achieved by the use of respirators except during:

~~((i) During the time period))~~ (a) Periods necessary to install or implement feasible engineering and work-practice controls; ~~((or~~

~~((ii) In))~~ (b) Work operations, such as maintenance and repair activity ~~((in))~~, for which engineering and work-practice controls are technologically not feasible; ~~((or~~

~~((iii) In work situations where))~~ (c) Work operations for which feasible engineering and work-practice controls are not yet sufficient to reduce employee exposure to or below the permissible exposure limit; ~~((or~~

~~((iv) In))~~ (d) Emergencies.

~~((b) Notwithstanding any other requirement of this section, until January 20, 1978, the wearing of respirators shall be at the discretion of each employee where the employee is not in the vicinity of visible emissions.))~~

(2) ~~((Selection.~~

~~((a) Where respirators are required under this section, the employer shall select, provide and assure the use of the appropriate respirator or combination of respirators from Table I below))~~ Respirator program. The employer must implement a respiratory protection program as required by chapter 296-62 WAC, Part E (except WAC 296-62-07130(1) and 296-62-07150 through 296-62-07156).

(3) Respirator selection. The employer must select appropriate respirators or combination of respirators from Table I of this section.

TABLE I  
RESPIRATORY PROTECTION FOR COKE  
OVEN EMISSIONS

Airborne concentration of coke oven emissions	Required respirator
(i) Any concentration.	(A) A Type C supplied air respirator operated in pressure demand or other positive pressure or continuous flow mode; or (B) A powered air-purifying particulate filter respirator for dust, mist, and fume; or (C) A powered air-purifying particulate filter respirator combination chemical cartridge and particulate filter respirator for coke oven emissions.
(ii) Concentrations not greater than 1500 µg/m <sup>3</sup> .	(A) Any particulate filter respirator for dust, mist and fume, except single-use respirator; or (B) Any particulate filter respirator or combination chemical cartridge and particulate filter respirator for coke oven emissions; or (C) Any respirator listed in subsection (2)(a)(i) of this section.

~~((b) Not later than January 20, 1978, whenever respirators are required by this section for concentrations not greater than 1500 µg/m<sup>3</sup>, the employer shall provide, at the option of each affected employee, either a particulate filter respirator as provided in subsection (2)(a)(ii) of this section, or a powered air-purifying respirator as provided in subsection (2)(a)(i) of this section.~~

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~~(e) The employer shall select respirators from among those approved for protection against dust, fume, and mist by the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR Part 11, except that not later than January 20, 1979, the employer shall select respirators from among those approved by NIOSH for protection against coke oven emissions.~~

~~(3) Respirator program. The employer shall institute a respiratory protection program in accordance with WAC 296-62-071.~~

~~(4) Respirator usage.~~

~~(a) The employer shall assure that the respirator issued to the employee exhibits minimum facepiece leakage and that the respirator is fitted properly.~~

~~(b) The employer shall allow each employee who uses a filter respirator to change the filter elements whenever an increase in breathing resistance is detected and shall maintain an adequate supply of filter elements for this purpose.~~

~~(c) The employer shall allow employees who wear respirators to wash their face and respirator facepiece to prevent skin irritation associated with respirator use.)~~

AMENDATORY SECTION (Amending Order 77-14, filed 7/25/77)

**WAC 296-62-20019 Employee information and training.** (1) Training program.

(a) The employer shall institute a training program for employees who are employed in the regulated area and shall assure their participation.

(b) The training program shall be provided as of January 20, 1977, for employees who are employed in the regulated area at that time or at the time of initial assignment to a regulated area.

(c) The training program shall be provided at least annually for all employees who are employed in the regulated area, except that training regarding the occupational safety and health hazards associated with exposure to coke oven emissions and the purpose, proper use, and limitations of respiratory protective devices shall be provided at least quarterly until January 20, 1978.

(d) The training program shall include informing each employee of:

(i) The information contained in the substance information sheet for coke oven emissions (Appendix A);

(ii) The purpose, proper use, and limitations of respiratory protective devices in addition to other information as required ((in accordance with WAC 296-62-20014)) by chapter 296-62 WAC, Part E (see WAC 296-62-07117, 296-62-07172, and 296-62-07186 through 296-62-07190).

(iii) The purpose for and a description of the medical surveillance program required by WAC 296-62-20017 including information on the occupational safety and health hazards associated with exposure to coke oven emissions;

(iv) A review of all written procedures and schedules required under WAC 296-62-20009; and

(v) A review of this standard.

(2) Access to training materials.

(a) The employer shall make a copy of this standard and its appendixes readily available to all employees who are employed in the regulated area.

(b) The employer shall provide all materials relating to the employee information and training program to the director.

AMENDATORY SECTION (Amending WSR 98-02-030, filed 12/31/97, effective 1/31/98)

**WAC 296-62-20027 Appendix A—Coke oven emissions substance information sheet.**

APPENDIX A

COKE OVEN EMISSIONS  
SUBSTANCE INFORMATION SHEET

I. SUBSTANCE IDENTIFICATION

- (1) Substance: Coke oven emissions
- (2) Definition: The benzene-soluble fraction of total particulate matter present during the destructive distillation or carbonization of coal for the production of coke.
- (3) Permissible exposure limit: 150 micrograms per cubic meter of air determined as an average over an 8-hour period.
- (4) Regulated areas: Only employees authorized by your employer should enter a regulated area. The employer is required to designate the following areas as regulated areas: the coke oven battery, including topside and its machinery, pushside and its machinery, and the screening station; and the wharf, the beehive ovens and machinery.

II. HEALTH HAZARD DATA

Exposure to coke oven emissions is a cause of lung cancer, and possibly kidney cancer, in humans. Although it does not have an excess number of skin cancer cases in humans, repeated skin contact with coke oven emissions should be avoided.

III. PROTECTIVE CLOTHING AND EQUIPMENT

- (1) Respirators: Respirators will be provided by your employer for routine use if your employer is in the process of implementing engineering and work practice controls or where engineering and work practice controls are not feasible or insufficient. You must wear respirators for nonroutine activities or in emergency situations where you are likely to be exposed to levels of coke oven emissions in excess of the permissible exposure limit. ~~((Until January 20, 1978, the routine wearing of respirators is voluntary. Until that date, if you choose not to wear a respirator you do not have to do so. You must still have your respirator with you and you must still wear it if you are near visible emissions.))~~ Since how well your respirator fits your face is very important, your employer is required to conduct fit tests to make sure the respirator seals properly when you wear it. These tests are simple

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and rapid and will be explained to you during your training sessions.

- (2) Protective clothing: Your employer is required to provide, and you must wear, appropriate, clean, protective clothing and equipment to protect your body from repeated skin contact with coke oven emissions and from the heat generated during the coking process. This clothing should include such items as jacket and pants and flame resistant gloves. Protective equipment should include face shield or vented goggles, protective helmets and safety shoes, insulated from hot surfaces where appropriate.

IV. HYGIENE FACILITIES AND PRACTICES

You must not eat, drink, smoke, chew gum or tobacco, or apply cosmetics in the regulated area, except that drinking water is permitted. Your employer is required to provide lunchrooms and other areas for these purposes.

Your employer is required to provide showers, washing facilities, and change rooms. If you work in a regulated area, you must wash your face, and hands before eating. You must shower at the end of the work shift. Do not take used protective clothing out of the change rooms without your employer's permission. Your employer is required to provide for laundering or cleaning of your protective clothing.

V. SIGNS AND LABELS

Your employer is required to post warning signs and labels for your protection. Signs must be posted in regulated areas. The signs must warn that a cancer hazard is present, that only authorized employees may enter the area, and that no smoking or eating is allowed. In regulated areas where coke oven emissions are above the permissible exposure limit, the signs should also warn that respirators must be worn.

VI. MEDICAL EXAMINATIONS

If you work in a regulated area at least 30 days per year, your employer is required to provide you with a medical examination every year. The medical examination must include a medical history, a chest x-ray; pulmonary function test; weight comparison; skin examination; a urinalysis and a urine cytology exam for the early detection of urinary or lung cancer. When you are either 45 years or older or have 5 or more years employment in the regulated areas, medical examinations are required every 6 months and include an updated work history; an updated medical history; pulmonary function test; weight comparison; skin examination; a urinalysis; and a urine cytology exam. The examining physician will provide a written opinion to your employer containing the results of the medical exams. You should also receive a copy of this opinion.

VII. OBSERVATION OF MONITORING

Your employer is required to monitor your exposure to coke oven emissions and you are entitled to observe the monitoring procedure. You are entitled to receive an explanation of the measurement procedure, observe the steps taken in the

measurement procedure, and to record the results obtained. When the monitoring procedure is taking place in an area where respirators or personal protective clothing and equipment are required to be worn, you must also be provided with and must wear the protective clothing and equipment.

VIII. ACCESS TO RECORDS

You or your representative are entitled to records of your exposure to coke oven emissions upon request to your employer. Your medical examination records can be furnished to your physician upon request to your employer.

IX. TRAINING AND EDUCATION

Additional information on all of these items plus training as to hazards of coke oven emissions and the engineering and work practice controls associated with your job will also be provided by your employer.

REPEALER

The following sections of the Washington Administrative Code are repealed:

WAC 296-62-07379	Dates.
WAC 296-62-07431	Dates.
WAC 296-62-07445	Appendix C—Qualitative and quantitative fit testing procedures—(Fit test protocols).
WAC 296-62-07533	Appendix E qualitative and quantitative fit testing procedures.
WAC 296-62-07550	Appendix E—Qualitative and quantitative fit testing procedures.
WAC 296-62-07635	Effective date.
WAC 296-62-07639	Startup dates.
WAC 296-62-07662	Appendix E to WAC 296-62-076—Qualitative and quantitative fit testing procedures.
WAC 296-62-07664	Appendix E-1—Qualitative fit test protocols.
WAC 296-62-07666	Appendix E-1-a—Isoamyl acetate (banana oil) protocol.
WAC 296-62-07668	Appendix E-1-b—Saccharin solution aerosol protocol.
WAC 296-62-07670	Appendix E-1-c—Irritant fume protocol.
WAC 296-62-07672	Appendix E-2—Quantitative fit test procedures.

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WAC 296-62-07739

Appendix C—Qualitative and quantitative fit testing procedures—Mandatory.

Table 1.—Respiratory Protection for MDA

Airborne concentration of MDA or condition of use	Respirator type
a. Less than or equal to 10xPEL	(1) Half-mask respirator with HEPA <sup>1</sup> cartridge. <sup>2</sup>
b. Less than or equal to 50xPEL	(1) Full facepiece respirator with HEPA <sup>1</sup> cartridge or canister. <sup>2</sup>
c. Less than or equal to 1000xPEL	(1) Full facepiece powered air-purifying respirator with HEPA <sup>1</sup> cartridges. <sup>2</sup>
d. Greater than 1000xPEL or unknown	(1) Self-contained breathing concentration apparatus with full facepiece in positive pressure mode; (2) Full facepiece positive-pressure demand supplied-air respirator with auxiliary self-contained air supply.
e. Escape	(1) Any full facepiece air-purifying respirator with HEPA <sup>1</sup> cartridges; <sup>2</sup> (2) Any positive pressure or continuous flow self-contained breathing apparatus with full facepiece or hood.
f. Fire fighting	(1) Full facepiece self-contained breathing apparatus in positive pressure mode.

Note: Respirators assigned for higher environmental concentration may be used at lower concentrations.  
<sup>1</sup>High efficiency particulate in air filter (HEPA) means a filter that is at least 99.97 percent efficient against mono-dispersed particles of 0.3 micrometers or larger.  
<sup>2</sup>Combination HEPA/organic vapor cartridges shall be used whenever MDA in liquid form or a process requiring heat is used.

**AMENDATORY SECTION** (Amending Order 92-15, filed 2/3/93, effective 3/15/93)

**WAC 296-155-17317 Respiratory protection.** (1)

General. ~~((The employer shall provide respirators, and ensure that they are used, where required by this section. Respirators shall be used in the following circumstances:))~~ For employees who use respirators required by this section, the employer must provide respirators that comply with the requirements of this section. Respirators must be used during:

(a) ~~((During the time))~~ Periods necessary to install or implement feasible engineering and work-practice controls(;).

(b) ~~((In))~~ Work operations, such as maintenance and repair activities and spray application processes, for which engineering and work-practice controls are not feasible(;).

(c) ~~((In work situations where))~~ Work operations for which feasible engineering and work-practice controls are not yet sufficient to reduce employee exposure to or below the PELs(;-and)).

(d) ~~((In))~~ Emergencies.

(2) Respirator ((selection:

~~(a) Where respirators are required or allowed under this section, the employer shall select and provide, at no cost to the employee, the appropriate respirator as specified in Table 1, and shall assure that the employee uses the respirator provided.~~

~~(b) The employer shall select respirators from among those jointly approved by the Mine Safety and Health Administration and the National Institute for Occupational Safety and Health under the provisions of 30 CFR part 11 and chapter 296-62 WAC, Part E.~~

~~(c) Any employee who cannot wear a negative pressure respirator shall be given the option of wearing a positive-pressure respirator or any supplied air respirator operated in the continuous flow or pressure-demand mode.~~

~~(3) Respirator))~~ program. The employer ((shall institute)) must implement a respiratory protection program ((in accordance with)) as required by chapter 296-62 WAC, Part E (except WAC 296-62-07130(1) and 296-62-07150 through WAC 296-62-07156).

~~((4) Respirator use.~~

~~(a) Where air-purifying respirators (cartridge or canister) are used, the employer shall replace the air-purifying element as needed to maintain the effectiveness of the respirator. The employer shall ensure that each cartridge is dated at the beginning of use.~~

~~(b) Employees who wear respirators shall be allowed to leave the regulated area to readjust the face piece or to wash their faces and to wipe clean the face pieces on their respirators in order to minimize potential skin irritation associated with respirator use.~~

~~(e))~~ (3) Respirator selection.

(a) The employer must select the appropriate respirator from Table 1 of this section.

~~((5) Respirator fit testing.~~

~~(a) The employer shall perform and record the results of either quantitative or qualitative fit tests at the time of initial fitting and at least annually thereafter for each employee wearing a negative pressure respirator. The test shall be used to select a respirator facepiece which provides the required protection as prescribed in subsection (4)(c) of this section, Table 1.~~

~~(b) The employer shall follow the test protocols outlined in Appendix E of this standard for whichever type of fit testing the employer chooses.)~~ (b) An employee who cannot use a negative-pressure respirator must be given the option of using a positive-pressure respirator, or a supplied-air respirator operated in the continuous-flow or pressure-demand mode.

**AMENDATORY SECTION** (Amending Order 92-15, filed 2/3/93, effective 3/15/93)

**WAC 296-155-17337 Appendices.** The information contained in Appendices A, B, C, and D of this standard is not intended by itself, to create any additional obligations not otherwise imposed by this standard nor detract from any existing obligation. ~~((The protocols for respiratory fit testing in Appendix E of this standard are mandatory.))~~

PROPOSED



**AMENDATORY SECTION** (Amending Order 92-15, filed 2/3/93, effective 3/15/93)

**WAC 296-155-17341 Appendix A to WAC 296-155-173—Substance data sheet, for 4-4'-methylenedianiline.**

**(1) Substance identification.**

(a) Substance: Methylenedianiline (MDA).

(b) Permissible exposure:

(i) Airborne: Ten parts per billion parts of air (10 ppb), time-weighted average (TWA) for an 8-hour workday and an action level of five parts per billion parts of air (5 ppb).

(ii) Dermal: Eye contact and skin contact with MDA are not permitted.

(c) Appearance and odor: White to tan solid; amine odor.

**(2) Health hazard data.**

(a) Ways in which MDA affects your health. MDA can affect your health if you inhale it or if it comes in contact with your skin or eyes. MDA is also harmful if you happen to swallow it. Do not get MDA in eyes, on skin, or on clothing.

(b) Effects of overexposure.

(i) Short-term (acute) overexposure: Overexposure to MDA may produce fever, chills, loss of appetite, vomiting, jaundice. Contact may irritate skin, eyes, and mucous membranes. Sensitization may occur.

(ii) Long-term (chronic) exposure. Repeated or prolonged exposure to MDA, even at relatively low concentrations, may cause cancer. In addition, damage to the liver, kidneys, blood, and spleen may occur with long-term exposure.

(iii) Reporting signs and symptoms: You should inform your employer if you develop any signs or symptoms which you suspect are caused by exposure to MDA including yellow staining of the skin.

**(3) Protective clothing and equipment.**

(a) Respirators. Respirators are required for those operations in which engineering controls or work practice controls are not adequate or feasible to reduce exposure to the permissible limit. If respirators are worn, they must (~~have the joint Mine Safety and Health Administration and~~) be certified by the National Institute for Occupational Safety and Health (NIOSH) ((~~seal of approval~~)) under 42 CFR part 84, and cartridges or canisters must be replaced as necessary to maintain the effectiveness of the respirator. If you experience difficulty breathing while wearing a respirator, you may request a positive-pressure respirator from your employer. You must be thoroughly trained to use the assigned respirator, and the training will be provided by your employer. MDA does not have a detectable odor except at levels well above the permissible exposure limits. Do not depend on odor to warn you when a respirator canister is exhausted. If you can smell MDA while wearing a respirator, proceed immediately to fresh air. If you experience difficulty breathing while wearing a respirator, tell your employer.

(b) Protective clothing. You may be required to wear coveralls, aprons, gloves, face shields, or other appropriate protective clothing to prevent skin contact with MDA. Where protective clothing is required, your employer is required to provide clean garments to you, as necessary, to assure that the clothing protects you adequately. Replace or repair impervious clothing that has developed leaks. MDA should never be

allowed to remain on the skin. Clothing and shoes which are not impervious to MDA should not be allowed to become contaminated with MDA, and if they do, the clothing and shoes should be promptly removed and decontaminated. The clothing should be laundered to remove MDA or discarded. Once MDA penetrates shoes or other leather articles, they should not be worn again.

(c) Eye protection. You must wear splashproof safety goggles in areas where liquid MDA may contact your eyes. Contact lenses should not be worn in areas where eye contact with MDA can occur. In addition, you must wear a face shield if your face could be splashed with MDA liquid.

(4) Emergency and first aid procedures.

(a) Eye and face exposure. If MDA is splashed into the eyes, wash the eyes for at least 15 minutes. See a doctor as soon as possible.

(b) Skin exposure. If MDA is spilled on your clothing or skin, remove the contaminated clothing and wash the exposed skin with large amounts of soap and water immediately. Wash contaminated clothing before you wear it again.

(c) Breathing. If you or any other person breathes in large amounts of MDA, get the exposed person to fresh air at once. Apply artificial respiration if breathing has stopped. Call for medical assistance or a doctor as soon as possible. Never enter any vessel or confined space where the MDA concentration might be high without proper safety equipment and at least one other person present who will stay outside. A life line should be used.

(d) Swallowing. If MDA has been swallowed and the patient is conscious, do not induce vomiting. Call for medical assistance or a doctor immediately.

(5) Medical requirements. If you are exposed to MDA at a concentration at or above the action level for more than 30 days per year, or exposed to liquid mixtures more than 15 days per year, your employer is required to provide a medical examination, including a medical history and laboratory tests, within 60 days of the effective date of this standard and annually thereafter. These tests shall be provided without cost to you. In addition, if you are accidentally exposed to MDA (either by ingestion, inhalation, or skin/eye contact) under conditions known or suspected to constitute toxic exposure to MDA, your employer is required to make special examinations and tests available to you.

(6) Observation of monitoring. Your employer is required to perform measurements that are representative of your exposure to MDA and you or your designated representative are entitled to observe the monitoring procedure. You are entitled to observe the steps taken in the measurement procedure and to record the results obtained. When the monitoring procedure is taking place in an area where respirators or personal protective clothing and equipment are required to be worn; you and your representative must also be provided with, and must wear, the protective clothing and equipment.

(7) Access to records. You or your representative are entitled to see the records of measurements of your exposure to MDA upon written request to your employer. Your medical examination records can be furnished to your physician or designated representative upon request by you to your employer.

(8) Precautions for safe use, handling, and storage.

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(a) Material is combustible. Avoid strong acids and their anhydrides. Avoid strong oxidants. Consult supervisor for disposal requirements.

(b) Emergency clean-up. Wear self-contained breathing apparatus and fully clothe the body in the appropriate personal protective clothing and equipment.

**AMENDATORY SECTION** (Amending Order 94-07, filed 7/20/94, effective 9/20/94)

**WAC 296-155-174 Cadmium.** (1) Scope. This standard applies to all occupational exposures to cadmium and cadmium compounds, in all forms, in all construction work where an employee may potentially be exposed to cadmium. Construction work is defined as work involving construction, alteration, and/or repair, including but not limited to the following:

(a) Wrecking, demolition, or salvage of structures where cadmium or materials containing cadmium are present;

(b) Use of cadmium containing-paints and cutting, brazing, burning, grinding, or welding on surfaces that were painted with cadmium-containing paints;

(c) Construction, alteration, repair, maintenance, or renovation of structures, substrates, or portions thereof, that contain cadmium, or materials containing cadmium;

(d) Cadmium welding; cutting and welding cadmium-plated steel; brazing or welding with cadmium alloys;

(e) Installation of products containing cadmium;

(f) Electrical grounding with cadmium-welding, or electrical work using cadmium-coated conduit;

(g) Maintaining or retrofitting cadmium-coated equipment;

(h) Cadmium contamination/emergency cleanup; and

(i) Transportation, disposal, storage, or containment of cadmium or materials containing cadmium on the site or location at which construction activities are performed.

(2) Definitions.

(a) Action level (AL) is defined as an airborne concentration of cadmium of 2.5 micrograms per cubic meter of air ( $2.5 \mu\text{g}/\text{m}^3$ ), calculated as an 8-hour time-weighted average (TWA).

(b) Authorized person means any person authorized by the employer and required by work duties to be present in regulated areas or any person authorized by WISHA or regulations issued under it to be in regulated areas.

(c) Competent person, in accordance with WAC 296-155-012(4), means a person designated by the employer to act on the employer's behalf who is capable of identifying existing and potential cadmium hazards in the workplace and the proper methods to control them in order to protect workers, and has the authority necessary to take prompt corrective measures to eliminate or control such hazards. The duties of a competent person include at least the following: Determining prior to the performance of work whether cadmium is present in the workplace; establishing, where necessary, regulated areas and assuring that access to and from those areas is limited to authorized employees; assuring the adequacy of any employee exposure monitoring required by this standard; assuring that all employees exposed to air cadmium levels above the PEL wear appropriate personal protective equip-

ment and are trained in the use of appropriate methods of exposure control; assuring that proper hygiene facilities are provided and that workers are trained to use those facilities; and assuring that the engineering controls required by this standard are implemented, maintained in proper operating condition, and functioning properly.

(d) Director means the director of the department of labor and industries or authorized representative.

(e) Employee exposure and similar language referring to the air cadmium level to which an employee is exposed means the exposure to airborne cadmium that would occur if the employee were not using respiratory protective equipment.

(f) Final medical determination is the written medical opinion of the employee's health status by the examining physician under subsection (12)(c) through (l) of this section or, if multiple physician review under subsection (12)(m) of this section or the alternative physician determination under subsection (12)(n) of this section is invoked, it is the final, written medical finding, recommendation or determination that emerges from that process.

(g) High-efficiency particulate air (HEPA) filter means a filter capable of trapping and retaining at least 99.97 percent of mono-dispersed particles of 0.3 micrometers in diameter.

(h) Regulated area means an area demarcated by the employer where an employee's exposure to airborne concentrations of cadmium exceeds, or can reasonably be expected to exceed the permissible exposure limit (PEL).

(i) This section means this cadmium standard.

(3) Permissible exposure limit (PEL). The employer shall assure that no employee is exposed to an airborne concentration of cadmium in excess of five micrograms per cubic meter of air ( $5 \mu\text{g}/\text{m}^3$ ), calculated as an 8-hour time-weighted average exposure (TWA).

(4) Exposure monitoring

(a) General.

(i) Prior to the performance of any construction work where employees may be potentially exposed to cadmium, the employer shall establish the applicability of this standard by determining whether cadmium is present in the workplace and whether there is the possibility that employee exposures will be at or above the action level. The employer shall designate a competent person who shall make this determination. Investigation and material testing techniques shall be used, as appropriate, in the determination. Investigation shall include a review of relevant plans, past reports, material safety data sheets, and other available records, and consultations with the property owner and discussions with appropriate individuals and agencies.

(ii) Where cadmium has been determined to be present in the workplace, and it has been determined that there is a possibility the employee's exposure will be at or above the action level, the competent person shall identify employees potentially exposed to cadmium at or above the action level.

(iii) Determinations of employee exposure shall be made from breathing-zone air samples that reflect the monitored employee's regular, daily 8-hour TWA exposure to cadmium.

(iv) Eight-hour TWA exposures shall be determined for each employee on the basis of one or more personal breath-

ing-zone air samples reflecting full shift exposure on each shift, for each job classification, in each work area. Where several employees perform the same job tasks, in the same job classification, on the same shift, in the same work area, and the length, duration, and level of cadmium exposures are similar, an employer may sample a representative fraction of the employees instead of all employees in order to meet this requirement. In representative sampling, the employer shall sample the employee(s) expected to have the highest cadmium exposures.

(b) Specific.

(i) Initial monitoring. Except as provided for in (b)(iii) of this subsection, where a determination conducted under (a)(i) of this subsection shows the possibility of employee exposure to cadmium at or above the action level, the employer shall conduct exposure monitoring as soon as practicable that is representative of the exposure for each employee in the workplace who is or may be exposed to cadmium at or above the action level.

(ii) In addition, if the employee periodically performs tasks that may expose the employee to a higher concentration of airborne cadmium, the employee shall be monitored while performing those tasks.

(iii) Where the employer has objective data, as defined in subsection (14)(b) of this section, demonstrating that employee exposure to cadmium will not exceed airborne concentrations at or above the action level under the expected conditions of processing, use, or handling, the employer may rely upon such data instead of implementing initial monitoring.

(iv) Where a determination conducted under (a) or (b) of this subsection is made that a potentially exposed employee is not exposed to airborne concentrations of cadmium at or above the action level, the employer shall make a written record of such determination. The record shall include at least the monitoring data developed under (b)(i) through (iii) of this subsection, where applicable, and shall also include the date of determination, and the name and Social Security number of each employee.

(c) Monitoring frequency (periodic monitoring).

(i) If the initial monitoring or periodic monitoring reveals employee exposures to be at or above the action level, the employer shall monitor at a frequency and pattern needed to assure that the monitoring results reflect with reasonable accuracy the employee's typical exposure levels, given the variability in the tasks performed, work practices, and environmental conditions on the job site, and to assure the adequacy of respiratory selection and the effectiveness of engineering and work practice controls.

(ii) If the initial monitoring or the periodic monitoring indicates that employee exposures are below the action level and that result is confirmed by the results of another monitoring taken at least seven days later, the employer may discontinue the monitoring for those employees whose exposures are represented by such monitoring.

(d) Additional monitoring. The employer also shall institute the exposure monitoring required under (b)(i) and (c) of this subsection whenever there has been a change in the raw materials, equipment, personnel, work practices, or finished products that may result in additional employees being

exposed to cadmium at or above the action level or in employees already exposed to cadmium at or above the action level being exposed above the PEL, or whenever the employer or competent person has any reason to suspect that any other change might result in such further exposure.

(e) Employee notification of monitoring results.

(i) No later than five working days after the receipt of the results of any monitoring performed under this section, the employer shall notify each affected employee individually in writing of the results. In addition, within the same time period, the employer shall post the results of the exposure monitoring in an appropriate location that is accessible to all affected employees.

(ii) Wherever monitoring results indicate that employee exposure exceeds the PEL, the employer shall include in the written notice a statement that the PEL has been exceeded and a description of the corrective action being taken by the employer to reduce employee exposure to or below the PEL.

(f) Accuracy of measurement. The employer shall use a method of monitoring and analysis that has an accuracy of not less than plus or minus 25 percent ( $\pm 25\%$ ), with a confidence level of 95 percent, for airborne concentrations of cadmium at or above the action level and the permissible exposure limit.

(5) Regulated areas.

(a) Establishment. The employer shall establish a regulated area wherever an employee's exposure to airborne concentrations of cadmium is, or can reasonably be expected to be in excess of the permissible exposure limit (PEL).

(b) Demarcation. Regulated areas shall be demarcated from the rest of the workplace in any manner that adequately establishes and alerts employees of the boundaries of the regulated area, including employees who are or may be incidentally in the regulated areas, and that protects persons outside the area from exposure to airborne concentrations of cadmium in excess of the PEL.

(c) Access. Access to regulated areas shall be limited to authorized persons.

(d) Provision of respirators. Each person entering a regulated area shall be supplied with and required to use a respirator, selected in accordance with subsection (7)(b) of this section.

(e) Prohibited activities. The employer shall assure that employees do not eat, drink, smoke, chew tobacco or gum, or apply cosmetics in regulated areas, or carry the products associated with any of these activities into regulated areas or store such products in those areas.

(6) Methods of compliance.

(a) Compliance hierarchy.

(i) Except as specified in (a)(ii) of this subsection, the employer shall implement engineering and work practice controls to reduce and maintain employee exposure to cadmium at or below the PEL, except to the extent that the employer can demonstrate that such controls are not feasible.

(ii) The requirement to implement engineering controls to achieve the PEL does not apply where the employer demonstrates the following:

(A) The employee is only intermittently exposed; and

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(B) The employee is not exposed above the PEL on 30 or more days per year (12 consecutive months).

(iii) Wherever engineering and work practice controls are not sufficient to reduce employee exposure to or below the PEL, the employer nonetheless shall implement such controls to reduce exposures to the lowest levels achievable. The employer shall supplement such controls with respiratory protection that complies with the requirements of subsection (7) of this section and the PEL.

(iv) The employer shall not use employee rotation as a method of compliance.

(b) Specific operations.

(i) Abrasive blasting. Abrasive blasting on cadmium or cadmium-containing materials shall be conducted in a manner that will provide adequate protection.

(ii) Heating cadmium and cadmium-containing materials. Welding, cutting, and other forms of heating of cadmium or cadmium-containing materials shall be conducted in accordance with the requirements of WAC 296-155-415 and 296-155-420, where applicable.

(c) Prohibitions.

(i) High speed abrasive disc saws and similar abrasive power equipment shall not be used for work on cadmium or cadmium-containing materials unless they are equipped with appropriate engineering controls to minimize emissions, if the exposure levels are above the PEL.

(ii) Materials containing cadmium shall not be applied by spray methods, if exposures are above the PEL, unless employees are protected with supplied-air respirators with full facepiece, hood, helmet, suit, operated in positive pressure mode and measures are instituted to limit overspray and prevent contamination of adjacent areas.

(d) Mechanical ventilation.

(i) When ventilation is used to control exposure, measurements that demonstrate the effectiveness of the system in controlling exposure, such as capture velocity, duct velocity, or static pressure shall be made as necessary to maintain its effectiveness.

(ii) Measurements of the system's effectiveness in controlling exposure shall be made as necessary within five working days of any change in production, process, or control that might result in a significant increase in employee exposure to cadmium.

(iii) Recirculation of air. If air from exhaust ventilation is recirculated into the workplace, the system shall have a high efficiency filter and be monitored to assure effectiveness.

(iv) Procedures shall be developed and implemented to minimize employee exposure to cadmium when maintenance of ventilation systems and changing of filters is being conducted.

(e) Compliance program.

(i) Where employee exposure to cadmium exceeds the PEL and the employer is required under (a) of this subsection to implement controls to comply with the PEL, prior to the commencement of the job the employer shall establish and implement a written compliance program to reduce employee exposure to or below the PEL. To the extent that engineering and work practice controls cannot reduce exposures to or below the PEL, the employer shall include in the written

compliance program the use of appropriate respiratory protection to achieve compliance with the PEL.

(ii) Written compliance programs shall be reviewed and updated as often and as promptly as necessary to reflect significant changes in the employer's compliance status or significant changes in the lowest air cadmium level that is technologically feasible.

(iii) A competent person shall review the comprehensive compliance program initially and after each change.

(iv) Written compliance programs shall be provided upon request for examination and copying to the director, or authorized representatives, affected employees, and designated employee representatives.

(7) Respirator protection.

(a) General. ~~((Where respirators are required by this section, the employer shall provide them at no cost to the employee and shall assure that they are used in compliance with the requirements of this section. Respirators shall be used in the following circumstances:))~~ For employees who use respirators required by this section, the employer must provide respirators that comply with the requirements of this section. Respirators must be used during:

(i) ~~((Where exposure levels exceed the PEL, during the time))~~ Periods necessary to install or implement feasible engineering and work-practice controls ~~((:))~~ when employee exposures exceed the PEL.

(ii) ~~((In those))~~ Maintenance and repair activities, and ~~((during those))~~ brief or intermittent operations ~~((where))~~ for which employee exposures exceed the PEL and engineering and work-practice controls are not feasible ~~((:))~~ or are not required ~~((:))~~.

(iii) Work operations in regulated areas ~~((, as prescribed))~~ specified in subsection (5) of this section ~~((:))~~.

(iv) ~~((Where))~~ Work operations for which the employer has implemented all feasible engineering and work-practice controls, and such controls are not sufficient to reduce exposures to or below the PEL ~~((:))~~.

(v) ~~((In))~~ Emergencies ~~((:))~~.

(vi) ~~((Wherever))~~ Work operations for which an employee, who is exposed to cadmium at or above the action level, requests a respirator ~~((: and))~~.

(vii) ~~((Wherever an employee is exposed to cadmium above the PEL and))~~ Work operations for which engineering controls are not required under (a)(ii) of this subsection to reduce employee exposures that exceed the PEL.

(b) Respirator ~~((selection))~~ program.

(i) ~~((Where respirators are required under this section, the employer shall select and provide the appropriate respirator as specified in Table 1. The employer shall select respirators from among those jointly approved as acceptable protection against cadmium dust, fume, and mist by the Mine Safety and Health Administration (MSHA) and by the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR Part 11.))~~ The employer must implement a respiratory protection program as required by chapter 296-62 WAC, Part E (except WAC 296-62-07130(1) and WAC 296-62-07150 through WAC 296-62-07156).

(ii) If an employee has breathing difficulty during fit testing or respirator use, the employer must provide the

employee with a medical examination as required by subsection (12)(f)(ii) of this section to determine if the employee can use a respirator while performing the required duties.

(iii) No employees must use a respirator when, based on their recent medical examination, the examining physician determines that the employee will be unable to continue to function normally while using a respirator. If the physician determines the employee must be limited in, or removed from, their current job because of the employee's inability to use a respirator, the job limitation or removal must be conducted as required by (k) and (l) of this subsection.

(c) Respirator selection.

(i) The employer must select the appropriate respirator from Table 1 of this section.

Table 1

Respiratory Protection for Cadmium

Airborne concentration or condition of use <sup>a</sup>	Required respirator type <sup>b</sup>
10 x or less	A half-mask, air-purifying respirator equipped with a HEPA <sup>c</sup> filter. <sup>d</sup>
25 x or less	A powered air-purifying respirator ("PAPR") with a loose-fitting hood or helmet equipped with a HEPA filter, or a supplied-air respirator with a loose-fitting hood or helmet facepiece operated in the continuous flow mode.
50 x or less	A full facepiece air-purifying respirator equipped with a HEPA filter, or a powered air-purifying respirator with a tight-fitting half-mask equipped with a HEPA filter, or a supplied air respirator with a tight-fitting half-mask operated in the continuous flow mode.
250 x or less	A powered air-purifying respirator with a tight-fitting full facepiece equipped with a HEPA filter, or a supplied-air respirator with a tight-fitting full facepiece operated in the continuous flow mode.
1000 x or less	A supplied-air respirator with half-mask or full facepiece operated in the pressure demand or other positive pressure mode.

Table 1

Respiratory Protection for Cadmium

Airborne concentration or condition of use <sup>a</sup>	Required respirator type <sup>b</sup>
>1000 x or unknown concentrations	A self-contained breathing apparatus with a full facepiece operated in the pressure demand or other positive pressure mode, or a supplied-air respirator with a full facepiece operated in the pressure demand or other positive pressure mode and equipped with an auxiliary escape type self-contained breathing apparatus operated in the pressure demand mode.
Fire fighting	A self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

- Note:
- <sup>a</sup> Concentrations expressed as multiple of the PEL.
  - <sup>b</sup> Respirators assigned for higher environmental concentrations may be used at lower exposure levels. Quantitative fit testing is required for all tight-fitting air purifying respirators where airborne concentration of cadmium exceeds 10 times the TWA PEL (10 x 5 µg/m<sup>3</sup> = 50 µg/m<sup>3</sup>). A full facepiece respirator is required when eye irritation is experienced.
  - <sup>c</sup> HEPA means High Efficiency Particulate Air.
  - <sup>d</sup> Fit testing, qualitative or quantitative, is required.
- Source: Respiratory Decision Logic, NIOSH, 1987.

(ii) The employer shall provide a powered, air-purifying respirator (PAPR) ~~((in lieu))~~ instead of a negative-pressure respirator ~~((wherever:~~

~~(A) An employee entitled to a respirator chooses to use this type of respirator; and~~

~~(B) This respirator will provide adequate protection to the employee.~~

~~(c) Respirator program.~~

~~(i) Where respiratory protection is required, the employer shall institute a respirator protection program in accordance with chapter 296-62 WAC, Part E.~~

~~(ii) The employer shall permit each employee who is required to use an air purifying respirator to leave the regulated area to change the filter elements or replace the respirator whenever an increase in breathing resistance is detected and shall maintain an adequate supply of filter elements for this purpose.~~

~~(iii) The employer shall also permit each employee who is required to wear a respirator to leave the regulated area to wash his or her face and the respirator facepiece whenever necessary to prevent skin irritation associated with respirator use.~~

~~(iv) If an employee exhibits difficulty in breathing while wearing a respirator during a fit test or during use, the employer shall make available to the employee a medical~~

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examination in accordance with subsection (12)(f)(ii) of this section to determine if the employee can wear a respirator while performing the required duties.

~~(v) No employee shall be assigned a task requiring the use of a respirator if, based upon his or her most recent examination, an examining physician determines that the employee will be unable to continue to function normally while wearing a respirator. If the physician determines the employee must be limited in, or removed from his or her current job because of the employee's inability to wear a respirator, the limitation or removal shall be in accordance with subsection (12)(k) and (l) of this section.~~

~~(d) Respirator fit testing.~~

~~(i) The employer shall assure that the respirator issued to the employee is fitted properly and exhibits the least possible facepiece leakage.~~

~~(ii) For each employee wearing a tight-fitting, air purifying respirator (either negative or positive pressure) who is exposed to airborne concentrations of cadmium that do not exceed 10 times the PEL ( $10 \times 5 \mu\text{g}/\text{m}^3 = 50 \mu\text{g}/\text{m}^3$ ), the employer shall perform either quantitative or qualitative fit testing at the time of initial fitting and at least annually thereafter. If quantitative fit testing is used for a negative pressure respirator, a fit factor that is at least 10 times the protection factor for that class of respirators (Table 1 in (b)(i) of this subsection) shall be achieved at testing.~~

~~(iii) For each employee wearing a tight-fitting air purifying respirator (either negative or positive pressure) who is exposed to airborne concentrations of cadmium that exceed 10 times the PEL ( $10 \times 5 \mu\text{g}/\text{m}^3 = 50 \mu\text{g}/\text{m}^3$ ), the employer shall perform quantitative fit testing at the time of initial fitting and at least annually thereafter. For negative pressure respirators, a fit factor that is at least ten times the protection factor for that class of respirators (Table 1 in (b)(i) of this subsection) shall be achieved during quantitative fit testing.~~

~~(iv) For each employee wearing a tight-fitting, supplied-air respirator or self-contained breathing apparatus, the employer shall perform quantitative fit testing at the time of initial fitting and at least annually thereafter. This shall be accomplished by fit testing an air-purifying respirator of identical type facepiece, make, model, and size as the supplied-air respirator or self-contained breathing apparatus that is equipped with HEPA filters and tested as a surrogate (substitute) in the negative pressure mode. A fit factor that is at least 10 times the protection factor for that class of respirators (Table 1 in (b)(i) of this subsection) shall be achieved during quantitative fit testing. A supplied-air respirator or self-contained breathing apparatus with the same type facepiece, make, model, and size as the air-purifying respirator with which the employee passed the quantitative fit test may then be used by that employee up to the protection factor listed in Table 1 in (b)(i) of this subsection for that class of respirators.~~

~~(v) Fit testing shall be conducted in accordance with WAC 296-62-07445, Appendix C) when an employee entitled to a respirator chooses to use this type of respirator and such a respirator will provide adequate protection to the employee.~~

(8) Emergency situations. The employer shall develop and implement a written plan for dealing with emergency sit-

uations involving substantial releases of airborne cadmium. The plan shall include provisions for the use of appropriate respirators and personal protective equipment. In addition, employees not essential to correcting the emergency situation shall be restricted from the area and normal operations halted in that area until the emergency is abated.

(9) Protective work clothing and equipment

(a) Provision and use. If an employee is exposed to airborne cadmium above the PEL or where skin or eye irritation is associated with cadmium exposure at any level, the employer shall provide at no cost to the employee, and assure that the employee uses, appropriate protective work clothing and equipment that prevents contamination of the employee and the employee's garments. Protective work clothing and equipment includes, but is not limited to:

(i) Coveralls or similar full-body work clothing;

(ii) Gloves, head coverings, and boots or foot coverings; and

(iii) Face shields, vented goggles, or other appropriate protective equipment that complies with WAC 296-155-215.

(b) Removal and storage.

(i) The employer shall assure that employees remove all protective clothing and equipment contaminated with cadmium at the completion of the work shift and do so only in change rooms provided in accordance with subsection (10)(a) of this section.

(ii) The employer shall assure that no employee takes cadmium-contaminated protective clothing or equipment from the workplace, except for employees authorized to do so for purposes of laundering, cleaning, maintaining, or disposing of cadmium-contaminated protective clothing and equipment at an appropriate location or facility away from the workplace.

(iii) The employer shall assure that contaminated protective clothing and equipment, when removed for laundering, cleaning, maintenance, or disposal, is placed and stored in sealed, impermeable bags or other closed, impermeable containers that are designed to prevent dispersion of cadmium dust.

(iv) The employer shall assure that containers of contaminated protective clothing and equipment that are to be taken out of the change rooms or the workplace for laundering, cleaning, maintenance or disposal shall bear labels in accordance with subsection (13)(c) of this section.

(c) Cleaning, replacement, and disposal.

(i) The employer shall provide the protective clothing and equipment required by (a) of this subsection in a clean and dry condition as often as necessary to maintain its effectiveness, but in any event at least weekly. The employer is responsible for cleaning and laundering the protective clothing and equipment required by this subsection to maintain its effectiveness and is also responsible for disposing of such clothing and equipment.

(ii) The employer also is responsible for repairing or replacing required protective clothing and equipment as needed to maintain its effectiveness. When rips or tears are detected while an employee is working they shall be immediately mended, or the worksuit shall be immediately replaced.

(iii) The employer shall prohibit the removal of cadmium from protective clothing and equipment by blowing, shaking, or any other means that disperses cadmium into the air.

(iv) The employer shall assure that any laundering of contaminated clothing or cleaning of contaminated equipment in the workplace is done in a manner that prevents the release of airborne cadmium in excess of the permissible exposure limit prescribed in subsection (3) of this section.

(v) The employer shall inform any person who launders or cleans protective clothing or equipment contaminated with cadmium of the potentially harmful effects of exposure to cadmium, and that the clothing and equipment should be laundered or cleaned in a manner to effectively prevent the release of airborne cadmium in excess of the PEL.

(10) Hygiene areas and practices.

(a) General. For employees whose airborne exposure to cadmium is above the PEL, the employer shall provide clean change rooms, handwashing facilities, showers, and lunchroom facilities that comply with WAC 296-155-140.

(b) Change rooms. The employer shall assure that change rooms are equipped with separate storage facilities for street clothes and for protective clothing and equipment, which are designed to prevent dispersion of cadmium and contamination of the employee's street clothes.

(c) Showers and handwashing facilities.

(i) The employer shall assure that employees whose airborne exposure to cadmium is above the PEL shower during the end of the work shift.

(ii) The employer shall assure that employees who are exposed to cadmium above the PEL wash their hands and faces prior to eating, drinking, smoking, chewing tobacco or gum, or applying cosmetics.

(d) Lunchroom facilities.

(i) The employer shall assure that the lunchroom facilities are readily accessible to employees, that tables for eating are maintained free of cadmium, and that no employee in a lunchroom facility is exposed at any time to cadmium at or above a concentration of 2.5  $\mu\text{g}/\text{m}^3$ .

(ii) The employer shall assure that employees do not enter lunchroom facilities with protective work clothing or equipment unless surface cadmium has been removed from the clothing and equipment by HEPA vacuuming or some other method that removes cadmium dust without dispersing it.

(11) Housekeeping.

(a) All surfaces shall be maintained as free as practicable of accumulations of cadmium.

(b) All spills and sudden releases of material containing cadmium shall be cleaned up as soon as possible.

(c) Surfaces contaminated with cadmium shall, wherever possible, be cleaned by vacuuming or other methods that minimize the likelihood of cadmium becoming airborne.

(d) HEPA-filtered vacuuming equipment or equally effective filtration methods shall be used for vacuuming. The equipment shall be used and emptied in a manner that minimizes the reentry of cadmium into the workplace.

(e) Shoveling, dry or wet sweeping, and brushing may be used only where vacuuming or other methods that minimize

the likelihood of cadmium becoming airborne have been tried and found not to be effective.

(f) Compressed air shall not be used to remove cadmium from any surface unless the compressed air is used in conjunction with a ventilation system designed to capture the dust cloud created by the compressed air.

(g) Waste, scrap, debris, bags, containers, personal protective equipment, and clothing contaminated with cadmium and consigned for disposal shall be collected and disposed of in sealed impermeable bags or other closed, impermeable containers. These bags and containers shall be labeled in accordance with subsection (13)(b) of this section.

(12) Medical surveillance.

(a) General.

(i) Scope.

(A) Currently exposed—The employer shall institute a medical surveillance program for all employees who are or may be exposed at or above the action level and all employees who perform the following tasks, operations, or jobs: Electrical grounding with cadmium-welding; cutting, brazing, burning, grinding, or welding on surfaces that were painted with cadmium-containing paints; electrical work using cadmium-coated conduit; use of cadmium containing paints; cutting and welding cadmium-plated steel; brazing or welding with cadmium alloys; fusing of reinforced steel by cadmium welding; maintaining or retrofitting cadmium-coated equipment; and, wrecking and demolition where cadmium is present. A medical surveillance program will not be required if the employer demonstrates that the employee:

(I) Is not currently exposed by the employer to airborne concentrations of cadmium at or above the action level on 30 or more days per year (twelve consecutive months); and

(II) Is not currently exposed by the employer in those tasks on 30 or more days per year (twelve consecutive months).

(B) Previously exposed—The employer shall also institute a medical surveillance program for all employees who might previously have been exposed to cadmium by the employer prior to the effective date of this section in tasks specified under (a)(i)(A) of this subsection, unless the employer demonstrates that the employee did not in the years prior to the effective date of this section work in those tasks for the employer with exposure to cadmium for an aggregated total of more than 12 months.

(ii) To determine an employee's fitness for using a respirator, the employer shall provide the limited medical examination specified in (f) of this subsection.

(iii) The employer shall assure that all medical examinations and procedures required by this section are performed by or under the supervision of a licensed physician, who has read and is familiar with the health effects WAC 296-62-07441, Appendix A, the regulatory text of this section, the protocol for sample handling and lab selection in WAC 296-62-07451, Appendix F, and the questionnaire of WAC 296-62-07447, Appendix D.

(iv) The employer shall provide the medical surveillance required by this section, including multiple physician review under (m) of this subsection without cost to employees, and at a time and place that is reasonable and convenient to employees.



(v) The employer shall assure that the collecting and handling of biological samples of cadmium in urine (CdU), cadmium in blood (CdB), and beta-2 microglobulin in urine (B<sub>2</sub>-M) taken from employees under this section is done in a manner that assures their reliability and that analysis of biological samples of cadmium in urine (CdU), cadmium in blood (CdB), and beta-2 microglobulin in urine (B<sub>2</sub>-M) taken from employees under this section is performed in laboratories with demonstrated proficiency to perform the particular analysis. (See WAC 296-62-07451, Appendix F.)

(b) Initial examination.

(i) For employees covered by medical surveillance under (a)(i) of this subsection, the employer shall provide an initial medical examination. The examination shall be provided to those employees within 30 days after initial assignment to a job with exposure to cadmium or no later than 90 days after the effective date of this section, whichever date is later.

(ii) The initial medical examination shall include:

(A) A detailed medical and work history, with emphasis on: Past, present, and anticipated future exposure to cadmium; any history of renal, cardiovascular, respiratory, hematopoietic, reproductive, and/or musculo-skeletal system dysfunction; current usage of medication with potential nephrotoxic side-effects; and smoking history and current status; and

(B) Biological monitoring that includes the following tests:

(I) Cadmium in urine (CdU), standardized to grams of creatinine (g/Cr);

(II) Beta-2 microglobulin in urine (B<sub>2</sub>-M), standardized to grams of creatinine (g/Cr), with pH specified, as described in WAC 296-62-07451, Appendix F; and

(III) Cadmium in blood (CdB), standardized to liters of whole blood (lwb).

(iii) Recent examination: An initial examination is not required to be provided if adequate records show that the employee has been examined in accordance with the requirements of (b)(ii) of this subsection within the past 12 months. In that case, such records shall be maintained as part of the employee's medical record and the prior exam shall be treated as if it were an initial examination for the purposes of (c) and (d) of this subsection.

(c) Actions triggered by initial biological monitoring.

(i) If the results of the biological monitoring tests in the initial examination show the employee's CdU level to be at or below 3 µg/g Cr, B<sub>2</sub>-M level to be at or below 300 µg/g Cr and CdB level to be at or below 5 µg/lwb, then:

(A) For employees who are subject to medical surveillance under (a)(i)(A) of this subsection because of current or anticipated exposure to cadmium, the employer shall provide the minimum level of periodic medical surveillance in accordance with the requirements in (d)(i) of this subsection; and

(B) For employees who are subject to medical surveillance under (a)(i)(B) of this subsection because of prior but not current exposure, the employer shall provide biological monitoring for CdU, B<sub>2</sub>-M, and CdB one year after the initial biological monitoring and then the employer shall comply with the requirements of (d)(vi) of this subsection.

(ii) For all employees who are subject to medical surveillance under (a)(i) of this subsection, if the results of the initial biological monitoring tests show the level of CdU to exceed 3 µg/g Cr, the level of B<sub>2</sub>-M to be in excess of 300 µg/g Cr, or the level of CdB to be in excess of 5 µg/lwb, the employer shall:

(A) Within two weeks after receipt of biological monitoring results, reassess the employee's occupational exposure to cadmium as follows:

(I) Reassess the employee's work practices and personal hygiene;

(II) Reevaluate the employee's respirator use, if any, and the respirator program;

(III) Review the hygiene facilities;

(IV) Reevaluate the maintenance and effectiveness of the relevant engineering controls;

(V) Assess the employee's smoking history and status;

(B) Within 30 days after the exposure reassessment, specified in (c)(ii)(A) of this subsection, take reasonable steps to correct any deficiencies found in the reassessment that may be responsible for the employee's excess exposure to cadmium; and

(C) Within 90 days after receipt of biological monitoring results, provide a full medical examination to the employee in accordance with the requirements of (d)(ii) of this subsection. After completing the medical examination, the examining physician shall determine in a written medical opinion whether to medically remove the employee. If the physician determines that medical removal is not necessary, then until the employee's CdU level falls to or below 3 µg/g Cr, B<sub>2</sub>-M level falls to or below 300 µg/g Cr and CdB level falls to or below 5 µg/lwb, the employer shall:

(I) Provide biological monitoring in accordance with (b)(ii)(B) of this subsection on a semiannual basis; and

(II) Provide annual medical examinations in accordance with (d)(ii) of this subsection.

(iii) For all employees who are subject to medical surveillance under (a)(i) of this subsection, if the results of the initial biological monitoring tests show the level of CdU to be in excess of 15 µg/g Cr, or the level of CdB to be in excess of 15 µg/lwb, or the level of B<sub>2</sub>-M to be in excess of 1,500 µg/g Cr, the employer shall comply with the requirements of (c)(ii)(A) and (B) of this subsection. Within 90 days after receipt of biological monitoring results, the employer shall provide a full medical examination to the employee in accordance with the requirements of (d)(ii) of this subsection. After completing the medical examination, the examining physician shall determine in a written medical opinion whether to medically remove the employee. However, if the initial biological monitoring results and the biological monitoring results obtained during the medical examination both show that: CdU exceeds 15 µg/g Cr; or CdB exceeds 15 µg/lwb; or B<sub>2</sub>-M exceeds 1500 µg/g Cr, and in addition CdU exceeds 3 µg/g Cr or CdB exceeds 5 µg/liter of whole blood, then the physician shall medically remove the employee from exposure to cadmium at or above the action level. If the second set of biological monitoring results obtained during the medical examination does not show that a mandatory



removal trigger level has been exceeded, then the employee is not required to be removed by the mandatory provisions of this section. If the employee is not required to be removed by the mandatory provisions of this section or by the physician's determination, then until the employee's CdU level falls to or below 3 µg/g Cr, B<sub>2</sub>-M level falls to or below 300 µg/g Cr and CdB level falls to or below 5 µg/lwb, the employer shall:

(A) Periodically reassess the employee's occupational exposure to cadmium;

(B) Provide biological monitoring in accordance with (b)(ii)(B) of this subsection on a quarterly basis; and

(C) Provide semiannual medical examinations in accordance with (d)(ii) of this subsection.

(iv) For all employees to whom medical surveillance is provided, beginning on January 1, 1999, and in lieu of (c)(iii) of this subsection, whenever the results of initial biological monitoring tests show the employee's CdU level to be in excess of 7 µg/g Cr, or B<sub>2</sub>-M level to be in excess of 750 µg/g Cr, or CdB level to be in excess of 10 µg/lwb, the employer shall comply with the requirements of (c)(ii)(A) and (B) of this subsection. Within 90 days after receipt of biological monitoring results, the employer shall provide a full medical examination to the employee in accordance with the requirements of (d)(ii) of this subsection. After completing the medical examination, the examining physician shall determine in a written medical opinion whether to medically remove the employee. However, if the initial biological monitoring results and the biological monitoring results obtained during the medical examination both show that: CdU exceeds 7 µg/g Cr; or CdB exceeds 10 µg/lwb; or B<sub>2</sub>-M exceeds 750 µg/g Cr, and in addition CdU exceeds 3 µg/g Cr or CdB exceeds 5 µg/liter of whole blood, then the physician shall medically remove the employee from exposure to cadmium at or above the action level. If the second set of biological monitoring results obtained during the medical examination does not show that a mandatory removal trigger level has been exceeded, then the employee is not required to be removed by the mandatory provisions of this section. If the employee is not required to be removed by the mandatory provisions of this section or by the physician's determination, then until the employee's CdU level falls to or below 3 µg/g Cr, B<sub>2</sub>-M level falls to or below 300 µg/g Cr and CdB level falls to or below 5 µg/lwb, the employer shall:

(A) Periodically reassess the employee's occupational exposure to cadmium;

(B) Provide biological monitoring in accordance with (b)(ii)(B) of this subsection on a quarterly basis; and

(C) Provide semiannual medical examinations in accordance with (d)(ii) of this subsection.

(d) Periodic medical surveillance.

(i) For each employee who is covered by medical surveillance under (a)(i)(A) of this subsection because of current or anticipated exposure to cadmium, the employer shall provide at least the minimum level of periodic medical surveillance, which consists of periodic medical examinations and periodic biological monitoring. A periodic medical examination shall be provided within one year after the initial examination required by (b) of this subsection and thereafter at least

biennially. Biological sampling shall be provided at least annually either as part of a periodic medical examination or separately as periodic biological monitoring.

(ii) The periodic medical examination shall include:

(A) A detailed medical and work history, or update thereof, with emphasis on: Past, present, and anticipated future exposure to cadmium; smoking history and current status; reproductive history; current use of medications with potential nephrotoxic side-effects; any history of renal, cardiovascular, respiratory, hematopoietic, and/or musculoskeletal system dysfunction; and as part of the medical and work history, for employees who wear respirators, questions 3 through 11 and 25 through 32 in WAC 296-62-07447, Appendix D;

(B) A complete physical examination with emphasis on: Blood pressure, the respiratory system, and the urinary system;

(C) A 14 inch by 17 inch, or a reasonably standard sized posterior-anterior chest x-ray (after the initial x-ray, the frequency of chest x-rays is to be determined by the examining physician);

(D) Pulmonary function tests, including forced vital capacity (FVC) and forced expiratory volume at 1 second (FEV1);

(E) Biological monitoring, as required in (b)(ii)(B) of this subsection;

(F) Blood analysis, in addition to the analysis required under (b)(ii)(B) of this subsection, including blood urea nitrogen, complete blood count, and serum creatinine;

(G) Urinalysis, in addition to the analysis required under (b)(ii)(B) of this subsection, including the determination of albumin, glucose, and total and low molecular weight proteins;

(H) For males over 40 years old, prostate palpation, or other at least as effective diagnostic test(s); and

(I) Any additional tests or procedures deemed appropriate by the examining physician.

(iii) Periodic biological monitoring shall be provided in accordance with (b)(ii)(B) of this subsection.

(iv) If the results of periodic biological monitoring or the results of biological monitoring performed as part of the periodic medical examination show the level of the employee's CdU, B<sub>2</sub>-M, or CdB to be in excess of the levels specified in (c)(ii) and (iii) of this subsection; or, beginning on January 1, 1999, in excess of the levels specified in (c)(ii) or (iv) of this subsection, the employer shall take the appropriate actions specified in (c)(ii) through (iv) of this subsection, respectively.

(v) For previously exposed employees under (a)(i)(B) of this subsection:

(A) If the employee's levels of CdU did not exceed 3 µg/g Cr, CdB did not exceed 5 µg/lwb, and B<sub>2</sub>-M did not exceed 300 µg/g Cr in the initial biological monitoring tests, and if the results of the follow-up biological monitoring required by (c)(i)(B) of this subsection one year after the initial examination confirm the previous results, the employer may discontinue all periodic medical surveillance for that employee.

PROPOSED

(B) If the initial biological monitoring results for CdU, CdB, or B<sub>2</sub>-M were in excess of the levels specified in (c)(i) of this subsection, but subsequent biological monitoring results required by (c)(ii) through (iv) of this subsection show that the employee's CdU levels no longer exceed 3 µg/g Cr, CdB levels no longer exceed 5 µg/lwb, and B<sub>2</sub>-M levels no longer exceed 300 µg/g Cr, the employer shall provide biological monitoring for CdU, CdB, and B<sub>2</sub>-M one year after these most recent biological monitoring results. If the results of the follow-up biological monitoring specified in this section, confirm the previous results, the employer may discontinue all periodic medical surveillance for that employee.

(C) However, if the results of the follow-up tests specified in (d)(v)(A) or (B) of this subsection indicate that the level of the employee's CdU, B<sub>2</sub>-M, or CdB exceeds these same levels, the employer is required to provide annual medical examinations in accordance with the provisions of (d)(ii) of this subsection until the results of biological monitoring are consistently below these levels or the examining physician determines in a written medical opinion that further medical surveillance is not required to protect the employee's health.

(vi) A routine, biennial medical examination is not required to be provided in accordance with (c)(i) and (d) of this subsection if adequate medical records show that the employee has been examined in accordance with the requirements of (d)(ii) of this subsection within the past 12 months. In that case, such records shall be maintained by the employer as part of the employee's medical record, and the next routine, periodic medical examination shall be made available to the employee within two years of the previous examination.

(e) Actions triggered by medical examinations. If the results of a medical examination carried out in accordance with this section indicate any laboratory or clinical finding consistent with cadmium toxicity that does not require employer action under (b), (c), or (d) of this subsection, the employer shall take the following steps and continue to take them until the physician determines that they are no longer necessary.

(i) Periodically reassess: The employee's work practices and personal hygiene; the employee's respirator use, if any; the employee's smoking history and status; the respiratory protection program; the hygiene facilities; the maintenance and effectiveness of the relevant engineering controls; and take all reasonable steps to correct the deficiencies found in the reassessment that may be responsible for the employee's excess exposure to cadmium.

(ii) Provide semiannual medical reexaminations to evaluate the abnormal clinical sign(s) of cadmium toxicity until the results are normal or the employee is medically removed; and

(iii) Where the results of tests for total proteins in urine are abnormal, provide a more detailed medical evaluation of the toxic effects of cadmium on the employee's renal system.

(f) Examination for respirator use.

(i) To determine an employee's fitness for respirator use, the employer shall provide a medical examination that includes the elements specified in (f)(i)(A) through (D) of

this subsection. This examination shall be provided prior to the employee's being assigned to a job that requires the use of a respirator or no later than 90 days after this section goes into effect, whichever date is later, to any employee without a medical examination within the preceding 12 months that satisfies the requirements of this section.

(A) A detailed medical and work history, or update thereof, with emphasis on: Past exposure to cadmium; smoking history and current status; any history of renal, cardiovascular, respiratory, hematopoietic, and/or musculo-skeletal system dysfunction; a description of the job for which the respirator is required; and questions 3 through 11 and 25 through 32 in WAC 296-62-07447, Appendix D;

(B) A blood pressure test;

(C) Biological monitoring of the employee's levels of CdU, CdB and B<sub>2</sub>-M in accordance with the requirements of (b)(ii)(B) of this subsection, unless such results already have been obtained within the twelve months; and

(D) Any other test or procedure that the examining physician deems appropriate.

(ii) After reviewing all the information obtained from the medical examination required in (f)(i) of this subsection, the physician shall determine whether the employee is fit to wear a respirator.

(iii) Whenever an employee has exhibited difficulty in breathing during a respirator fit test or during use of a respirator, the employer, as soon as possible, shall provide the employee with a periodic medical examination in accordance with (d)(ii) of this subsection to determine the employee's fitness to wear a respirator.

(iv) Where the results of the examination required under (f)(i), (ii), or (iii) of this subsection are abnormal, medical limitation or prohibition of respirator use shall be considered. If the employee is allowed to wear a respirator, the employee's ability to continue to do so shall be periodically evaluated by a physician.

(g) Emergency examinations.

(i) In addition to the medical surveillance required in (b) through (f) of this subsection, the employer shall provide a medical examination as soon as possible to any employee who may have been acutely exposed to cadmium because of an emergency.

(ii) The examination shall include the requirements of (d)(ii), of this subsection, with emphasis on the respiratory system, other organ systems considered appropriate by the examining physician, and symptoms of acute overexposure, as identified in Appendix A, WAC 296-62-07441 (2)(b)(i) and (ii) and (4).

(h) Termination of employment examination.

(i) At termination of employment, the employer shall provide a medical examination in accordance with (d)(ii) of this subsection, including a chest x-ray where necessary, to any employee to whom at any prior time the employer was required to provide medical surveillance under (a)(i) or (g) of this subsection. However, if the last examination satisfied the requirements of (d)(ii) of this subsection and was less than six months prior to the date of termination, no further examination is required unless otherwise specified in (c) or (e) of this subsection;

(ii) In addition, if the employer has discontinued all periodic medical surveillance under (d)(v) of this subsection, no termination of employment medical examination is required.

(i) Information provided to the physician. The employer shall provide the following information to the examining physician:

(i) A copy of this standard and appendices;

(ii) A description of the affected employee's former, current, and anticipated duties as they relate to the employee's occupational exposure to cadmium;

(iii) The employee's former, current, and anticipated future levels of occupational exposure to cadmium;

(iv) A description of any personal protective equipment, including respirators, used or to be used by the employee, including when and for how long the employee has used that equipment; and

(v) Relevant results of previous biological monitoring and medical examinations.

(j) Physician's written medical opinion.

(i) The employer shall promptly obtain a written, signed, medical opinion from the examining physician for each medical examination performed on each employee. This written opinion shall contain:

(A) The physician's diagnosis for the employee;

(B) The physician's opinion as to whether the employee has any detected medical condition(s) that would place the employee at increased risk of material impairment to health from further exposure to cadmium, including any indications of potential cadmium toxicity;

(C) The results of any biological or other testing or related evaluations that directly assess the employee's absorption of cadmium;

(D) Any recommended removal from, or limitation on the activities or duties of the employee or on the employee's use of personal protective equipment, such as respirators;

(E) A statement that the physician has clearly and carefully explained to the employee the results of the medical examination, including all biological monitoring results and any medical conditions related to cadmium exposure that require further evaluation or treatment, and any limitation on the employee's diet or use of medications.

(ii) The employer shall promptly obtain a copy of the results of any biological monitoring provided by an employer to an employee independently of a medical examination under (b) and (d) of this subsection, and, in lieu of a written medical opinion, an explanation sheet explaining those results.

(iii) The employer shall instruct the physician not to reveal orally or in the written medical opinion given to the employer specific findings or diagnoses unrelated to occupational exposure to cadmium.

(k) Medical removal protection (MRP).

(i) General.

(A) The employer shall temporarily remove an employee from work where there is excess exposure to cadmium on each occasion that medical removal is required under (c), (d), or (f) of this subsection and on each occasion that a physician determines in a written medical opinion that the employee should be removed from such exposure. The physician's determination may be based on biological monitoring results,

inability to wear a respirator, evidence of illness, other signs or symptoms of cadmium-related dysfunction or disease, or any other reason deemed medically sufficient by the physician.

(B) The employer shall medically remove an employee in accordance with (k) of this subsection regardless of whether at the time of removal a job is available into which the removed employee may be transferred.

(C) Whenever an employee is medically removed under (k) of this subsection, the employer shall transfer the removed employee to a job where the exposure to cadmium is within the permissible levels specified in subsection (12) of this section as soon as one becomes available.

(D) For any employee who is medically removed under the provisions of (k)(i) of this subsection, the employer shall provide follow-up medical examinations semiannually until, in a written medical opinion, the examining physician determines that either the employee may be returned to his/her former job status or the employee must be permanently removed from excess cadmium exposure.

(E) The employer may not return an employee who has been medically removed for any reason to his/her former job status until a physician determines in a written medical opinion that continued medical removal is no longer necessary to protect the employee's health.

(ii) Where an employee is found unfit to wear a respirator under (f)(ii) of this subsection, the employer shall remove the employee from work where exposure to cadmium is above the PEL.

(iii) Where removal is based upon any reason other than the employee's inability to wear a respirator, the employer shall remove the employee from work where exposure to cadmium is at or above the action level.

(iv) Except as specified in (k)(v) of this subsection, no employee who was removed because his/her level of CdU, CdB and/or B<sub>2</sub>-M exceeded the trigger levels in (c) or (d) of this subsection may be returned to work with exposure to cadmium at or above the action level until the employee's levels of CdU fall to or below 3 µg/g Cr, CdB fall to or below 5 µg/lwb, and B<sub>2</sub>-M fall to or below 300 µg/g Cr.

(v) However, when in the examining physician's opinion continued exposure to cadmium will not pose an increased risk to the employee's health and there are special circumstances that make continued medical removal an inappropriate remedy, the physician shall fully discuss these matters with the employee, and then in a written determination may return a worker to his/her former job status despite what would otherwise be unacceptably high biological monitoring results. Thereafter and until such time as the employee's biological monitoring results have decreased to levels where he/she could have been returned to his/her former job status, the returned employee shall continue medical surveillance as if he/she were still on medical removal. Until such time, the employee is no longer subject to mandatory medical removal. Subsequent questions regarding the employee's medical removal shall be decided solely by a final medical determination.

(vi) Where an employer, although not required by this section to do so, removes an employee from exposure to cad-

mium or otherwise places limitations on an employee due to the effects of cadmium exposure on the employee's medical condition, the employer shall provide the same medical removal protection benefits to that employee under (l) of this subsection as would have been provided had the removal been required under (k) of this subsection.

(l) Medical removal protection benefits.

(i) The employer shall provide medical removal protection benefits to an employee for up to a maximum of 18 months each time, and while the employee is temporarily medically removed under (k) of this subsection.

(ii) For purposes of this section, the requirement that the employer provide medical removal protection benefits means that the employer shall maintain the total normal earnings, seniority, and all other employee rights and benefits of the removed employee, including the employee's right to his/her former job status, as if the employee had not been removed from the employee's job or otherwise medically limited.

(iii) Where, after 18 months on medical removal because of elevated biological monitoring results, the employee's monitoring results have not declined to a low enough level to permit the employee to be returned to his/her former job status:

(A) The employer shall make available to the employee a medical examination pursuant to this section in order to obtain a final medical determination as to whether the employee may be returned to his/her former job status or must be permanently removed from excess cadmium exposure; and

(B) The employer shall assure that the final medical determination indicates whether the employee may be returned to his/her former job status and what steps, if any, should be taken to protect the employee's health.

(iv) The employer may condition the provision of medical removal protection benefits upon the employee's participation in medical surveillance provided in accordance with this section.

(m) Multiple physician review.

(i) If the employer selects the initial physician to conduct any medical examination or consultation provided to an employee under this section, the employee may designate a second physician to:

(A) Review any findings, determinations, or recommendations of the initial physician; and

(B) Conduct such examinations, consultations, and laboratory tests as the second physician deems necessary to facilitate this review.

(ii) The employer shall promptly notify an employee of the right to seek a second medical opinion after each occasion that an initial physician provided by the employer conducts a medical examination or consultation pursuant to this section. The employer may condition its participation in, and payment for, multiple physician review upon the employee doing the following within fifteen (15) days after receipt of this notice, or receipt of the initial physician's written opinion, whichever is later:

(A) Informing the employer that he or she intends to seek a medical opinion; and

(B) Initiating steps to make an appointment with a second physician.

(iii) If the findings, determinations, or recommendations of the second physician differ from those of the initial physician, then the employer and the employee shall assure that efforts are made for the two physicians to resolve any disagreement.

(iv) If the two physicians have been unable to quickly resolve their disagreement, then the employer and the employee, through their respective physicians, shall designate a third physician to:

(A) Review any findings, determinations, or recommendations of the other two physicians; and

(B) Conduct such examinations, consultations, laboratory tests, and discussions with the other two physicians as the third physician deems necessary to resolve the disagreement among them.

(v) The employer shall act consistently with the findings, determinations, and recommendations of the third physician, unless the employer and the employee reach an agreement that is consistent with the recommendations of at least one of the other two physicians.

(n) Alternate physician determination. The employer and an employee or designated employee representative may agree upon the use of any alternate form of physician determination in lieu of the multiple physician review provided by (m) of this subsection, so long as the alternative is expeditious and at least as protective of the employee.

(o) Information the employer must provide the employee.

(i) The employer shall provide a copy of the physician's written medical opinion to the examined employee within five working days after receipt thereof.

(ii) The employer shall provide the employee with a copy of the employee's biological monitoring results and an explanation sheet explaining the results within five working days after receipt thereof.

(iii) Within 30 days after a request by an employee, the employer shall provide the employee with the information the employer is required to provide the examining physician under (i) of this subsection.

(p) Reporting. In addition to other medical events that are required to be reported on the OSHA Form No. 200, the employer shall report any abnormal condition or disorder caused by occupational exposure to cadmium associated with employment as specified in Chapter (V)(E) of the Bureau of Labor Statistics Recordkeeping Guidelines for Occupational Injuries and Illnesses.

(13) Communication of cadmium hazards to employees

(a) General. In communications concerning cadmium hazards, employers shall comply with the requirements of WISHA's Hazard Communication Standard, chapter 296-62 WAC, Part C, including but not limited to the requirements concerning warning signs and labels, material safety data sheets (MSDS), and employee information and training. In addition, employers shall comply with the following requirements:

(b) Warning signs.

(i) Warning signs shall be provided and displayed in regulated areas. In addition, warning signs shall be posted at all approaches to regulated areas so that an employee may read

the signs and take necessary protective steps before entering the area.

(ii) Warning signs required by (b)(i) of this subsection shall bear the following information:

**Danger, Cadmium, Cancer Hazard, Can Cause Lung and Kidney Disease, Authorized Personnel Only, Respirators Required in This Area**

(iii) The employer shall assure that signs required by this section are illuminated, cleaned, and maintained as necessary so that the legend is readily visible.

(c) Warning labels.

(i) Shipping and storage containers containing cadmium, cadmium compounds, or cadmium contaminated clothing, equipment, waste, scrap, or debris shall bear appropriate warning labels, as specified in (c)(ii) of this subsection.

(ii) The warning labels shall include at least the following information:

**Danger, Contains Cadmium, Cancer Hazard, Avoid Creating Dust, Can Cause Lung and Kidney Disease**

(iii) Where feasible, installed cadmium products shall have a visible label or other indication that cadmium is present.

(d) Employee information and training.

(i) The employer shall institute a training program for all employees who are potentially exposed to cadmium, assure employee participation in the program, and maintain a record of the contents of such program.

(ii) Training shall be provided prior to or at the time of initial assignment to a job involving potential exposure to cadmium and at least annually thereafter.

(iii) The employer shall make the training program understandable to the employee and shall assure that each employee is informed of the following:

(A) The health hazards associated with cadmium exposure, with special attention to the information incorporated in WAC 296-62-07441, Appendix A;

(B) The quantity, location, manner of use, release, and storage of cadmium in the workplace and the specific nature of operations that could result in exposure to cadmium, especially exposures above the PEL;

(C) The engineering controls and work practices associated with the employee's job assignment;

(D) The measures employees can take to protect themselves from exposure to cadmium, including modification of such habits as smoking and personal hygiene, and specific procedures the employer has implemented to protect employees from exposure to cadmium such as appropriate work practices, emergency procedures, and the provision of personal protective equipment;

(E) The purpose, proper selection, fitting, proper use, and limitations of respirators and protective clothing;

(F) The purpose and a description of the medical surveillance program required by subsection (12) of this section;

(G) The contents of this section and its appendices; and

(H) The employee's rights of access to records under chapter 296-62 WAC, Part B.

(iv) Additional access to information and training program and materials.

(A) The employer shall make a copy of this section and its appendices readily available to all affected employees and shall provide a copy without cost if requested.

(B) Upon request, the employer shall provide to the director or authorized representative, all materials relating to the employee information and the training program.

(e) Multi-employer workplace. In a multi-employer workplace, an employer who produces, uses, or stores cadmium in a manner that may expose employees of other employers to cadmium shall notify those employers of the potential hazard in accordance with WAC 296-62-05409 of the hazard communication standard.

(14) Recordkeeping.

(a) Exposure monitoring.

(i) The employer shall establish and keep an accurate record of all air monitoring for cadmium in the workplace.

(ii) This record shall include at least the following information:

(A) The monitoring date, shift, duration, air volume, and results in terms of an 8-hour TWA of each sample taken, and if cadmium is not detected, the detection level;

(B) The name, Social Security number, and job classification of all employees monitored and of all other employees whose exposures the monitoring result is intended to represent, including, where applicable, a description of how it was determined that the employee's monitoring result could be taken to represent other employee's exposures;

(C) A description of the sampling and analytical methods used and evidence of their accuracy;

(D) The type of respiratory protective device, if any, worn by the monitored employee and by any other employee whose exposure the monitoring result is intended to represent;

(E) A notation of any other conditions that might have affected the monitoring results;

(F) Any exposure monitoring or objective data that were used and the levels.

(iii) The employer shall maintain this record for at least thirty (30) years, in accordance with WAC 296-62-05207.

(iv) The employer shall also provide a copy of the results of an employee's air monitoring prescribed in subsection (4) of this section to an industry trade association and to the employee's union, if any, or, if either of such associations or unions do not exist, to another comparable organization that is competent to maintain such records and is reasonably accessible to employers and employees in the industry.

(b) Objective data for exemption from requirement for initial monitoring.

(i) For purposes of this section, objective data are information demonstrating that a particular product or material containing cadmium or a specific process, operation, or activity involving cadmium cannot release dust or fumes in concentrations at or above the action level even under the worst-case release conditions. Objective data can be obtained from an industry-wide study or from laboratory product test results from manufacturers of cadmium-containing products or materials. The data the employer uses from an industry-wide survey must be obtained under workplace conditions closely

resembling the processes, types of material, control methods, work practices, and environmental conditions in the employer's current operations.

(ii) The employer shall maintain the record for at least 30 years of the objective data relied upon.

(c) Medical surveillance.

(i) The employer shall establish and maintain an accurate record for each employee covered by medical surveillance under (a)(i) of this subsection.

(ii) The record shall include at least the following information about the employee:

(A) Name, Social Security number, and description of duties;

(B) A copy of the physician's written opinions and of the explanation sheets for biological monitoring results;

(C) A copy of the medical history, and the results of any physical examination and all test results that are required to be provided by this section, including biological tests, x-rays, pulmonary function tests, etc., or that have been obtained to further evaluate any condition that might be related to cadmium exposure;

(D) The employee's medical symptoms that might be related to exposure to cadmium; and

(E) A copy of the information provided to the physician as required by subsection (12)(i) of this section.

(iii) The employer shall assure that this record is maintained for the duration of employment plus thirty (30) years, in accordance with WAC 296-62-05207.

(iv) At the employee's request, the employer shall promptly provide a copy of the employee's medical record, or update as appropriate, to a medical doctor or a union specified by the employee.

(d) Training. The employer shall certify that employees have been trained by preparing a certification record which includes the identity of the person trained, the signature of the employer or the person who conducted the training, and the date the training was completed. The certification records shall be prepared at the completion of training and shall be maintained on file for one (1) year beyond the date of training of that employee.

(e) Availability.

(i) Except as otherwise provided for in this section, access to all records required to be maintained by (a) through (d) of this subsection shall be in accordance with the provisions of WAC 296-62-052.

(ii) Within 15 days after a request, the employer shall make an employee's medical records required to be kept by (c) of this subsection available for examination and copying to the subject employee, to designated representatives, to anyone having the specific written consent of the subject employee, and after the employee's death or incapacitation, to the employee's family members.

(f) Transfer of records. Whenever an employer ceases to do business and there is no successor employer or designated organization to receive and retain records for the prescribed period, the employer shall comply with the requirements concerning transfer of records set forth in WAC 296-62-05215.

(15) Observation of monitoring.

(a) Employee observation. The employer shall provide affected employees or their designated representatives an

opportunity to observe any monitoring of employee exposure to cadmium.

(b) Observation procedures. When observation of monitoring requires entry into an area where the use of protective clothing or equipment is required, the employer shall provide the observer with that clothing and equipment and shall assure that the observer uses such clothing and equipment and complies with all other applicable safety and health procedures.

(16) (Dates.

~~(a) Effective date. This section shall become effective on June 14, 1993.~~

~~(b) Start-up dates. All obligations of this section commence on the effective date except as follows:~~

~~(i) Exposure monitoring. Except for small businesses (fifty or fewer employees), initial monitoring required by subsection (4)(b) of this section shall be completed as soon as possible and in any event no later than 60 days after the effective date of this section. For small businesses, initial monitoring required by subsection (4)(b) of this section shall be completed as soon as possible and in any event no later than 120 days after the effective date of this section.~~

~~(ii) The permissible exposure limit (PEL). Except for small businesses, as defined under (b)(i) of this subsection, the employer shall comply with the PEL established by subsection (3) of this section as soon as possible and in any event no later than 90 days after the effective date of this section. For small businesses, the employer shall comply with the PEL established by subsection (3) of this section as soon as possible and in any event no later than 150 days after the effective date of this section.~~

~~(iii) Regulated areas. Except for small businesses, as defined under (b)(i) of this subsection, regulated areas required to be established by subsection (5) of this section shall be set up as soon as possible after the results of exposure monitoring are known and in any event no later than 90 days after the effective date of this section. For small businesses, regulated areas required to be established by subsection (5) of this section shall be set up as soon as possible after the results of exposure monitoring are known and in any event no later than 150 days after the effective date of this section.~~

~~(iv) Respiratory protection. Except for small businesses, as defined under (b)(i) of this subsection, respiratory protection required by subsection (7) of this section shall be provided as soon as possible and in any event no later than 90 days after the effective date of this section. For small businesses, respiratory protection required by subsection (7) of this section shall be provided as soon as possible and in any event no later than 150 days after the effective date of this section.~~

~~(v) Compliance program. Except for small businesses, as defined under (b)(i) of this subsection, written compliance programs required by subsection (6)(b) of this section shall be completed and available as soon as possible and in any event no later than 90 days after the effective date of this section. For small businesses, written compliance programs required by subsection (6)(b) of this section shall be completed and available as soon as possible and in any event no later than 180 days after the effective date of this section.~~

~~(vi) Methods of compliance. Except for small businesses, as defined under (b)(i) of this subsection, the engineering controls required by subsection (6)(a) of this section shall be implemented as soon as possible and in any event no later than 120 days after the effective date of this section. For small businesses, the engineering controls required by subsection (6)(a) of this section shall be implemented as soon as possible and in any event no later than 240 days after the effective date of this section. Work practice controls shall be implemented as soon as possible. Work practice controls that are directly related to engineering controls to be implemented shall be implemented as soon as possible after such engineering controls are implemented.~~

~~(vii) Hygiene and lunchroom facilities. Except for small businesses, as defined under (b)(i) of this subsection, handwashing facilities, showers, change rooms and eating facilities required by subsection (10) of this section, whether permanent or temporary, shall be provided as soon as possible and in any event no later than 60 days after the effective date of this section. For small businesses, handwashing facilities, showers, change rooms and eating facilities required by subsection (10) of this section, whether permanent or temporary, shall be provided as soon as possible and in any event no later than 120 days after the effective date of this section.~~

~~(viii) Employee information and training. Except for small businesses, as defined under (b)(i) of this subsection, employee information and training required by subsection (13)(d) of this section shall be provided as soon as possible and in any event no later than 90 days after the effective date of this section. For small businesses, employee information and training required by subsection (13)(d) of this section shall be provided as soon as possible and in any event no later than 180 days after the effective date of this section.~~

~~(ix) Medical surveillance. Except for small businesses, as defined under (b)(i) of this subsection, initial medical examinations required by subsection (12) of this section shall be provided as soon as possible and in any event no later than 90 days after the effective date of this section. For small businesses, initial medical examinations required by subsection (12) of this section shall be provided as soon as possible and in any event no later than 180 days after the effective date of this section.~~

~~(17)) Appendices.~~

~~(a) ((WAC 296-62-07445, Appendix C, is a part of this standard, and compliance with its contents is mandatory.)) Compliance with the fit testing requirements in WAC 296-62-07201 through 296-62-07248, Appendices A-1, A-2 and A-3 of chapter 296-62 WAC, Part E, are mandatory.~~

~~(b) Except where portions of WAC 296-62-07441, 296-62-07443, 296-62-07447, 296-62-07449, and 296-62-07451, Appendices A, B, D, E, and F, respectively, to this section are expressly incorporated in requirements of this section, these appendices are purely informational and are not intended to create any additional obligations not otherwise imposed or to detract from any existing obligations.~~

AMENDATORY SECTION (Amending Order 93-07, filed 10/29/93, effective 12/10/93)

**WAC 296-155-17613 Respiratory protection.** (1) General. ~~((Where the))~~ For employees who use ~~((of))~~ respirators ~~((is))~~ required by WAC 296-155-176, the employer ~~((shall provide, at no cost to the employee, and assure the use of respirators which comply with the requirements of this section. Respirators shall be used in the following circumstances))~~ must provide respirators that comply with the requirements of this section. Respirators must be used during:

(a) ~~((Whenever))~~ Periods when an employee's exposure to lead exceeds the PEL~~((; and))~~.

(b) ~~((In work situations in))~~ Work operations for which engineering controls and work practices are not sufficient to reduce employee exposures to or below the PEL~~((; and))~~.

(c) ~~((Whenever))~~ Periods when an employee requests a respirator~~((; and))~~.

(d) ~~((Protection for employees performing tasks))~~ Periods when respirators are required to provide interim protection of employees while they perform the operations as specified in WAC 296-155-17609(2).

(2) Respirator ~~((selection))~~ program.

(a) ~~((Where respirators are used by WAC 296-155-176 the employer shall select the appropriate respirator or combination of respirators from Table I below.))~~ The employer must implement a respiratory protection program as required by chapter 296-62 WAC, Part E (except WAC 296-62-07130(1) and 296-62-07150 through WAC 296-62-07156).

(b) ~~((The employer shall provide a powered, air-purifying respirator in lieu of the respirator specified in Table I whenever:~~

(i) An employee chooses to use this type of respirator; and

(ii) This respirator will provide adequate protection to the employee.

(c) ~~The employer shall select respirators from among those approved for protection against lead dust, fume, and mist by the Mine Safety and Health Administration and the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR Part 11.))~~ If an employee has breathing difficulty during fit testing or respirator use, the employer must provide the employee with a medical examination as required by WAC 296-155-17621 (3)(a)(ii) to determine whether or not the employee can use a respirator while performing the required duty.

(3) Respirator selection.

(a) The employer must select the appropriate respirator or combination of respirators from Table I of this section.

(b) The employer must provide a powered air-purifying respirator when an employee chooses to use such a respirator and it will provide adequate protection to the employee.



Table I.— Respiratory Protection for Lead Aerosols

Airborne concentration of lead or condition of use	Required respirator <sup>a</sup>
Not in excess of 500 µg/m <sup>3</sup>	1/2 mask air purifying respirator with high efficiency filters. <sup>b, c</sup> 1/2 mask supplied air respirator operated in demand (negative pressure) mode.
Not in excess of 1,250 µg/m <sup>3</sup>	Loose fitting hood or helmet powered air purifying respirator with high efficiency filters. <sup>c</sup> Hood or helmet supplied air respirator operated in a continuous-flow mode—e.g., type CE abrasive blasting respirators operated in a continuous-flow mode.
Not in excess of 2,500 µg/m <sup>3</sup>	Full facepiece air purifying respirator with high efficiency filters. <sup>c</sup> Tight fitting powered air purifying respirator with high efficiency filters. <sup>c</sup> Full facepiece supplied air respirator operated in demand mode. 1/2 mask or full facepiece supplied air respirator operated in a continuous-flow mode. Full facepiece self-contained breathing apparatus (SCBA) operated in demand mode.
Not in excess of 50,000 µg/m <sup>3</sup>	1/2 mask supplied air respirator operated in pressure demand or other positive-pressure mode.
Not in excess of 100,000 µg/m	Full facepiece supplied air respirator operated in pressure demand or other positive-pressure mode—e.g., type CE abrasive blasting respirators operated in a positive-pressure mode.
Greater than 100,000 µg/m <sup>3</sup> unknown concentration, or fire fighting	Full facepiece SCBA operated in pressure demand or other positive pressure mode.

<sup>a</sup> Respirators specified for higher concentrations can be used at lower concentrations of lead.  
<sup>b</sup> Full facepiece is required if the lead aerosols cause eye or skin irritation at the use concentrations.  
<sup>c</sup> A high efficiency particulate filter (HEPA) means a filter that is 99.97 percent efficient against particles of 0.3 micron size or larger.

~~((3) Respirator usage.~~

~~(a) The employer shall assure that the respirator issued to the employee exhibits minimum facepiece leakage and that the respirator is fitted properly.~~

~~(b) Employers shall perform either quantitative or qualitative face fit tests at the time of initial fitting and at least every six months thereafter for each employee wearing negative pressure respirators. The qualitative fit tests may be used only for testing the fit of half mask respirators where they are permitted to be worn, and shall be conducted in accordance with appendix D, WAC 296-155-17656. The tests shall be used to select facepieces that provide the required protection as prescribed in Table I.~~

~~(c) If an employee exhibits difficulty in breathing during the fitting test or during use, the employer shall make available to the employee an examination in accordance with~~

~~WAC 296-155-17621 (3)(a)(ii) to determine whether the employee can wear a respirator while performing the required duty.~~

~~(4) Respirator program.~~

~~(a) The employer shall institute a respiratory protection program in accordance with part E, chapter 296-62 WAC.~~

~~(b) The employer shall permit each employee who uses a filter respirator to change the filter elements whenever an increase in breathing resistance is detected and shall maintain an adequate supply of filter elements for this purpose.~~

~~(c) Employees who wear respirators shall be permitted to leave work areas to wash their face and respirator facepiece whenever necessary to prevent skin irritation associated with respirator use.)~~

AMENDATORY SECTION (Amending Order 93-07, filed 10/29/93, effective 12/10/93)

**WAC 296-155-17625 Employee information and training.** (1) General.

(a) The employer shall communicate information concerning lead hazards according to the requirements of WISHA's Hazard Communication Standard for the construction industry, part C of chapter 296-62 WAC, including but not limited to the requirements concerning warning signs and labels, material safety data sheets (MSDS), and employee information and training. In addition, employers shall comply with the following requirements:

(b) For all employees who are subject to exposure to lead at or above the action level on any day or who are subject to exposure to lead compounds which may cause skin or eye irritation (e.g., lead arsenate, lead azide), the employer shall provide a training program in accordance with subsection (2) of this section and assure employee participation.

(c) The employer shall provide the training program as initial training prior to the time of job assignment or prior to the start up date for this requirement, whichever comes last.

(d) The employer shall also provide the training program at least annually for each employee who is subject to lead exposure at or above the action level on any day.

(2) Training program. The employer shall assure that each employee is trained in the following:

(a) The content of this standard and its appendices;  
(b) The specific nature of the operations which could result in exposure to lead above the action level;

(c) The ~~((purpose, proper selection, fitting, use, and limitations of respirators))~~ training requirements for respiratory protection as required by chapter 296-62 WAC, Part E (see WAC 296-62-07117, 296-62-07172, and WAC 296-62-07186 through 296-62-07190);

(d) The purpose and a description of the medical surveillance program, and the medical removal protection program including information concerning the adverse health effects associated with excessive exposure to lead (with particular attention to the adverse reproductive effects on both males and females and hazards to the fetus and additional precautions for employees who are pregnant);

(e) The engineering controls and work practices associated with the employee's job assignment including training of

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employees to follow relevant good work practices described in Appendix B, WAC 296-155-17652;

(f) The contents of any compliance plan in effect;

(g) Instructions to employees that chelating agents should not routinely be used to remove lead from their bodies and should not be used at all except under the direction of a licensed physician; and

(h) The employee's right of access to records under Part B, chapter 296-62 WAC.

(3) Access to information and training materials.

(a) The employer shall make readily available to all affected employees a copy of this standard and its appendices.

(b) The employer shall provide, upon request, all materials relating to the employee information and training program to affected employees and their designated representatives, and the director.

**AMENDATORY SECTION** (Amending Order 93-07, filed 10/29/93, effective 12/10/93)

**WAC 296-155-17652 Appendix B to WAC 296-155-176—Employee standard summary.** This appendix summarizes key provisions of the standard for lead in construction that you as a worker should become familiar with.

(1) Permissible exposure limit (PEL)—WAC 296-62-17607.

The standard sets a permissible exposure limit (PEL) of 50 micrograms of lead per cubic meter of air ( $50 \mu\text{g}/\text{m}^3$ ), averaged over an 8-hour workday which is referred to as a time-weighted average (TWA). This is the highest level of lead in air to which you may be permissibly exposed over an 8-hour workday. However, since this is an 8-hour average, short exposures above the PEL are permitted so long as for each 8-hour work day your average exposure does not exceed this level. This standard, however, takes into account the fact that your daily exposure to lead can extend beyond a typical 8-hour workday as the result of overtime or other alterations in your work schedule. To deal with this situation, the standard contains a formula which reduces your permissible exposure when you are exposed more than 8 hours. For example, if you are exposed to lead for 10 hours a day, the maximum permitted average exposure would be  $40 \mu\text{g}/\text{m}^3$ .

(2) Exposure assessment—WAC 296-155-17609.

If lead is present in your workplace in any quantity, your employer is required to make an initial determination of whether any employee's exposure to lead exceeds the action level ( $30 \mu\text{g}/\text{m}^3$  averaged over an 8-hour day). Employee exposure is that exposure which would occur if the employee were not using a respirator. This initial determination requires your employer to monitor workers' exposures unless the employee has objective data which can demonstrate conclusively that no employee will be exposed to lead in excess of the action level. Where objective data is used in lieu of actual monitoring the employer must establish and maintain an accurate record, documenting its relevancy in assessing exposure levels for current job conditions. If such objective data is available, the employer need proceed no further on

employee exposure assessment until such time that conditions have changed and the determination is no longer valid.

Objective data may be compiled from various sources, e.g., insurance companies and trade associations and information from suppliers or exposure data collected from similar operations. Objective data may also comprise previously-collected sampling data including area monitoring. If it cannot be determined through using objective data that worker exposure is less than the action level, your employer must conduct monitoring or must rely on relevant previous personal sampling, if available. Where monitoring is required for the initial determination, it may be limited to a representative number of employees who are reasonably expected to have the highest exposure levels. If your employer has conducted appropriate air sampling for lead in the past 12 months, they may use these results, provided they are applicable to the same employee tasks and exposure conditions and meet the requirements for accuracy as specified in the standard. As with objective data, if such results are relied upon for the initial determination, your employer must establish and maintain a record as to the relevancy of such data to current job conditions.

If there have been any employee complaints of symptoms which may be attributable to exposure to lead or if there is any other information or observations which would indicate employee exposure to lead, this must also be considered as part of the initial determination. If this initial determination shows that a reasonable possibility exists that any employee may be exposed, without regard to respirator, over the action level, your employer must set up an air monitoring program to determine the exposure level representative of each employee exposed to lead at your workplace. In carrying out this air monitoring program, your employer is not required to monitor the exposure of every employee, but they must monitor a representative number of employees and job types. Enough sampling must be done to enable each employee's exposure level to be reasonably represent full shift exposure. In addition, these air samples must be taken under conditions which represent each employee's regular, daily exposure to lead. Sampling performed in the past 12 months may be used to determine exposures above the action level if such sampling was conducted during work activities essentially similar to present work conditions.

The standard lists certain tasks which may likely result in exposures to lead in excess of the PEL and, in some cases, exposures in excess of 50 times the PEL. If you are performing any of these tasks, your employer must provide you with appropriate respiratory protection, protective clothing and equipment, change areas, hand washing facilities, biological monitoring, and training until such time that an exposure assessment is conducted which demonstrates that your exposure level is below the PEL.

If you are exposed to lead and air sampling is performed, your employer is required to notify you in writing within 5 working days of the air monitoring results which represent your exposure. If the results indicate that your exposure exceeds the PEL (without regard to your use of a respirator), then your employer must also notify you of this in writing, and provide you with a description of the corrective action that has been taken or will be taken to reduce your exposure.

Your exposure must be rechecked by monitoring, at least every six months if your exposure is at or over the action level but below the PEL. Your employer may discontinue monitoring for you if 2 consecutive measurements, taken at least 7 days apart, are at or below the action level. Air monitoring must be repeated every 3 months if you are exposed over the PEL. Your employer must continue monitoring for you at this frequency until 2 consecutive measurements, taken at least 7 days apart, are below the PEL but above the action level, at which time your employer must repeat monitoring of your exposure every six months and may discontinue monitoring only after your exposure drops to or below the action level. However, whenever there is a change of equipment, process, control, or personnel or a new type of job is added at your workplace which may result in new or additional exposure to lead, your employer must perform additional monitoring.

(3) Methods of compliance—WAC 296-155-17611.

Your employer is required to assure that no employee is exposed to lead in excess of the PEL as an 8-hour TWA. The standard for lead in construction requires employers to institute engineering and work practice controls including administrative controls to the extent feasible to reduce employee exposure to lead. Where such controls are feasible but not adequate to reduce exposures below the PEL they must be used nonetheless to reduce exposures to the lowest level that can be accomplished by these means and then supplemented with appropriate respiratory protection.

Your employer is required to develop and implement a written compliance program prior to the commencement of any job where employee exposures may reach the PEL as an 8-hour TWA. The standard identifies the various elements that must be included in the plan. For example, employers are required to include a description of operations in which lead is emitted, detailing other relevant information about the operation such as the type of equipment used, the type of material involved, employee job responsibilities, operating procedures and maintenance practices. In addition, your employer's compliance plan must specify the means that will be used to achieve compliance and, where engineering controls are required, include any engineering plans or studies that have been used to select the control methods. If administrative controls involving job rotation are used to reduce employee exposure to lead, the job rotation schedule must be included in the compliance plan. The plan must also detail the type of protective clothing and equipment, including respirator, housekeeping and hygiene practices that will be used to protect you from the adverse effects of exposure to lead.

The written compliance program must be made available, upon request, to affected employees and their designated representatives, and the director.

Finally, the plan must be reviewed and updated at least every 6 months to assure it reflects the current status in exposure control.

(4) Respiratory protection—WAC 296-155-17613.

~~((Your employer is required to provide and assure your use of respirator when your exposure to lead is not controlled below the PEL by other means. The employer must pay the cost of the respirator. Whenever you request one, your employer is also required to provide you a respirator even if~~

~~your air exposure level is not above the PEL. You might desire a respirator when, for example, you have received medical advice that your lead absorption should be decreased. Or, you may intend to have children in the near future, and want to reduce the level of lead in your body to minimize adverse reproductive effects. While respirator are the least satisfactory means of controlling your exposure, they are capable of providing significant protection if properly chosen, fitted, worn, cleaned, maintained, and replaced when they stop providing adequate protection.))~~

Your employer is required to select respirator from the types listed in Table I of the Respiratory Protection section of the standard (see WAC 296-155-17613). Any respirator chosen must be ~~((approved by the Mine Safety and Health Administration (MSHA) or))~~ certified by the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 42 CFR part 84. This respirator selection table will enable your employer to choose a type of respirator ~~((which))~~ that will give you a proper amount of protection based on your airborne lead exposure. Your employer may select a type of respirator that provides greater protection than that required by the standard; that is, one recommended for a higher concentration of lead than is present in your workplace. For example, a powered air-purifying respirator (PAPR) is much more protective than a typical negative pressure respirator, and may also be more comfortable to wear. A PAPR has a filter, cartridge, or canister to clean the air, and a power source which continuously blows filtered air into your breathing zone. Your employer might make a PAPR available to you to ease the burden of having to wear a respirator for long periods of time. The standard provides that you can obtain a PAPR upon request.

Your employer must also start a Respiratory Protection Program. This program must include written procedures for the proper selection, use, cleaning, storage, and maintenance of respirator.

Your employer must ~~((assure))~~ ensure that your respirator facepiece fits properly. Proper fit of a respirator facepiece is critical to your protection from airborne lead. Obtaining a proper fit on each employee may require your employer to make available ~~((two or three))~~ several different ~~((mask))~~ types of respirator masks. ~~((In order to assure))~~ To ensure that your respirator fits properly and that facepiece leakage is ~~((minimized))~~ minimal, your employer must give you either a qualitative ~~((fit test))~~ or ~~((a))~~ quantitative fit test ~~((if you use a negative pressure respirator))~~ in accordance with appendix D. ~~Any respirator which has a filter, cartridge or canister which cleans the work room air before you breathe it and which requires the force of your inhalation to draw air through the filtering element is a negative pressure respirator. A positive pressure respirator supplies air to you directly. A quantitative fit test uses a sophisticated machine to measure the amount, if any, of test material that leaks into the facepiece of your respirator.~~

You must also receive from your employer proper training in the use of respirator. Your employer is required to teach you how to wear a respirator, to know why it is needed, and to understand its limitations.

Your employer must test the effectiveness of your negative pressure respirator initially and at least every six months

thereafter with a "qualitative fit test." In this test, the fit of the facepiece is checked by seeing if you can smell a substance placed outside the respirator. If you can, there is appreciable leakage where the facepiece meets your face.

The standard provides that if your respirator uses filter elements, you must be given an opportunity to change the filter elements whenever an increase in breathing resistance is detected. You also must be permitted to periodically leave your work area to wash your face and respirator facepiece whenever necessary to prevent skin irritation. If you ever have difficulty in breathing during a fit test or while using a respirator, your employer must make a medical examination available to you to determine whether you can safely wear a respirator. The result of this examination may be to give you a positive pressure respirator (which reduces breathing resistance) or to provide alternative means of protection)) as specified in WAC 296-62-07201 through 296-62-07248, Appendices A-1, A-2 and A-3 of chapter 296-62 WAC, Part E.

(5) Protective work clothing and equipment—WAC 296-155-17615.

If you are exposed to lead above the PEL as an 8-hour TWA, without regard to your use of a respirator, or if you are exposed to lead compounds such as lead arsenate or lead azide which can cause skin and eye irritation, your employer must provide you with protective work clothing and equipment appropriate for the hazard. If work clothing is provided, it must be provided in a clean and dry condition at least weekly, and daily if your airborne exposure to lead is greater than 200  $\mu\text{g}/\text{m}^3$ . Appropriate protective work clothing and equipment can include coveralls or similar full-body work clothing, gloves, hats, shoes or disposable shoe coverlets, and face shields or vented goggles. Your employer is required to provide all such equipment at no cost to you. In addition, your employer is responsible for providing repairs and replacement as necessary, and also is responsible for the cleaning, laundering or disposal of protective clothing and equipment.

The standard requires that your employer assure that you follow good work practices when you are working in areas where your exposure to lead may exceed the PEL. With respect to protective clothing and equipment, where appropriate, the following procedures should be observed prior to beginning work:

- ◆ Change into work clothing and shoe covers in the clean section of the designated changing areas;
- ◆ Use work garments of appropriate protective gear, including respirator before entering the work area; and
- ◆ Store any clothing not worn under protective clothing in the designated changing area.

Workers should follow these procedures upon leaving the work area:

- ◆ HEPA vacuum heavily contaminated protective work clothing while it is still being worn. At no time may lead be removed from protective clothing by any means which result in uncontrolled dispersal of lead into the air;
- ◆ Remove shoe covers and leave them in the work area;

- ◆ Remove protective clothing and gear in the dirty area of the designated changing area. Remove protective coveralls by carefully rolling down the garment to reduce exposure to dust.
- ◆ Remove respirator last; and
- ◆ Wash hands and face.

Workers should follow these procedures upon finishing work for the day (in addition to procedures described above):

- ◆ Where applicable, place disposal coveralls and shoe covers with the abatement waste;
- ◆ Contaminated clothing which is to be cleaned, laundered or disposed of must be placed in closed containers in the change room.
- ◆ Clean protective gear, including respirator, according to standard procedures;
- ◆ Wash hands and face again.

If showers are available, take a shower and wash hair. If shower facilities are not available at the work site, shower immediately at home and wash hair.

(6) Housekeeping—WAC 296-155-17617.

Your employer must establish a housekeeping program sufficient to maintain all surfaces as free as practicable of accumulations of lead dust. Vacuuming is the preferred method of meeting this requirement, and the use of compressed air to clean floors and other surfaces is generally prohibited unless removal with compressed air is done in conjunction with ventilation systems designed to contain dispersal of the lead dust. Dry or wet sweeping, shoveling, or brushing may not be used except where vacuuming or other equally effective methods have been tried and do not work. Vacuums must be used equipped with a special filter called a high-efficiency particulate air (HEPA) filter and emptied in a manner which minimizes the reentry of lead into the workplace.

(7) Hygiene facilities and practices—WAC 296-155-17619.

The standard requires that hand washing facilities be provided where occupational exposure to lead occurs. In addition, change areas, showers (where feasible), and lunchrooms or eating areas are to be made available to workers exposed to lead above the PEL. Your employer must assure that except in these facilities, food and beverage is not present or consumed, tobacco products are not present or used, and cosmetics are not applied, where airborne exposures are above the PEL. Change rooms provided by your employer must be equipped with separate storage facilities for your protective clothing and equipment and street clothes to avoid cross-contamination. After showering, no required protective clothing or equipment worn during the shift may be worn home. It is important that contaminated clothing or equipment be removed in change areas and not be worn home or you will extend your exposure and expose your family since lead from your clothing can accumulate in your house, car, etc.

Lunchrooms or eating areas may not be entered with protective clothing or equipment unless surface dust has been removed by vacuuming, downdraft booth, or other cleaning method. Finally, workers exposed above the PEL must wash both their hands and faces prior to eating, drinking, smoking or applying cosmetics.

All of the facilities and hygiene practices just discussed are essential to minimize additional sources of lead absorption from inhalation or ingestion of lead that may accumulate on you, your clothes, or your possessions. Strict compliance with these provisions can virtually eliminate several sources of lead exposure which significantly contribute to excessive lead absorption.

(8) Medical surveillance—WAC 296-155-17621.

The medical surveillance program is part of the standard's comprehensive approach to the prevention of lead-related disease. Its purpose is to supplement the main thrust of the standard which is aimed at minimizing airborne concentrations of lead and sources of ingestion. Only medical surveillance can determine if the other provisions of the standard have affectively protected you as an individual. Compliance with the standard's provision will protect most workers from the adverse effects of lead exposure, but may not be satisfactory to protect individual workers:

- ◆ Who have high body burdens of lead acquired over past years,
- ◆ Who have additional uncontrolled sources of (~~non-occupational~~) nonoccupational lead exposure,
- ◆ Who exhibit unusual variations in lead absorption rates, or
- ◆ Who have specific (~~non-work~~) nonwork related medical conditions which could be aggravated by lead exposure (e.g., renal disease, anemia).

In addition, control systems may fail, or hygiene and respirator programs may be inadequate. Periodic medical surveillance of individual workers will help detect those failures. Medical surveillance will also be important to protect your reproductive ability—regardless of whether you are a man or woman.

All medical surveillance required by the standard must be performed by or under the supervision of a licensed physician. The employer must provide required medical surveillance without cost to employees and at a reasonable time and place. The standard's medical surveillance program has two parts—periodic biological monitoring and medical examinations. Your employer's obligation to offer you medical surveillance is triggered by the results of the air monitoring program. Full medical surveillance must be made available to all employees who are or may be exposed to lead in excess of the action level for more than 30 days a year and whose blood lead level exceeds 40 µg/dl. Initial medical surveillance consisting of blood sampling and analysis for lead and zinc protoporphyrin must be provided to all employees exposed at any time (1 day) above the action level.

Biological monitoring under the standard must be provided at least every 2 months for the first 6 months and every 6 months thereafter until your blood lead level is below 40 µg/dl. A zinc protoporphyrin (ZPP) test is a very useful blood test which measures an adverse metabolic effect of lead on your body and is therefore an indicator of lead toxicity.

If your BLL exceeds 40 µg/dl the monitoring frequency must be increased from every 6 months to at least every 2 months and not reduced until two consecutive BLLs indicate a blood lead level below 40 µg/dl. Each time your BLL is determined to be over 40 µg/dl, your employer must notify

you of this in writing within five working days of their receipt of the test results. The employer must also inform you that the standard requires temporary medical removal with economic protection when your BLL exceeds 50 µg/dl. (See Discussion of medical removal protection—WAC 296-155-17623.) Anytime your BLL exceeds 50 µg/dl your employer must make available to you within two weeks of receipt of these test results a second follow-up BLL test to confirm your BLL. If the two tests both exceed 50 µg/dl, and you are temporarily removed, then your employer must make successive BLL tests available to you on a monthly basis during the period of your removal.

Medical examinations beyond the initial one must be made available on an annual basis if your blood lead level exceeds 40 µg/dl at any time during the preceding year and you are being exposed above the airborne action level of 30 µg/m<sup>3</sup> for 30 or more days per year. The initial examination will provide information to establish a baseline to which subsequent data can be compared.

An initial medical examination to consist of blood sampling and analysis for lead and zinc protoporphyrin must also be made available (prior to assignment) for each employee being assigned for the first time to an area where the airborne concentration of lead equals or exceeds the action level at any time. In addition, a medical examination or consultation must be made available as soon as possible if you notify your employer that you are experiencing signs or symptoms commonly associated with lead poisoning or that you have difficulty breathing while wearing a respirator or during a respirator fit test. You must also be provided a medical examination or consultation if you notify your employer that you desire medical advice concerning the effects of current or past exposure to lead on your ability to procreate a healthy child.

Finally, appropriate follow-up medical examinations or consultations may also be provided for employees who have been temporarily removed from exposure under the medical removal protection provisions of the standard. (See subsection (9), below.)

The standard specifies the minimum content of pre-assignment and annual medical examinations. The content of other types of medical examinations and consultations is left up to the sound discretion of the examining physician. Pre-assignment and annual medical examinations must include:

- ◆ A detailed work history and medical history;
- ◆ A thorough physical examination, including an evaluation of your pulmonary status if you will be required to use a respirator;
- ◆ A blood pressure measurement; and
- ◆ A series of laboratory tests designed to check your blood chemistry and your kidney function.

In addition, at any time upon your request, a laboratory evaluation of male fertility will be made (microscopic examination of a sperm sample), or a pregnancy test will be given.

The standard does not require that you participate in any of the medical procedures, tests, etc. which your employer is required to make available to you. Medical surveillance can, however, play a very important role in protecting your health. You are strongly encouraged, therefore, to participate in a meaningful fashion. The standard contains a multiple physi-

cian review mechanism which will give you a chance to have a physician of your choice directly participate in the medical surveillance program. If you are dissatisfied with an examination by a physician chosen by your employer, you can select a second physician to conduct an independent analysis. The two doctors would attempt to resolve any differences of opinion, and select a third physician to resolve any firm dispute. Generally your employer will choose the physician who conducts medical surveillance under the lead standard—unless you and your employer can agree on the choice of a physician or physicians. Some companies and unions have agreed in advance, for example, to use certain independent medical laboratories or panels of physicians. Any of these arrangements are acceptable so long as required medical surveillance is made available to workers.

The standard requires your employer to provide certain information to a physician to aid in their examination of you. This information includes:

- ◆ The standard and its appendices,
- ◆ A description of your duties as they relate to occupational lead exposure,
- ◆ Your exposure level or anticipated exposure level,
- ◆ A description of any personal protective equipment you wear,
- ◆ Prior blood lead level results, and
- ◆ Prior written medical opinions concerning you that the employer has.

After a medical examination or consultation the physician must prepare a written report which must contain:

- ◆ The physician's opinion as to whether you have any medical condition which places you at increased risk of material impairment to health from exposure to lead,
- ◆ Any recommended special protective measures to be provided to you,
- ◆ Any blood lead level determinations, and
- ◆ Any recommended limitation on your use of respirator.

This last element must include a determination of whether you can wear a powered air purifying respirator (PAPR) if you are found unable to wear a negative pressure respirator.

The medical surveillance program of the lead standard may at some point in time serve to notify certain workers that they have acquired a disease or other adverse medical condition as a result of occupational lead exposure. If this is true, these workers might have legal rights to compensation from public agencies, their employers, firms that supply hazardous products to their employers, or other persons. Some states have laws, including worker compensation laws, that disallow a worker who learns of a job-related health impairment to sue, unless the worker sues within a short period of time after learning of the impairment. (This period of time may be a matter of months or years.) An attorney can be consulted about these possibilities. It should be stressed that WISHA is in no way trying to either encourage or discourage claims or lawsuits. However, since results of the standard's medical surveillance program can significantly affect the legal remedies of a worker who has acquired a job-related disease or

impairment, it is proper for WISHA to make you aware of this.

The medical surveillance section of the standard also contains provisions dealing with chelation. Chelation is the use of certain drugs (administered in pill form or injected into the body) to reduce the amount of lead absorbed in body tissues. Experience accumulated by the medical and scientific communities has largely confirmed the effectiveness of this type of therapy for the treatment of very severe lead poisoning. On the other hand, it has also been established that there can be a long list of extremely harmful side effects associated with the use of chelating agents. The medical community has balanced the advantages and disadvantages resulting from the use of chelating agents in various circumstances and has established when the use of these agents is acceptable. The standard includes these accepted limitations due to a history of abuse of chelation therapy by some lead companies. The most widely used chelating agents are calcium disodium EDTA, (Ca Na<sub>2</sub> EDTA), Calcium Disodium Versenate (Versenate), and d-penicillamine (penicillamine or Cupramine).

The standard prohibits "prophylactic chelation" of any employee by any person the employer retains, supervises or controls. "Prophylactic chelation" is the routine use of chelating or similarly acting drugs to prevent elevated blood levels in workers who are occupationally exposed to lead, or the use of these drugs to routinely lower blood lead levels to predesignated concentrations believed to be "safe". It should be emphasized that where an employer takes a worker who has no symptoms of lead poisoning and has chelation carried out by a physician (either inside or outside of a hospital) solely to reduce the worker's blood lead level, that will generally be considered prophylactic chelation. The use of a hospital and a physician does not mean that prophylactic chelation is not being performed. Routine chelation to prevent increased or reduce current blood lead levels is unacceptable whatever the setting.

The standard allows the use of "therapeutic" or "diagnostic" chelation if administered under the supervision of a licensed physician in a clinical setting with thorough and appropriate medical monitoring. Therapeutic chelation responds to severe lead poisoning where there are marked symptoms. Diagnostic chelation involved giving a patient a dose of the drug then collecting all urine excreted for some period of time as an aid to the diagnosis of lead poisoning.

In cases where the examining physician determines that chelation is appropriate, you must be notified in writing of this fact before such treatment. This will inform you of a potentially harmful treatment, and allow you to obtain a second opinion.

(9) Medical removal protection—WAC 296-155-17623.

Excessive lead absorption subjects you to increased risk of disease. Medical removal protection (MRP) is a means of protecting you when, for whatever reasons, other methods, such as engineering controls, work practices, and respirator, have failed to provide the protection you need. MRP involves the temporary removal of a worker from their regular job to a place of significantly lower exposure without any loss of earnings, seniority, or other employment rights or benefits. The purpose of this program is to cease further lead absorp-

tion and allow your body to naturally excrete lead which has previously been absorbed. Temporary medical removal can result from an elevated blood lead level, or a medical opinion. For up to 18 months, or for as long as the job the employee was removed from lasts, protection is provided as a result of either form of removal. The vast majority of removed workers, however, will return to their former jobs long before this eighteen month period expires.

You may also be removed from exposure even if your blood lead level is below 50  $\mu$ /dl if a final medical determination indicates that you temporarily need reduced lead exposure for medical reasons. If the physician who is implementing your employers medical program makes a final written opinion recommending your removal or other special protective measures, your employer must implement the physician's recommendation. If you are removed in this manner, you may only be returned when the doctor indicates that it is safe for you to do so.

The standard does not give specific instructions dealing with what an employer must do with a removed worker. Your job assignment upon removal is a matter for you, your employer and your union (if any) to work out consistent with existing procedures for job assignments. Each removal must be accomplished in a manner consistent with existing collective bargaining relationships. Your employer is given broad discretion to implement temporary removals so long as no attempt is made to override existing agreements. Similarly, a removed worker is provided no right to veto an employer's choice which satisfies the standard.

In most cases, employers will likely transfer removed employees to other jobs with sufficiently low lead exposure. Alternatively, a worker's hours may be reduced so that the time weighted average exposure is reduced, or they may be temporarily laid off if no other alternative is feasible.

In all of these situation, MRP benefits must be provided during the period of removal—i.e., you continue to receive the same earnings, seniority, and other rights and benefits you would have had if you had not been removed. Earnings includes more than just your base wage; it includes overtime, shift differentials, incentives, and other compensation you would have earned if you had not been removed. During the period of removal you must also be provided with appropriate follow-up medical surveillance. If you were removed because your blood lead level was too high, you must be provided with a monthly blood test. If a medical opinion caused your removal, you must be provided medical tests or examinations that the doctor believes to be appropriate. If you do not participate in this follow up medical surveillance, you may lose your eligibility for MRP benefits.

When you are medically eligible to return to your former job, your employer must return you to your "former job status." This means that you are entitled to the position, wages, benefits, etc., you would have had if you had not been removed. If you would still be in your old job if no removal had occurred that is where you go back. If not, you are returned consistent with whatever job assignment discretion your employer would have had if no removal had occurred. MRP only seeks to maintain your rights, not expand them or diminish them.

If you are removed under MRP and you are also eligible for worker compensation or other compensation for lost wages, your employer's MRP benefits obligation is reduced by the amount that you actually receive from these other sources. This is also true if you obtain other employment during the time you are laid off with MRP benefits.

The standard also covers situations where an employer voluntarily removes a worker from exposure to lead due to the effects of lead on the employee's medical condition, even though the standard does not require removal. In these situations MRP benefits must still be provided as though the standard required removal. Finally, it is important to note that in all cases where removal is required, respirator cannot be used as a substitute. Respirator may be used before removal becomes necessary, but not as an alternative to a transfer to a low exposure job, or to a lay-off with MRP benefits.

(10) Employee information and training—WAC 296-155-17625.

Your employer is required to provide an information and training program for all employees exposed to lead above the action level or who may suffer skin or eye irritation from lead compounds such as lead arsenate or lead azide. The program must train these employees regarding the specific hazards associated with their work environment, protective measures which can be taken, including the contents of any compliance plan in effect, the danger of lead to their bodies (including their reproductive systems), and their rights under the standard. All employees must be trained prior to initial assignment to areas where there is a possibility of exposure over the action level.

This training program must also be provided at least annually thereafter unless further exposure above the action level will not occur.

(11) Signs—WAC 296-155-17627.

The standard requires that the following warning sign be posted in work areas where the exposure to lead exceeds the PEL:

WARNING  
LEAD WORK AREA  
POISON  
NO SMOKING OR EATING

These signs are to be posted and maintained in a manner which assures that the legend is readily visible.

(12) Recordkeeping—WAC 296-155-17629.

Your employer is required to keep all records of exposure monitoring for airborne lead. These records must include the name and job classification of employees measured, details of the sampling and analytical techniques, the results of this sampling, and the type of respiratory protection being worn by the person sampled. Such records are to be retained for at least 30 years. Your employer is also required to keep all records of biological monitoring and medical examination results. These records must include the names of the employees, the physician's written opinion, and a copy of the results of the examination. Medical records must be preserved and maintained for the duration of employment plus 30 years. However, if the employee's duration of employment is less than one year, the employer need not retain that employee's

medical records beyond the period of employment if they are provided to the employee upon termination of employment.

Recordkeeping is also required if you are temporarily removed from your job under the medical removal protection program. This record must include your name and Social Security number, the date of your removal and return, how the removal was or is being accomplished, and whether or not the reason for the removal was an elevated blood lead level. Your employer is required to keep each medical removal record only for as long as the duration of an employee's employment.

The standard requires that if you request to see or copy environmental monitoring, blood lead level monitoring, or medical removal records, they must be made available to you or to a representative that you authorize. Your union also has access to these records. Medical records other than BLL's must also be provided upon request to you, to your physician or to any other person whom you may specifically designate. Your union does not have access to your personal medical records unless you authorize their access.

(13) Observation of monitoring—WAC 296-155-17631.

When air monitoring for lead is performed at your workplace as required by this standard, your employer must allow you or someone you designate to act as an observer of the monitoring. Observers are entitled to an explanation of the measurement procedure, and to record the results obtained. Since results will not normally be available at the time of the monitoring, observers are entitled to record or receive the results of the monitoring when returned by the laboratory. Your employer is required to provide the observer with any personal protective devices required to be worn by employees working in the area that is being monitored. The employer must require the observer to wear all such equipment and to comply with all other applicable safety and health procedures.

(14) Startup date—WAC 296-155-17635.

Employer obligations under the standard begin as of that date with full implementation of engineering controls as soon as possible but no later than within 4 months, and all other provisions completed as soon as possible, but no later than within 2 months from the effective date.

(15) For additional information.

(a) A copy of the standard for lead in construction can be obtained free of charge by calling or writing to the department of labor and industries, Post Office Box 44620, Mail-stop 44620, Olympia, Washington 98504-4620: Telephone (360) 956-5527.

(b) Additional information about the standard, its enforcement, and your employer's compliance can be obtained from the nearest office listed in your telephone directory under the state of Washington, department of labor and industries.

AMENDATORY SECTION (Amending Order 83-19, filed 7/13/83, effective 9/12/83)

**WAC 296-155-220 Respiratory protection.** ((General. In emergencies, or when controls required by Part B of this chapter either fail or are inadequate to prevent harmful exposure to employees, appropriate respiratory protective devices

~~shall be provided by the employer and shall be used in accordance with WAC 296-62-071-)) The respiratory protection requirements applicable to construction work under this section are identical to those set forth in chapter 296-62 WAC, Part E.~~

AMENDATORY SECTION (Amending Order 90-10, filed 8/13/90, effective 9/24/90)

**WAC 296-155-367 Masonry saws.** (1) Guarding.

(a) Masonry saws shall be guarded by semicircular enclosures over the blade.

(b) A method for retaining blade fragments shall be incorporated into the design of the semicircular enclosure.

(2) Safety latch. A safety latch shall be installed on notched saws to prevent the motor and cutting head assembly from lifting out of the notches.

(3) Blade speed. Blade speed shall be maintained in accordance with the manufacturer's specifications.

(4) Exhaust and eye protection.

(a) All table mounted masonry saws shall be equipped with a mechanical means of exhausting dust into a covered receptacle or be provided with water on the saw blade for dust control. The operator and any nearby worker shall wear appropriate eye protection in accordance with WAC 296-155-215.

(b) All portable hand-held masonry saw operators shall wear appropriate eye and respiratory protection in accordance with WAC 296-155-215 and chapter 296-62 WAC, Part E.

(5) Grounding. The motor frames of all stationary saws shall be grounded through conduit, water pipe, or a driven ground. Portable saws shall be grounded through three-pole cords attached to grounded electrical systems.

(6) Inspection. Masonry saws shall be inspected at regular intervals and maintained in safe operating condition.

AMENDATORY SECTION (Amending WSR 96-24-051, filed 11/27/96, effective 2/1/97)

**WAC 296-155-655 General protection requirements.**

(1) Surface encumbrances. All surface encumbrances that are located so as to create a hazard to employees shall be removed or supported, as necessary, to safeguard employees.

(2) Underground installations.

(a) The location of utility installations, such as sewer, telephone, fuel, electric, water lines, or any other underground installations that reasonably may be expected to be encountered during excavation work, shall be located prior to opening an excavation.

(b) Utility companies or owners shall be contacted within established or customary local response times, advised of the proposed work, and asked to locate the underground utility installation prior to the start of actual excavation.

(c) When excavation operations approach the location of underground installations, the exact location of the installations shall be determined by safe and acceptable means.

(d) While the excavation is open, underground installations shall be protected, supported, or removed as necessary to safeguard employees.



## (3) Access and egress.

## (a) Structural ramps.

(i) Structural ramps that are used solely by employees as a means of access or egress from excavations shall be designed by a competent person. Structural ramps used for access or egress of equipment shall be designed by a competent person qualified in structural design, and shall be constructed in accordance with the design.

(ii) Ramps and runways constructed of two or more structural members shall have the structural members connected together to prevent displacement.

(iii) Structural members used for ramps and runways shall be of uniform thickness.

(iv) Cleats or other appropriate means used to connect runway structural members shall be attached to the bottom of the runway or shall be attached in a manner to prevent tripping.

(v) Structural ramps used in lieu of steps shall be provided with cleats or other surface treatments on the top surface to prevent slipping.

(b) Means of egress from trench excavations. A stairway, ladder, ramp or other safe means of egress shall be located in trench excavations that are 4 feet (1.22 m) or more in depth so as to require no more than 25 feet (7.62 m) of lateral travel for employees.

(4) Exposure to vehicular traffic. Employees exposed to public vehicular traffic shall be provided with, and shall wear, warning vests or other suitable garments marked with or made of reflectorized or high-visibility material.

(5) Exposure to falling loads. No employee shall be permitted underneath loads handled by lifting or digging equipment. Employees shall be required to stand away from any vehicle being loaded or unloaded to avoid being struck by any spillage or falling materials. Operators may remain in the cabs of vehicles being loaded or unloaded when the vehicles are equipped, in accordance with WAC 296-155-610 (2)(g), to provide adequate protection for the operator during loading and unloading operations.

(6) Warning system for mobile equipment. When mobile equipment is operated adjacent to an excavation, or when such equipment is required to approach the edge of an excavation, and the operator does not have a clear and direct view of the edge of the excavation, a warning system shall be utilized such as barricades, hand or mechanical signals, or stop logs. If possible, the grade should be away from the excavation.

## (7) Hazardous atmospheres.

(a) Testing and controls. In addition to the requirements set forth in parts B-1, C, and C-1 of this chapter (296-155 WAC) to prevent exposure to harmful levels of atmospheric contaminants and to assure acceptable atmospheric conditions, the following requirements shall apply:

(i) Where oxygen deficiency (atmospheres containing less than 19.5 percent oxygen) or a hazardous atmosphere exists or could reasonably be expected to exist, such as in excavations in landfill areas or excavations in areas where hazardous substances are stored nearby, the atmospheres in the excavation shall be tested before employees enter excavations greater than 4 feet (1.22 m) in depth.

(ii) Adequate precautions shall be taken to prevent employee exposure to atmospheres containing less than 19.5 percent oxygen and other hazardous atmospheres. These precautions include providing proper respiratory protection or ventilation (~~(in accordance with parts)~~) as required by chapter 296-62 WAC, Part E and by Part B-1 (~~and C~~) of this chapter (~~(respectively)~~).

(iii) Adequate precaution shall be taken such as providing ventilation, to prevent employee exposure to an atmosphere containing a concentration of a flammable gas in excess of 20 percent of the lower flammable limit of the gas.

(iv) When controls are used that are intended to reduce the level of atmospheric contaminants to acceptable levels, testing shall be conducted as often as necessary to ensure that the atmosphere remains safe.

## (b) Emergency rescue equipment.

(i) Emergency rescue equipment, such as breathing apparatus, a safety harness and line, or a basket stretcher, shall be readily available where hazardous atmospheric conditions exist or may reasonably be expected to develop during work in an excavation. This equipment shall be attended when in use.

(ii) Employees entering bell-bottom pier holes, or other similar deep and confined footing excavations, shall wear a harness with a lifeline securely attached to it. The lifeline shall be separate from any line used to handle materials, and shall be individually attended at all times while the employee wearing the lifeline is in the excavation.

Note: See chapter 296-62 WAC, Part M for additional requirements applicable to confined space operations.

(8) Protection from hazards associated with water accumulation.

(a) Employees shall not work in excavations in which there is accumulated water, or in excavations in which water is accumulating, unless adequate precautions have been taken to protect employees against the hazards posed by water accumulation. The precautions necessary to protect employees adequately vary with each situation, but could include special support or shield systems to protect from cave-ins, water removal to control the level of accumulating water, or use of a safety harness and lifeline.

(b) If water is controlled or prevented from accumulating by the use of water removal equipment, the water removal equipment and operations shall be monitored by a competent person to ensure proper operation.

(c) If excavation work interrupts the natural drainage of surface water (such as streams), diversion ditches, dikes, or other suitable means shall be used to prevent surface water from entering the excavation and to provide adequate drainage of the area adjacent to the excavation. Excavations subject to runoff from heavy rains will require an inspection by a competent person and compliance with subdivisions (a) and (b) of this subsection.

## (9) Stability of adjacent structures.

(a) Where the stability of adjoining buildings, walls, or other structures is endangered by excavation operations, support systems such as shoring, bracing, or underpinning shall be provided to ensure the stability of such structures for the protection of employees.



(b) Excavation below the level of the base or footing of any foundation or retaining wall that could be reasonably expected to pose a hazard to employees shall not be permitted except when:

(i) A support system, such as underpinning, is provided to ensure the safety of employees and the stability of the structure; or

(ii) The excavation is in stable rock; or

(iii) A registered professional engineer has approved the determination that the structure is sufficiently removed from the excavation so as to be unaffected by the excavation activity; or

(iv) A registered professional engineer has approved the determination that such excavation work will not pose a hazard to employees.

(c) Sidewalks, pavements, and appurtenant structure shall not be undermined unless a support system or another method of protection is provided to protect employees from the possible collapse of such structures.

(10) Protection of employees from loose rock or soil.

(a) Adequate protection shall be provided to protect employees from loose rock or soil that could pose a hazard by falling or rolling from an excavation face. Such protection shall consist of scaling to remove loose material; installation of protective barricades at intervals as necessary on the face to stop and contain falling material; or other means that provide equivalent protection.

(b) Employees shall be protected from excavated or other materials or equipment that could pose a hazard by falling or rolling into excavations. Protection shall be provided by placing and keeping such materials or equipment at least 2 feet (.61 m) from the edge of excavations, or by the use of retaining devices that are sufficient to prevent materials or equipment from falling or rolling into excavations, or by a combination of both if necessary.

(11) Inspections.

(a) Daily inspections of excavations, the adjacent areas, and protective systems shall be made by a competent person for evidence of a situation that could result in possible cave-ins, indications of failure of protective systems, hazardous atmospheres, or other hazardous conditions. An inspection shall be conducted by the competent person prior to the start of work and as needed throughout the shift. Inspections shall also be made after every rainstorm or other hazard increasing occurrence. These inspections are only required when employee exposure can be reasonably anticipated.

(b) Where the competent person finds evidence of a situation that could result in a possible cave-in, indications of failure of protective systems, hazardous atmospheres, or other hazardous conditions, exposed employees shall be removed from the hazardous area until the necessary precautions have been taken to ensure their safety.

(12) Fall protection.

(a) Walkways shall be provided where employees or equipment are required or permitted to cross over excavations. Guardrails which comply with chapter 296-155 WAC, Part K shall be provided where walkways are 4 feet or more above lower levels.

(b) Adequate barrier physical protection shall be provided at all remotely located excavations. All wells, pits,

shafts, etc., shall be barricaded or covered. Upon completion of exploration and similar operations, temporary wells, pits, shafts, etc., shall be backfilled.

**AMENDATORY SECTION** (Amending WSR 98-05-046, filed 2/13/98, effective 4/15/98)

**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 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;

PROPOSED

- (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~~) must provide self-rescuers (~~having current approval from~~) certified by the

National Institute for Occupational Safety and Health (~~and the Mine Safety and Health Administration to~~) under 42 CFR part 84. The respirators must 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~~) must 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)~~) certified by MSHA-NIOSH (~~(as)~~) for 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 reinstated 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 m<sup>3</sup>) of fresh air per minute shall be supplied for each employee underground.

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(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 m<sup>3</sup>) 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 <sup>3</sup>
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

<sup>3</sup>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
- (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.

(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 296-155-528 contains rules applicable to crane hoisting of personnel, except, that the limitations imposed by WAC 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.

(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 296-155-17335	Effective date.
WAC 296-155-17349	Appendix E to WAC 296-155-173—Methylenedianiline—Qualitative and quantitative fit testing procedures.
WAC 296-155-17351	Appendix E-1—Qualitative protocols.
WAC 296-155-17353	Appendix E-1-a—Isoamyl acetate (banana oil) protocol.
WAC 296-155-17355	Appendix E-1-b—Saccharin solution aerosol protocol.
WAC 296-155-17357	Appendix E-1-c—Irritant fume protocol.
WAC 296-155-17359	Appendix E-2—Quantitative fit test procedures.
WAC 296-155-17635	Startup dates.
WAC 296-155-17656	Appendix D to WAC 296-155-176—Qualitative and quantitative fit test protocols.

**AMENDATORY SECTION** (Amending WSR 98-02-006, filed 12/26/97, effective 3/1/98)

**WAC 296-304-03005 Mechanical paint removers.** (1) Power tools.

(a) The employer must ensure that employees engaged in the removal of paints, preservatives, rusts or other coatings by means of power tools are protected against eye injury by goggles or face shields that meets the requirements of WAC 296-304-09005 (1) and (2).

(b) All portable rotating tools used for the removal of paints, preservatives, rusts or other coatings shall be adequately guarded to protect both the operator and nearby workers from flying missiles.

(c) Portable electric tools shall be grounded in accordance with the requirements of WAC 296-304-08003 (1) and (2).

(d) In a confined space, the employer must provide mechanical exhaust ventilation sufficient to keep the dust concentration to a minimum, or must protect employees by respiratory protective equipment that meets the requirements of chapter 296-62 WAC, Part E.

(2) Flame removal.

(a) The employer must ensure that when hardened preservative coatings are removed by flame in enclosed spaces, the employees exposed to fumes are protected by air line respirators that meet the requirements of chapter 296-62 WAC, Part E. Employees performing this operation in the open air, and those exposed to the resulting fumes, must be protected by a fume filter respirator that meets the requirements of WAC 296-62-071.

(b) Flame or heat shall not be used to remove soft and greasy preservative coatings.

(3) Abrasive blasting.

PROPOSED

(a) Equipment. Hoses and fittings used for abrasive blasting shall meet the following requirements:

(i) Hoses. Hose of a type to prevent shocks from static electricity shall be used.

(ii) Hose couplings. Hose lengths shall be joined by metal couplings secured to the outside of the hose to avoid erosion and weakening of the couplings.

(iii) Nozzles. Nozzles shall be attached to the hose by fittings that will prevent the nozzle from unintentionally becoming disengaged. Nozzle attachments shall be of metal and shall fit onto the hose externally.

(iv) Dead man control. A dead man control device shall be provided at the nozzle end of the blasting hose either to provide direct cutoff or to signal the pot tender by means of a visual and audible signal to cut off the flow, in the event the blaster loses control of the hose. The pot tender shall be available at all times to respond immediately to the signal.

(b) Replacement. Hoses and all fittings used for abrasive blasting shall be inspected frequently to insure timely replacement before an unsafe amount of wear has occurred.

(c) Personal protective equipment.

(i) The employer must ensure that abrasive blasters working in enclosed spaces are protected by abrasive blasting respirators that meet the requirements of WAC 296-24-675 and ((296-62-074)) chapter 296-62 WAC, Part E.

(ii) The employer must ensure that abrasive blasters working in the open are protected as required in subsection (1) of this section.

Exception: When synthetic abrasives containing less than one percent free silica are used, the employer may substitute particulate or dust filter respirators that are approved by the National Institute of Safety and Health (NIOSH) and used according to WAC 296-62-071.

(iii) The employer must ensure that employees, including machine tenders and abrasive recovery workers, working in areas where unsafe concentrations of abrasive materials and dusts are present are protected by eye and respiratory protective equipment that meets the requirements of WAC 296-304-09005 (1) and (2) and chapter 296-62 WAC, Part E.

Exception: This requirement does not apply to blasters.

(iv) The employer must ensure that a blaster is protected against injury from exposure to the blast by appropriate protective clothing, including gloves that meet the requirements of WAC 296-304-09015(1).

(v) A surge from a drop in pressure in the hose line can throw a blaster off the staging. To protect against this hazard, the employer must ensure that a blaster is protected by a personal fall arrest system, that meets the requirements of WAC 296-304-09021. The personal fall arrest system must be tied off to the ship or other structure during blasting from elevations where adequate fall protection cannot be provided by railings.

**AMENDATORY SECTION** (Amending WSR 96-11-067, filed 5/10/96, effective 1/1/97)

**WAC 296-305-02501 Emergency medical protection.**

(1) Fire fighters who perform emergency medical care or oth-

erwise may be exposed to blood or other body fluids shall be provided with emergency medical face protection devices, and emergency medical garments that meet the applicable requirements of NAPA, Standard on Protective Clothing for Emergency Medical Operations 1999, 1992 edition.

Note: Prior to purchase, fire departments should request the technical data package required in NAPA 1999, 1992 edition, in order to compare glove and garment performance data. Departments reviewing these packages should ensure a relative ranking of the performance data before they purchase in order to provide the best performance of the EMS personal protective clothing.

(2) Fire fighters shall don emergency medical gloves prior to initiating any emergency patient care.

(3) Fire fighters shall don emergency medical garments and emergency medical face protection devices prior to any patient care during which splashes of body fluids can occur such as situations involving spurting blood or childbirth.

Note: Fire fighter turnout gear and gloves with vapor barriers may be used in lieu of emergency medical gloves and garments.

(4) Contaminated emergency medical garments, emergency medical face protection, gloves, devices, and emergency medical gloves shall be cleaned and disinfected, or disposed of, in accordance with WAC 296-62-08001, Part J, Blood borne pathogens.

(5) Fire departments shall establish a designated infection (exposure) control officer who shall ensure that an adequate infection control plan is developed and all personnel are trained and supervised on the plan.

(6) The infection control officer shall be responsible for establishing personnel exposure protocols so that a process for dealing with exposures is in writing and available to all personnel.

(7) The infection control officer or his/her designee will function as a liaison between area hospitals and fire department members to provide notification that a communicable disease exposure is suspected or has been determined by hospital medical personnel. The department infection control officer will institute the established exposure protocols immediately after report of an exposure. The infection control officer shall follow the confidentiality requirements of chapter 246-100 WAC and the medical protocol requirements of WAC 296-62-05209.

(8) Fire departments shall have a written infection (exposure) control plan which clearly explains the intent, benefits, and purpose of the plan. The written document must cover the standards of exposure control such as establishing the infection control officer and all members affected; education and training; HB. vaccination requirements; documentation and record keeping; cleaning/disinfection of personnel and equipment; and exposure protocols.

(9) Policy statements and standard operating procedure guidelines shall provide general guidance and specific regulation of daily activities. Procedures shall include delegation of specific roles and responsibilities, such as regulation of infection control, as well as procedural guidelines for all required tasks and functions.

(10) Fire departments shall establish a records system for members health and training.

PROPOSED

(11) Fire fighters shall be trained in the proper use of P.E., exposure protection, post exposure protocols, disease modes of transmission as it related to infectious diseases.

(12) Infectious disease programs shall have a process for monitoring fire fighters compliance with established guidelines and a means for correcting noncompliance.

(13) Fire department members shall be required to annually review the infectious disease plan, updates, protocols, and equipment used in the program.

(14) Fire departments shall comply with WAC 296-62-08001, Part J, Blood borne pathogens, in its entirety.

(15) Tuberculosis (TB) exposure and respiratory protection requirements.

(a) Fire fighters shall wear a particulate respirator (PR) when entering areas occupied by individuals with suspected or confirmed TB, when performing high risk procedures on such individuals or when transporting individuals with suspected or confirmed TB in a closed vehicle.

(b) A NOSH-approved, 95% efficient particulate air respirator is the minimum acceptable level of respiratory protection.

(i) Fit tests are required.

(ii) Fit tests shall be done ~~((by procedures recommended by the respirator manufacturer or the department))~~ in accordance with chapter 296-62 WAC, Part E.

Note 1: Emergency-response personnel should be routinely screened for tuberculosis at regular intervals. The tuberculin skin test is the only method currently available that demonstrates infection with *Mycobacterium tuberculosis* (*M. tuberculosis*) in the absence of active tuberculosis.

Note 2: If possible, the rear windows of a vehicle transporting patients with confirmed, suspected, or active tuberculosis should be kept open, and the heater or air conditioner set on a noncirculating cycle.

#### Additional References:

Chapter 296-62 WAC, Part J, Biological Agents-Blood-borne Pathogens.

WAC 296-62-08001(3), Exposure Control.

### WSR 98-24-044

#### PROPOSED RULES

### DEPARTMENT OF LICENSING

[Filed November 24, 1998, 4:05 p.m.]

#### Original Notice.

Preproposal statement of inquiry was filed as WSR 98-20-032.

Title of Rule: WAC 308-125-200 Standards of practice.

Purpose: Incorporation by reference the 1999 edition of the Uniform Standards of Professional Appraisal Practice, the generally recognized national organized standards of real estate appraisal. Incorporation by reference is required because to incorporate the whole text would be unduly cumbersome and expensive.

Statutory Authority for Adoption: RCW 18.140.030 (16), (17).

Statute Being Implemented: Chapter 18.140 RCW.

Summary: Incorporate the 1999 edition of the Uniform Standards of Professional Appraisal Practice into WAC 308-125-200.

Reasons Supporting Proposal: That real estate appraisals in Washington state be performed in accordance with current generally accepted appraisal standards as evidenced by the most recent amendments to appraisal standards promulgated by the Appraisal Standards Board of the Appraisal Foundation. This is required by Section 1110, Title XI of the Financial Institutions Recovery, Reform and Enforcement Act of 1989 (12 USC 3339).

Name of Agency Personnel Responsible for Drafting, Implementation and Enforcement: Cleotis Borner, Jr., Olympia, (360) 753-1062.

Name of Proponent: Department of Licensing, Real Estate Appraiser Program, governmental.

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

Explanation of Rule, its Purpose, and Anticipated Effects: WAC 308-125-200 will incorporate by reference the 1999 edition of the Uniform Standards of Professional Appraisal Practice as promulgated by the Appraisal Standards Board of the Appraisal Foundation.

Proposal Changes the Following Existing Rules: Adopts current edition of the Uniform Standards of Professional Appraisal Practice.

No small business economic impact statement has been prepared under chapter 19.85 RCW. The proposed rule only adopts the current edition of the Uniform Standards of Professional Appraisal Practice and has no economic impact on small business.

RCW 34.05.328 does not apply to this rule adoption. The proposed rule change reflects the incorporation of the 1999 edition of the Uniform Standards of Professional Appraisal Practice. (Title XI; 12 U.S.C. Section 3301 et seq.) For this reason, the significant legislative rules provisions apply.

Hearing Location: Department of Licensing, Driver Examination Station, 2502 112th Street East, #200, Tacoma, WA, on Tuesday, January 5, 1999, at 9 a.m.

Assistance for Persons with Disabilities: Contact Ralph Birkedahl by December 29, 1998, TDD (360) 753-1966, or (360) 753-1062.

Submit Written Comments to: Cleotis Borner, Jr., Real Estate Appraiser Program, P.O. Box 9015, Olympia, WA 98507-9015, fax (360) 586-0998, by January 4, 1999.

Date of Intended Adoption: January 7, 1999.

November 24, 1998

Cleotis Borner, Jr.

Program Manager

AMENDATORY SECTION (Amending WSR 98-17-083, filed 8/18/98, effective 9/18/98)

**WAC 308-125-200 Standards of practice.** (1) The standard of practice governing real estate appraisal activities will be the ~~((1998))~~ 1999 edition of the Uniform Standards of Professional Appraisal Practice of the Appraisal Foundation. A copy of the Uniform Standards of Professional Appraisal Practice is available for review and inspection at the office of

the Real Estate Appraiser Unit Office, Olympia, Washington. The Uniform Standards of Professional Appraisal Practice is a copyright document. Copy of the full text may be obtained from the Appraisal Foundation at The Appraisal Foundation, P.O. Box 96734, Washington, DC 20090-6734.

(2) Expert review appraisers as defined by RCW 18.140.010(11) while performing expert reviews pursuant to chapter 18.140 RCW are exempt from the Uniform Standards of Professional Appraisal Practice, Standard 3 review provisions while performing expert reviews for the director.

**WSR 98-24-046**  
**PROPOSED RULES**  
**LOTTERY COMMISSION**  
[Filed November 25, 1998, 10:40 a.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 98-19-001.

Title of Rule: WAC 315-06-075 and 315-06-085, game sell-outs and hand-marked playslips.

Purpose: To prohibit the sale of any on-line ticket or combination of tickets which would guarantee a jackpot or grand prize; to prohibit persons from making multiple, machine generated entries.

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: Mary Jane Ferguson, Rules Coordinator, Olympia, (360) 753-1947; 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: WAC 315-06-075 will prohibit the sale of any on-line ticket or combination of tickets which would guarantee the purchaser a jackpot or grand prize. WAC 315-06-085 will prohibit persons from making multiple, machine generated entries.

Proposal does not change existing rules.

No small business economic impact statement has been prepared under chapter 19.85 RCW. The lottery has considered whether these rules are subject to the Regulatory Fairness Act, chapter 19.85 RCW, and has determined that they are not for the following reasons: (1) The rules have no economic impact on business' cost of equipment, supplies, labor or administrative costs. The rules are designed to establish rules and procedures for the playing of instant lottery games; and (2) the rules will have a negligible impact, if any, on business because they are interpretive. They have been promulgated for the purpose of stating policy, procedure and practice and do not include requirements for forms, fees, appearances or other actions by business.

RCW 34.05.328 does not apply to this rule adoption. Said section does not apply to these proposed rules because they are not proposed by one of the listed agencies. As the rules are merely interpretive, the lottery does not voluntarily apply this section.

Hearing Location: 808 Fourth Avenue, Olympia, WA, on January 14, 1999, at 10:00 a.m.

Assistance for Persons with Disabilities: Contact Mary Jane Ferguson by January 12, 1999, (360) 753-1947.

Submit Written Comments to: Mary Jane Ferguson, Lottery, FAX (360) 586-6586, by January 12, 1999.

Date of Intended Adoption: January 14, 1998 [1999].

November 24, 1998

Mary Jane Ferguson

Rules Coordinator

NEW SECTION

**WAC 315-06-075 Game sell-out prohibited** No Washington State Lottery retailer shall sell a ticket or combination of on-line lottery tickets, which would guarantee the purchaser a jackpot or grand prize.

NEW SECTION

**WAC 315-06-085 Hand-marked playslips** Plays may only be entered manually using the lottery terminal keypad or by means of a play slip provided by the lottery and hand-marked by the player. Retailers shall not permit the use of facsimiles of play slips, copies of play slips, or other materials that are inserted into the terminal's play slip reader that are not printed or approved by the lottery. Retailers shall not permit any device to be connected to a lottery terminal to enter plays, except as approved by the lottery.

**WSR 98-24-074**

**WITHDRAWAL OF PROPOSED RULES**

**DEPARTMENT OF  
FISH AND WILDLIFE**

(By the Code Reviser's Office)

[Filed December 1, 1998, 8:26 a.m.]

WAC 220-57-137, 220-57-405 and 220-57-470, proposed by the Department of Fish and Wildlife in WSR 98-11-086 appearing in issue 98-11 of the State Register, which was distributed on June 3, 1998, 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 98-24-079**  
**PROPOSED RULES**  
**DEPARTMENT OF LICENSING**

(Real Estate Commission)  
 [Filed December 1, 1998, 9:40 a.m.]

Supplemental Notice to WSR 98-22-003.

Preproposal statement of inquiry was filed as WSR 98-13-071.

Purpose: This is a revised CR-102. Only one section has been modified since the original CR-102, WAC 308-124D-080 Payment of earned commissions.

Amend title of chapter 308-124 WAC, the new name will be gender neutral.

Amend WAC 308-124-007 Meetings, the proposed changes will provide more information regarding the commission's schedule of annual regular meetings.

Amend WAC 308-124-021 Definitions, the proposed changes to this section are to make it easier to read. The definition of incorporated associated broker is eliminated, and the payment of commissions to incorporated licensees is addressed in new proposed rule WAC 308-124D-080.

Repeal WAC 308-124-001 Promulgation—Authority and 308-124-005 Organization, these sections are duplicative of statutory language.

Amend WAC 308-124A-200 Corporate or copartnership applicants for licenses—Proof required, the proposed changes eliminate the credit reference requirement in light of changing business practices in the profession.

Amend WAC 308-124A-460 Real estate brokers and salespersons and land development representative fees, the proposed changes will increase fees within I-601 and help the department meet its operating costs and expenses.

Amend WAC 308-124B-140 Multiple business usage of office, the proposed changes are a reflection of changing business practices in the profession.

Amend WAC 308-124B-150 Office requirement for brokers actively licensed in another jurisdiction, the proposed changes clarify out-of-state licensees' requirements for maintaining the location of trust accounts.

Amend WAC 308-124C-010 Licensee's responsibilities, the proposed changes will require the licensee to keep the department informed of changes in mailing address rather than changes in home address.

Amend WAC 308-124D-061 Broker supervision of affiliated licensees, this clarifies the standards for broker supervision.

New WAC 308-124D-070 Discriminatory acts—Prohibition, this moves a former WAC section into this chapter, allowing the department to eliminate chapter 308-124F WAC.

New WAC 308-124D-080 Payment of earned commissions, this section is proposed in light of changing practices in the profession.

Repeal WAC 308-124F-010 Real estate office in same building as residence requirements, this section is a proposed repealer because the requirement is no longer relevant in light of changing business practices in the profession.

Repeal WAC 308-124F-020 Discriminatory acts—Prohibition, this section has been moved and proposed as new

section WAC 308-124D-070. Moving this section out of chapter 308-124F WAC allows the department to eliminate a WAC chapter.

Repeal WAC 308-124F-030 Misuse of broker's license—Prohibited, this section has been moved and proposed in new section WAC 308-124D-061. The repeal of chapter 308-124F WAC allows the department to eliminate the chapter.

Statutory Authority for Adoption: RCW 18.85.040.

Statute Being Implemented: Governor's Executive Order on Regulatory Improvement 97-02.

Reasons Supporting Proposal: Most of the proposed changes are a result of a regulatory improvement review designed to streamline and eliminate irrelevant or obsolete information in rules. The proposed rules relating to fee increases are necessary to help the Department of Licensing meet its statutory mandate to cover its operating costs from the fees it collects.

Name of Agency Personnel Responsible for Drafting, Implementation and Enforcement: Bob Mitchell, Real Estate Program Manager, P.O. Box 9015, Olympia, WA 98507-9015, fax (360) 586-0998, e-mail bmittchell@dol.wa.gov, (360) 586-6012.

Name of Proponent: Department of Licensing, Real Estate Commission, 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.

RCW 34.05.328 does not apply to this rule adoption.

Hearing Location: Black Lake #2, 1st Floor Conference Room, 405 Black Lake Boulevard, Olympia, WA 98502, on Wednesday, January 6, 1999, at 11:00 a.m.

Assistance for Persons with Disabilities: Contact Bob Mitchell by Monday, January 4, 1999.

Submit Written Comments to: Bob Mitchell, P.O. Box 9015, Olympia, WA 98507-9015, e-mail bmittchell@dol.wa.gov, fax (360) 586-0998, by Monday, January 4, 1999.

Date of Intended Adoption: January 6, 1999.

November 30, 1998

Joyce A. Roper

for Linda M. Moran

Senior Assistant Attorney General

PROPOSED

Chapter 308-124 WAC

REAL ESTATE BROKERS AND ~~((SALESMEN))~~  
SALESPERSONS—GENERAL PROVISIONS

AMENDATORY SECTION (Amending WSR 90-23-039, filed 11/15/90, effective 12/16/90)

**WAC 308-124-007 Meetings.** The real estate commission meets quarterly, March, June, September and December or at the call of the director. Individuals desiring to be informed as to date, time, place and agenda of the meeting must make a written request to the real estate program. Annual notice of the commission's yearly schedule will be published by the code reviser at the beginning of each new year.

AMENDATORY SECTION (Amending WSR 98-01-107, filed 12/17/97, effective 1/17/98)

**WAC 308-124-021 Definitions.** ~~((1))~~ Words and terms used in these rules shall have the same meaning as each has under chapter 18.85 RCW unless otherwise clearly provided in these rules, or the context in which they are used in these rules clearly indicates that they be given some other meaning.

~~((2))~~ (1) "Designated broker" is the natural person designated by a corporation, limited liability company, limited liability partnership or partnership to act as a broker on behalf of the corporation, limited liability company, limited liability partnership or partnership. The designated broker must be an officer of the corporation, manager or member of the limited liability company, partner of the limited liability partnership or a general partner of the partnership and must be separately qualified for licensure as a real estate broker.

~~((3))~~ (2) "Principal owner" is a person who owns or controls, directly or indirectly, ten percent or more of a real estate brokerage, regardless of whether such interest stands in the person's true name or in the name of a nominee.

~~((4))~~ (3) "Individual broker" is the natural person who owns a sole proprietorship brokerage company and is the licensed broker of the firm.

~~((5))~~ "Incorporated associate broker" is the natural person qualified as a broker who works with a broker and who is licensed as a corporation and whose license states that he or she is associated with a broker.

~~((6))~~ (4) "Affiliated licensees" are the natural persons licensed as salespersons, associate brokers, ~~((incorporated associate brokers,))~~ and/or branch managers employed by a real estate broker and who are licensed to represent a broker in the performance of any of the acts specified in chapter 18.85 RCW.

REPEALER

The following sections of the Washington Administrative Code are repealed:

- WAC 308-124-001 Promulgation—Authority.
- WAC 308-124-005 Organization.

AMENDATORY SECTION (Amending WSR 98-01-107, filed 12/17/97, effective 1/17/98)

**WAC 308-124A-200 Corporate or copartnership applicants for licenses—Proof required.** The minimum qualifications for a corporation, limited liability company, limited liability partnership or partnership to receive a broker's license are:

(1) An officer in the corporation, a manager or member in the limited liability company, a partner in the limited liability partnership or a general partner in the partnership, as the case may be, shall be designated as the broker and shall separately qualify for a valid broker's license. The corporation, limited liability company, limited liability partnership or partnership and the designated broker are required to pay only a single license and license renewal fee.

~~((2))~~ ~~((The applicant shall furnish a character and credit rating of the designated broker, officers, managers or members and principal owners of the corporation or limited liability company directly involved in the company's Washington real estate activity and, in the case of a partnership or limited liability partnership, the general partners and all principal owners. A new credit rating is not required if one has been filed with the department within the preceding eighteen months.~~

~~((3))~~ If the applicant is a partnership or limited liability partnership, it shall furnish a copy of its partnership or limited liability partnership agreement.

~~((4))~~ (3) Licenses issued to corporations, limited liability companies, limited liability partnerships and partnerships expire two years from the date of issuance which date will be the renewal date.

~~((5))~~ ~~((If a corporation applies for licensure as an incorporated associate broker, the associate broker shall be the sole licensee of the corporation. The renewal period for the incorporated associated broker shall be the same as the renewal period for corporations, limited liability companies, limited liability partnerships or partnerships under this chapter.))~~

AMENDATORY SECTION (Amending WSR 93-24-096, filed 11/30/93, effective 1/1/94)

**WAC 308-124A-460 Real estate brokers and salespersons and land development representative fees.** These fees are applicable to all original licenses, examination services, and fee generating services issued or performed after June 30, 1999, and all renewals for existing licenses with expiration date after June 30, 1999. The following fees for a two-year period shall be charged by professional licensing services of the department of licensing:

Title of Fee	Fee
Real estate broker:	
Application/examination	<del>((130.00))</del> <u>\$139.00</u>
Reexamination	<del>((130.00))</del> <u>139.00</u>

PROPOSED

PROPOSED

Title of Fee	Fee
Original license	(( <del>160.00</del> )) <u>171.25</u>
License renewal	(( <del>160.00</del> )) <u>171.25</u>
Late renewal with penalty	(( <del>185.00</del> )) <u>198.00</u>
Duplicate license	(( <del>25.00</del> )) <u>26.75</u>
Certification	(( <del>25.00</del> )) <u>26.75</u>
Name or address change, transfer or license activation	(( <del>25.00</del> )) <u>26.75</u>
<b>Real estate broker - Branch office:</b>	
Original license	(( <del>150.00</del> )) <u>\$160.50</u>
License renewal	(( <del>150.00</del> )) <u>160.50</u>
Late renewal with penalty	(( <del>175.00</del> )) <u>187.25</u>
Duplicate license	(( <del>25.00</del> )) <u>26.75</u>
Name or address change	(( <del>25.00</del> )) <u>26.75</u>
<b>Real estate salesperson:</b>	
Application/examination	(( <del>130.00</del> )) <u>\$139.00</u>
Reexamination	(( <del>130.00</del> )) <u>139.00</u>
Original license	(( <del>100.00</del> )) <u>107.00</u>
License renewal	(( <del>100.00</del> )) <u>107.00</u>
Late renewal with penalty	(( <del>125.00</del> )) <u>133.75</u>
Duplicate license	(( <del>25.00</del> )) <u>26.75</u>
Certification	(( <del>25.00</del> )) <u>26.75</u>
Name or address change, transfer or license activation	(( <del>25.00</del> )) <u>26.75</u>
The following fee shall be charged annually for land development representatives:	
Land development representative:	
Registration	(( <del>25.00</del> )) <u>26.75</u>

AMENDATORY SECTION (Amending Order 130, filed 8/13/82)

**WAC 308-124B-140 Multiple business usage of office.** ((+)) A broker may conduct a real estate brokerage business at an office location where the broker concurrently conducts a separate, ((compatible)) business activity. The brokerage business activities shall be carried out and business records shall be maintained separate and apart from any other business activities by the broker.

(((2) Two or more licensed real estate brokerage businesses may be conducted at an office location with a common entrance and mailing address, if each business is clearly identified by a sign visible to the public, each business is physically separated within the office facility, and no deception of the public as to the separate identities of the brokerage business firms results.))

NEW SECTION

**WAC 308-124B-145 Two or more real estate businesses in same location.** Two or more licensed real estate brokerage businesses may be conducted at an office location with a common entrance and mailing address, if each business is clearly identified by a sign visible to the public, each business is physically separated within the office facility, and no deception of the public as to the separate identities of the brokerage business firms results.

AMENDATORY SECTION (Amending Order PM 711, filed 3/1/88)

**WAC 308-124B-150 Office requirement for brokers actively licensed in another jurisdiction.** The term "office" in RCW 18.85.180 for a broker actively licensed in another jurisdiction in which the broker's headquarter office is located shall mean the ((maintenance of trust account and transaction records for a period of three years in the state of Washington in one location at the Washington office of an escrow agent licensed in the state of Washington, a real estate broker licensed in the state of Washington, attorneys at law licensed to practice in the state of Washington or title companies for all Washington transactions for the broker)) Washington location where trust account and transaction records are maintained. Such records are required to be maintained for three years. The trust account and transaction records shall be open and accessible to representatives of the department of licensing. The parties to the transaction shall have access to the transaction records prepared or retained for the requesting party.

A broker actively licensed in another jurisdiction seeking licensure in Washington, whose headquarter office is located in that other jurisdiction, shall notify the department of the location address where the records are maintained in the state of Washington and shall include this address with the headquarter's address on the license application.

The Washington license shall be posted at the location where the records are being maintained.

Within thirty days after mailing of the notice of audit, the broker shall come to the department's office, after making an



appointment, in the geographic location (Spokane, Seattle, or Olympia) nearest to the location of the records to sign the audit report.

**AMENDATORY SECTION** (Amending WSR 90-23-039, filed 11/15/90, effective 12/16/90)

**WAC 308-124C-010 Licensee's responsibilities.** (1) The real estate broker shall be responsible for the custody, safety and correctness of entries of all required real estate records. The broker retains this responsibility even though another person or persons may be assigned by the broker the duties of preparation, custody or recording.

(2) It is the responsibility of each and every licensee to obtain a copy of and be knowledgeable of and keep current with the rules implementing chapter 18.85 RCW.

(3) It is the responsibility of each and every licensee to keep the director informed of his or her current ((home)) mailing address.

(4) It is the broker's responsibility to ensure accessibility of their offices and records to auditors of the department. The broker shall provide copies of required records upon demand by the director or the director's authorized representative.

**AMENDATORY SECTION** (Amending WSR 98-01-107, filed 12/17/97, effective 1/17/98)

**WAC 308-124D-061 Broker supervision of affiliated licensees.** (1) A broker shall not permit the use of his or her license, whether for compensation or not, to enable anyone either licensed or unlicensed to in fact establish and carry on a brokerage business wherein the broker does not have full management responsibility for all real estate brokerage activities of the business or he/she does not exercise adequate supervision over the activities of his or her licensed salespersons, associate brokers or branch managers as required by chapter 18.85 RCW.

(2) Individual and designated brokers shall be responsible for supervising the conduct of all associate brokers and salespersons licensed to them, whether in an individual capacity or through a corporate, limited liability company, limited liability partnership or partnership entity. A broker shall not be held responsible for inadequate supervision if:

(a) An associate broker or salesperson violates a provision of chapter 18.85 RCW, or the rules promulgated thereunder, in contravention of the supervising broker's specific written policies or instructions;

(b) Reasonable procedures had been established to verify that adequate supervision was being performed;

(c) Upon learning of the violation, the broker attempted to prevent or mitigate the damage;

(d) The broker did not participate in the violation;

(e) The broker did not ratify the violation; and

(f) The broker did not attempt to avoid learning of the violation.

((2)) (3) A broker may not avoid his or her management or supervisory responsibilities by any contract, agreement or understanding between the broker and any other person. The existence of an independent contractor relationship or any other special compensation arrangement between the

broker and affiliated licensees shall not release the broker and licensee of any duties, obligations, or responsibilities.

#### NEW SECTION

**WAC 308-124D-070 Discriminatory acts—Prohibition.** (1) Real estate licensees shall not:

(a) Refuse to communicate to the owner of a listed property any written offer, concerning the same, made by any person or persons because of race, color, creed, sex, marital status, familial status, age, national origin, or the presence of any sensory, mental, or physical handicap.

(b) Refuse to negotiate for the sale or rental of, or otherwise make available or deny, real property to any person because of race, color, creed, sex, marital status, familial status, age, national origin, or the presence of any sensory, mental, or physical handicap.

(c) Discriminate against any person in the terms, conditions, privileges of sale or rental of real property, or in the provision of services or facilities in connection therewith, because of race, color, creed, sex, marital status, familial status, age, national origin, or the presence of any sensory, mental, or physical handicap.

(d) Make, print, or publish or cause to be made, printed, or published any notice, statement, or advertisement with respect to the sale or rental of real property that indicates any preference, limitation or discrimination based on race, color, creed, sex, marital status, familial status, age, national origin, or the presence of any sensory, mental, or physical handicap, or an intention to make any such preference, limitation or discrimination.

(e) Represent to any person because of race, color, creed, sex, marital status, familial status, age, national origin, or the presence of any sensory, mental, or physical handicap that any real property is not available for inspection, sale or rental when such real property is in fact available.

(f) Induce or attempt to induce any person to sell or rent any real property by representations regarding the entry or prospective entry into the neighborhood of a person or persons of a particular race, color, creed, sex, marital status, familial status, age, national origin, or the presence of any sensory, mental, or physical handicap.

(2) Nothing in this regulation shall be construed to define or restrict the power of any other federal, state or local government agency to pursue such measures as such agency may deem appropriate to ensure that the opportunity to purchase, rent or lease real property is made available to all persons without regard to race, color, creed, sex, marital status, familial status, age, national origin, or the presence of any sensory, mental, or physical handicap.

#### NEW SECTION

**WAC 308-124D-080 Payment of earned commissions.** A broker is permitted to disburse by check earned commissions from the real estate broker's business bank account to any legal, authorized business entity owned by his or her affiliated licensees.

PROPOSED

**REPEALER**

The following chapter of the Washington Administrative Code is repealed:

- WAC 308-124F-010 Real estate office in same building as residence requirements.
- WAC 308-124F-020 Discriminatory acts—Prohibition.
- WAC 308-124F-030 Misuse of broker's license—Prohibited.

**WSR 98-24-080  
PROPOSED RULES  
SPOKANE COUNTY AIR  
POLLUTION CONTROL AUTHORITY**

[Filed December 1, 1998, 10:08 a.m.]

Original Notice.

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

Title of Rule: SCAPCA Regulation I, Article VI, Section 6.14 and 6.15: Standards for Control of Particulate Matter on Paved and Unpaved Roads.

Purpose: To limit particulate matter emissions from paved and unpaved roads as an integral part of the strategy to attain and maintain the National Ambient Air Quality Standard for PM10.

Statutory Authority for Adoption: RCW 70.94.141.

Statute Being Implemented: Chapter 70.94 RCW and 42 USC 7401 et seq.

Summary: The regulation established requirements, in the PM10 nonattainment area, for paving or treating unpaved roads, for sweeping paved roads, and for clean traction materials. The proposed amendments would retain the geographical applicability, after the PM10 standard is revoked.

Reasons Supporting Proposal: Federal regulations and guidance require preservation of air quality improvements in areas that formerly violated National Ambient Air Quality Standards.

Name of Agency Personnel Responsible for Drafting: Eric Skelton, 1101 West College, Spokane, WA 99201, (509) 477-4727; Implementation: Ron Edgar, 1101 West College, Spokane, WA 99201, (509) 477-4727; and Enforcement: Mabel Caine, 1101 West College, Spokane, WA 99201, (509) 477-4727.

Name of Proponent: Spokane County Air Pollution Control Authority, governmental.

Rule is necessary because of federal law, 42 USC 7410.

Explanation of Rule, its Purpose, and Anticipated Effects: The regulation in its present form, establishes requirements for when unpaved roads must be paved or otherwise treated for dust control purposes. It also requires sweeping of paved roads and sets standards for traction materials. The purpose is to reduce particulate emissions in the PM10 nonattainment area as one of the strategies to attain and maintain the National Ambient Air Quality Standard.

The purpose of the amendments is to maintain the same requirements, even after the PM10 standard is revoked. The anticipated effect, in addition to preserving air quality gains, is that EPA will give final approval to the implementation plan for PM10 and revoke the preexisting PM10 standard for Spokane.

Proposal Changes the Following Existing Rules: The proposal redefines the PM10 nonattainment area to mean the same geographical area, even after the preexisting PM10 standard is revoked.

No small business economic impact statement has been prepared under chapter 19.85 RCW. The Spokane County Air Pollution Control Authority is not required to file the statement.

RCW 34.05.328 does not apply to this rule adoption. This is a local agency rule. The Spokane County Air Pollution Control Authority is not one of the applicable agencies as defined in RCW 34.05.328 (5)(a).

Hearing Location: Spokane County Public Works Building, 1026 West Broadway, Lower Level, Spokane, WA 99260, on January 7, 1999, at 8:30 a.m.

Assistance for Persons with Disabilities: Contact Barbara J. Nelson by January 4, 1999, (509) 477-4727.

Submit Written Comments to: Eric Skelton, 1101 West College, #403, Spokane, WA 99201, fax (509) 477-6828, by January 6, 1999.

Date of Intended Adoption: January 7, 1999.

November 30, 1998

Eric Skelton  
Director

**SECTION 6.14 STANDARDS FOR CONTROL OF PARTICULATE  
MATTER ON PAVED SURFACES**

**AMENDATORY SECTION**

**REGULATION I SECTION 6.14.A. Applicability**

A. Applicability. The provisions of Section 6.14 shall apply to any state, county, city or local government or private company that applies sanding materials to or mechanically sweeps or vacuums paved surfaces within the ((Spokane)) PM10 Nonattainment area. This Section shall also apply to all suppliers of sanding materials to be used by these affected entities.

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.

**AMENDATORY SECTION**

**REGULATION I SECTION 6.14.B Definitions**

B. Definitions.

1. Affected Entities are any state, county, city or local government or private company that applies sanding material to, or mechanically sweeps or vacuums paved surfaces within the ((Spokane)) PM10 Nonattainment area.

2. Approved Laboratory means a certified or approved facility capable of performing the specified tests in a competent, professional, and unbiased manner in accordance with ASTM testing procedures.

PROPOSED

3. The Authority is the Spokane County Air Pollution Control Authority

4. Base Sanding Amount is the average amount of sanding materials applied per lane mile by each affected entity within the ((Spokane)) PM10 Nonattainment Area during the 1992 - 1993 season or another base season, as requested by an affected entity and approved by the Authority.

5. Durability Index means the percent loss of weight as determined using ASTM "Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine", designated C131-89, or other approved ASTM procedure.

6. Full Deployment means that all priority roadways targeted for treatment during a snow/ice event are sanded.

7. Percent Fines means the percent material passing a #100 sieve as determined by the American Society for Testing Materials (ASTM) "Standard Method for Sieve Analysis of Fine and Coarse Aggregates", Designation C136-84a (1988) (American Highway and Transportation Officials designation T27-88), or other approved ASTM procedure.

8. PM10 Nonattainment Area means the Spokane County PM10 Nonattainment Area, defined in CFR Title 40, Part 81, as designated on November 15, 1990. This definition will remain in effect, even after the United States Environmental Protection Agency makes the determination that the PM10 standard that existed before September 16, 1997, no longer applies to Spokane County. Retaining the definition ensures compliance with the Environmental Protection Agency's Guidance for Implementing the 1-Hour Ozone and Pre-Existing PM<sub>10</sub> NAAQS, dated December 29, 1997, by continuing implementation of control measures in the State Implementation Plan and preserving air quality gains.

((8))9. Priority Roadway means any street, arterial, or highway, within the ((Spokane)) PM10 Nonattainment Area, with more than 15,000 average daily traffic count, and any connecting entrance or exit ramp.

((9))10. Recycled Sanding Materials means previously used sanding materials which have been collected from roadway or paved areas and are then reused as is, after washing, or after blending with new sanding materials.

((10))11. Sanding Materials means natural geologic materials, excluding salt and other de-icing chemicals, used to provide increased traction on roadways or paved areas.

((11))12. Season means the period beginning, November 1, in one calendar year and concluding on April 30, the next calendar year.

**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.

#### SECTION 6.15 STANDARDS FOR CONTROL OF PARTICULATE MATTER ON UNPAVED ROADS

### AMENDATORY SECTION

#### REGULATION I SECTION 6.15.B. DEFINITIONS

##### B. Definitions.

1. Authority means the Spokane County Air Pollution Control Authority.

2. Ecology means the Washington Department of Ecology.

3. EPA means the United States Environmental Protection Agency or the Administrator of the United States Environmental Protection Agency or his/her designated representative.

4. Implementation Plan has the same meaning as in Section 110 of the Federal Clean Air Act (42 USC 7410).

5. Maintenance Plan has the same meaning as in Section 175A of the Federal Clean Air Act (42 USC 7505).

6. Palliative means salts and other hygroscopic materials, petroleum resins, asphalt emulsions, adhesives, chemical soil stabilizers or other surface treatment materials acting as a method of dust control, and not prohibited for use by any local, state, or federal law, rule, or regulation.

7. Paved means application of concrete, asphaltic concrete, asphalt, or combination thereof as a means of forming a permanent surface for a road.

8. PM10 Nonattainment Area means the Spokane County PM10 Nonattainment Area, ((as)) defined in CFR Title 40, Part 81, as designated on November 15, 1990. This definition will remain in effect, even after EPA makes the determination that the PM10 standard that existed before September 16, 1997, no longer applies to Spokane County. Retaining the definition ensures compliance with the EPA's Guidance for Implementing the 1-Hour Ozone and Pre-Existing PM<sub>10</sub> NAAQS, dated December 29, 1997, by continuing implementation of control measures in the Implementation Plan and preserving air quality gains.

9. Reasonable Further Progress has the same meaning as in Section 171(1) of the Federal Clean Air Act (42 USC 7501).

#### WSR 98-24-087 PROPOSED RULES GAMBLING COMMISSION

[Filed December 1, 1998, 2:03 p.m.]

##### Original Notice.

Preproposal statement of inquiry was filed as WSR 98-22-028 with a published date of November 18, 1998.

Title of Rule: Temporary moratorium for complying with net return requirements.

Purpose: A study will be conducted to determine if the net return requirements for charitable/nonprofit licensees should be reduced. By placing a temporary moratorium for complying with the net return requirements during the study period bingo operators who meet the moratorium requirements will not have their license class limited, allowing them to continue their operations at current levels.

Statutory Authority for Adoption: RCW 9.46.070.

Summary: See Purpose above.

Reasons Supporting Proposal: Charitable/nonprofit bingo licensees report they are finding it increasingly difficult to meet the net return requirements and expect future changes in gaming activities state-wide to have further impacts. A study will be conducted to determine if the net return requirements should be reduced.

Name of Agency Personnel Responsible for Drafting: Susan Arland, Lacey, (360) 438-7654 ext. 374; Implementa-

PROPOSED

tion: Ben Bishop, Lacey, (360) 438-7640; and Enforcement: Sherri Winslow, Lacey, (360) 438-7654 ext. 301.

Name of Proponent: Staff, governmental.

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

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

Proposal Changes the Following Existing Rules: See Purpose and Reasons Supporting Proposal above.

No small business economic impact statement has been prepared under chapter 19.85 RCW. Proposal is exempt under RCW 19.85.025(2), therefore, a small business economic impact statement is not required.

Section 201, chapter 403, Laws of 1995, does not apply to this rule adoption. This agency does not choose to make section 201, chapter 403, Laws of 1995, apply to this rule adoption.

Hearing Location: LaConner Country Inn, 107 South Second Street, LaConner, WA 98257, (360) 466-3101, on January 15, 1999, at 1:30 p.m.

Assistance for Persons with Disabilities: Contact Susan Yeager by January 6, 1999, TDD (360) 438-7638, or (360) 438-7654 ext. 302.

Submit Written Comments to: Susan Arland, Mailstop 42400, Olympia, WA 98504-2400, fax (360) 438-8652, by January 6, 1999.

Date of Intended Adoption: January 15, 1999.

December 1, 1998

Susan Arland  
Rules Coordinator

## NEW SECTION

**WAC 230-20-058 Temporary moratorium for complying with net return requirements.** In order to study the possible impacts of factors beyond a charitable/nonprofit licensee's control which may affect its ability to meet requirements set forth in WAC 230-20-059, the commission imposes a moratorium on the mandatory reduction requirement of WAC 230-20-062 and the variance requirement of WAC 230-20-060, as set forth below:

(1) Any charitable/nonprofit licensee that fulfills the following requirements shall be allowed to operate at its current bingo license class:

(a) The licensee informs the commission in writing that it meets the requirements of this section; it wishes to participate in the study, and it outlines the steps it is taking to meet its license class requirements;

(b) The licensee is within five percent of the annual net return requirement for its license class during its measurement period ending on or after December 31, 1998, to the end of the moratorium; and

(c) Licensees operating at classes that provide for an annual minimum net return below five percent as set out in WAC 230-20-059 shall be required to maintain a positive cash flow as defined in WAC 230-02-138 for the measurement period.

(2) Licensees not fulfilling the requirements outlined in (1) of this section are subject to penalties and reductions in

license class as set forth in 230-20-062 (3) and (4), respectively.

(3) A licensee that is outside of five percent of meeting the net return requirements will receive a "Notice of License Limitation" and may petition the commission for additional relief from the requirements.

(4) If any licensee requests an upgrade pursuant to WAC 230-04-260, the percentages set forth in WAC 230-20-059 less five percentage points would apply. However, the licensee must maintain a positive cash flow as defined in WAC 230-02-138 for the measurement period.

(5) The moratorium as set forth in this section applies to licensees with measurement periods ending December 31, 1998, and thereafter to the end of the moratorium. The moratorium will conclude February 29, 2000, or on such date to be determined by the commission. The moratorium applies only to those licensees meeting the requirements set forth in (1) of this section. It does not apply to any other licensee requirements.

## WSR 98-24-106

### PROPOSED RULES

### DEPARTMENT OF HEALTH

[Filed December 2, 1998, 8:57 a.m.]

Continuance of WSR 98-21-088.

Preproposal statement of inquiry was filed as WSR 97-15-002.

Title of Rule: Sexual misconduct prohibited, WAC 246-840-740.

Purpose: This would create a new WAC to assist the nurses and the public in understanding the concept and actions which can be taken in disciplinary cases coming before the commission and to ensure that the commission's disciplinary actions are enforceable and therefore more fully protect the public.

Statutory Authority for Adoption: RCW 18.130-180(24).

Statute Being Implemented: Chapter 18.79 RCW.

Summary: This rule would make it easier for nurses and the public to understand that there are professional boundaries and standards of practice which need to be adhered to.

Reasons Supporting Proposal: Protection of the public is the commission's primary goal when the profession of nursing is practiced. This WAC would allow the commission to successfully prosecute sexual misconduct cases reported to the commission. It would also educate the care givers and the public that sexual misconduct is not an acceptable standard of practice.

Name of Agency Personnel Responsible for Drafting, Implementation and Enforcement: Terry J. West, 1300 S.E. Quince Street, Olympia, WA 98504, (360) 236-4712.

Name of Proponent: Washington State Department of Health, Nursing Care Quality Assurance Commission, governmental.

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

Explanation of Rule, its Purpose, and Anticipated Effects: Since 1993 the commission has had sexual misconduct guidelines in place. This served as a method of articulating the Nursing Commission's standards for the nursing profession when complaints involving sexual relations with patients and/or former patients were received. While the guidelines were helpful, moving them into rule would provide enforceability of commission actions. The rule would be available to all applicants, licensees, facilities and the public via the law book and would set the standard for nursing which would be beneficial to everyone.

Having this rule in place would protect the public because it provides notice to all. It will put facilities, nurses and schools on notice, it will make the patients aware of their rights. Commission action would be enforceable. The action could remove a licensee from the practice of nursing, order therapy, remedial education, or limit the setting a nurse could practice in, or other action deemed appropriate to provide protection to the public.

Proposal does not change existing rules.

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

#### Small Business Economic Impact Statement

See WSR 98-21-088.

A copy of the statement may be obtained by writing to Department of Health, Nursing Care Quality Assurance Commission, ATTN: Terry J. West, 47864, Olympia, WA 98504-7867 [98504-7864], phone (360) 236-4712, fax (360) 586-2165 or (360) 236-4738.

Section 201, chapter 403, Laws of 1995, applies to this rule adoption. These rules are significant under section 201, chapter 403, Laws of 1995, because they adopt substantive provisions which subject the violator to penalty or sanction and establish, alter or revoke qualification or standard for the issuance, suspension or revocation of a license or permit.

Hearing Location: Lacey Community Center, 6729 Pacific Avenue, Meeting Rooms 1 and 2, Lacey, WA 98503, on January 13, 1999, at 9:00 a.m.

Assistance for Persons with Disabilities: Contact Terry J. West by January 8, 1999, TDD (360) 664-0064, or fax (360) 586-2165 or 236-4738.

Submit Written Comments to: Terry J. West, Department of Health, P.O. Box 47864, Olympia, WA 98504-7864, fax (360) 586-2165, or 236-4738, by January 8, 1999.

Date of Intended Adoption: January 13, 1999.

November 25, 1998

Paula R. Meyer  
Executive Director

**WSR 98-24-107**

**PROPOSED RULES**

**DEPARTMENT OF HEALTH**

[Filed December 2, 1998, 9:00 a.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 98-18-071.

Title of Rule: Health systems resources, chapter 246-560 WAC.

Purpose: To combine two grant programs that are authorized by legislature into one grant program. These programs provide financial and technical assistance to health care facilities and recruitment and retention efforts of providers in rural and urban underserved areas.

Statutory Authority for Adoption: RCW 70.175.010 - [70.175.]090 and 70.185.030 - [70.185.]080.

Statute Being Implemented: Chapters 70.175 and 70.185 RCW.

Summary: Proposed rule specifies how the department may act on requests for funding of grant moneys to eligible communities.

Reasons Supporting Proposal: Rules will help local communities prepare a successful application and identify those interested parties that may not meet eligibility criteria. Refines the application process of two separate grant processes into one.

Name of Agency Personnel Responsible for Drafting: Kelly Shaw, Alice James, 2725 West Harrison Avenue, Suite 500, 705-6770; Implementation: Kelly Shaw, Alice James, Kris Sparks, 2725 West Harrison Avenue, Suite 500, 705-6770; and Enforcement: Not applicable, optional program, entities do not have to apply for funds.

Name of Proponent: Department of Health, governmental.

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

Explanation of Rule, its Purpose, and Anticipated Effects: This rule will combine the rural health system development grant program, which provided financial and technical assistance to rural communities and the community based recruitment and retention grant program, which provided financial and technical assistance to increase the availability of health care providers in rural and urban underserved areas of the state into one grant program, allowing one application and review process.

The purpose of the rule is to combine two like grant programs both legislatively authorized into one grant program.

The anticipated effect is to eliminate confusion among applicants. The proposed rule outlines eligibility criteria, contents of a required letter of interest, application content, and proposal review. Complying with the provisions of the proposed rule will aid local communities to prepare a successful application, and identify those interested parties that may not meet eligibility criteria.

Proposal Changes the Following Existing Rules: It combines the community based recruitment and retention program with the rural health systems development program into a new program called health systems resources. It clarifies eligibility for the program. It provides one application form and review process.

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

#### Small Business Economic Impact Statement

**Determine Whether an SBEIS is Necessary:** An SBEIS is necessary because the average costs to a business,

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\$1,865 exceeds the threshold costs for affected businesses listed below.

The businesses that will be affected by this rule include the following:

SIC CODE	BUSINESS	THRESHOLD
801	Offices and Clinics of Doctors of Medicine	\$240
802	Offices and Clinics of Doctors of Dentists	\$170
803	Offices and Clinics of Doctors of Osteopathy	\$ 50
804	Offices and Clinics of Other Health Practitioners	\$110
805	Nursing and Personal Care Facilities	\$ 50
806	Hospitals	\$ 50
880	Home Health Care Service	\$ 50
809	Health and Allied Services	\$ 53
822	Colleges, Universities, Professional Schools, Junior Colleges	\$ 50
824	Vocational Schools	\$ 71
829	Schools and Educational Services	\$ 96
832	Individual and Family Social Services	\$ 50
833	Job Training and Vocational Rehabilitative Services	\$ 50
836	Residential Care	\$ 50
839	Social Services, not elsewhere classified	\$ 50

**Determine the Size Distribution of Affected Businesses:** Businesses affected by the proposed rule amendments will vary in size from smaller clinics with a few employees to hospitals with more than fifty employees.

**Compare the Small Businesses Cost of Compliance with That of the 10% Largest Businesses:** The economic impact statement identifies the costs of compliance for a small business at \$1,150, and the costs for a large business at \$2,540. The costs for small businesses to apply for a grant are less than one-half of the costs for a large business.

**Decisions on Mitigation:** The use of the letter of interest (LOI) process mitigates costs. The LOI is meant to weed out those applicants less likely to succeed in the full application, thereby not expending the additional costs of the full application. The requirements for application content were reviewed to determine if certain elements could be eliminated or minimized. The proposed rules require the minimum documentation necessary to enable the Department of Health to make fiscally responsible decisions. Requiring less information or documentation in the application will severely restrict our ability to make sound decisions in determining grant awards.

The total funds available are not adequate to fund all proposed projects, therefore, decisions need to be made to determine those most likely to succeed and have the greatest impact. Without adequate information, this would be impossible and may leave the department in a legally vulnerable position of having to defend our decisions.

Since the application costs for a small business is already substantially less than the costs for large business, and the department needs adequate information upon which to make fiscally responsible decisions, no additional mitigation options were considered.

**How the Agency Involved Small Businesses in the Development of the Rule:** The drafts of the proposed rule amendments were sent to over seven hundred constituent groups and individuals with an interest in health systems resources. The mailing included rural hospitals, rural health clinics, community and migrant health centers, economic development councils, area agency on aging offices, local health jurisdictions, community mental health centers, native American tribes, University of Washington, Area Health Education Center @ WSU Spokane, Western Washington Area Health Education Center, past grantees, and other individuals that have expressed an interest in this grant program.

Relatively few comments were received, but those received were reviewed and incorporated where applicable. A second mailing of the proposed rule amendments will accompany the announcement of the public hearing, which will be sent to the same distribution list indicated above. The public hearing will present the third opportunity for businesses and the public to comment on the rule.

**List Industries Required to Comply with the Rule:** Compliance with the rule is required only for businesses that decide to apply for a grant through the health systems resources program. Potential businesses that may be interested in applying for a grant include those listed above and include the following SIC Codes: 801, 802, 803, 804, 805, 806, 880, 809, 822, 824, 829, 832, 833, 836, and 839.

A copy of the statement may be obtained by writing to Office of Community and Rural Health, P.O. Box 47834, Olympia, WA 98504-7834, e-mail crhmail@doh.wa.gov, phone (360) 705-6770, fax (360) 664-9273.

Section 201, chapter 403, Laws of 1995, applies to this rule adoption. We determined that this rule might be considered a significant rule. The Department of Health is voluntarily providing an economic analysis, and economic impact statement, and a small business economic impact statement. Entities are not required to participate in this program. Residents in Washington state may substantially benefit from this program, and may be excluded from using the program based on the proposed WAC. Consequently we are treating this as a significant rule.

Hearing Location: 2725 N.W. Harrison Avenue, Suite 500, Olympia, WA 98504-7834, on January 7, 1999, at 9:30 a.m.

Assistance for Persons with Disabilities: Contact Lorraine Edwards by December 23, 1998, TDD (360) 664-0064, or (360) 705-6770.

Submit Written Comments to: Fax (360) 664-9273 by January 5, 1999.

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Date of Intended Adoption: January 7, 1999.

December 1, 1998  
Kris Van Gorkom  
Deputy Secretary

AMENDATORY SECTION (Amending Order 186, filed 8/7/91, effective 9/7/91)

**WAC 246-560-001 Purpose.** (1) The purpose of these rules is to implement RCW 70.175.010(~~(, 70.175.020, 70.175.030, 70.175.040, 70.175.050, 70.175.060, 70.175.070, 70.175.080, and)~~) through 70.175.090, and RCW 70.185.030 through 70.185.080. The Washington (~~rural~~) health systems (~~project~~) resources program includes rural health systems development and community-based recruitment and retention. The health systems resources program was established to provide financial and technical assistance to promote affordable access to health care services in rural (~~areas~~) and urban underserved populations of the state.

(2) The goals of the (~~rural~~) health systems (~~project~~) resources program are:

(a) (~~To encourage innovative or established community-based approaches to improving rural health care delivery systems that may serve as models for other communities.~~) To promote affordable access to health care services to residents in rural areas of Washington state.

(b) (~~To help rural communities obtain needed technical assistance for local activities designed to:~~

(i) ~~Identify a reasonable service delivery area in terms of geographic conditions, health care delivery patterns, and population characteristics;~~

(ii) ~~Identify desired health outcomes and improvements in the health care system;~~

(iii) ~~Identify and analyze deficiencies in the community's health care system;~~

(iv) ~~Identify innovative steps the community may need to correct the deficiencies; and~~

(v) ~~Initiate planned and positive actions to correct problems and make health care system improvements.~~

(c) ~~To explore the use of outcome targets related to health status for rural health system development.~~

(d) ~~To encourage the use of planning principles in the rural community health system decision making processes including:~~

(i) ~~Community decisions regarding expected health outcomes and health care services produced;~~

(ii) ~~Development of action plans; and~~

(iii) ~~The regular, periodic updating of objectives.~~

(e) ~~To identify public and private resources for:~~

(i) ~~Providing technical assistance to rural communities; and~~

(ii) ~~Facilitating community access to appropriate resources.)~~ To assure the availability of health care providers to:

(i) Residents of rural areas; and

(ii) Urban underserved populations.

## NEW SECTION

**WAC 246-560-002 Implementation.** The department may use the following methods to implement this chapter:

(1) Solicit and select projects as described in WAC 246-560-035 through 246-560-081.

(2) Offer, or contract for, services to carry out the purposes of this chapter.

AMENDATORY SECTION (Amending Order 186, filed 8/7/91, effective 9/7/91)

**WAC 246-560-010 Definitions.** For the purpose of this chapter the following words and phrases have the following meanings unless the context clearly indicates otherwise.

(1) (~~"Advisory committee" means the rural health advisory committee or its successor, appointed by the secretary under RCW 70.175.030(3).~~

(2)) "Applicant" means any ((eligible entity)) interested party who has ((submitted)) been invited to submit an application proposing a ((rural)) health systems ((demonstration)) resources project.

((3)) (2) "Application" means ((a)) an invited proposal for a ((rural)) health systems ((demonstration)) resources project.

((4)) ~~"Assisted demonstration project" means a non-funded application selected to receive specific technical assistance provided or supported by the department.~~

(5)) (3) "Basic health care services" means organized care modalities to prevent death, disability, and serious illness. The term includes, but is not limited to:

(a) Emergency services;

(b) Primary care physicians, physician assistants, nurse practitioners, and midwifery services;

(c) Short term inpatient care;

(d) Home health care;

(e) Community based care for chronic conditions;

(f) Dental care;

(g) Vision care;

(h) Hearing care;

(i) Hospice care;

(j) Mental health;

(k) Necessary support services; and

(l) Nutrition related services(~~and~~

~~(m) Other "basic health services" specified and described in "A Report to the Legislature on Rural Health Care in the State of Washington" written by the Washington rural health care commission, January 1989).~~

((6)) (4) "Catchment area" means the Washington state geographic area where people ((who are likely to use the service live or are temporarily located)) live who are to receive the basic health care services addressed by the project.

((7)) (5) "Community" means the resident individuals and organizations in a catchment area who may benefit from the basic health care services ((included in a demonstration)) addressed by the project.

((8)) (6) "Community-based" means that the need is identified by a broad section of the community including providers, institutions in the area, and nonhealth care provider members of the community such as community members of

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health care boards, economic development council members, organized patient advocacy groups, and others who have an interest in the long-term viability of health care services in the catchment area.

(7) "Department" means the Washington state department of health.

~~((9))~~ "Demonstration project" means an application selected to participate in the project, including both funded and assisted demonstration projects.

(10) "Eligible entity" means any for-profit, not-for-profit, or governmental entity which is:

(a) Located in a rural catchment area;

(b) Acting on behalf of the population in a rural catchment area; or

(c) Acting on behalf of the population living in a catchment area, a significant portion of which is rural, and in which the target population is more than thirty minutes average travel time from the primary source of health care.

(11) "Financially vulnerable" means a health care facility falling below a reasonable level of performance.

(a) For hospitals the department uses the *Financial Viability Index* and/or the *Financial Flexibility Index* to measure performance.

(b) For health care facilities other than hospitals the department considers:

(i) Financial viability or the overall financial performance of the facility; and/or

(ii) Financial flexibility or the ability of the facility to obtain financing to meet its needs, however unexpected.

(12) "Funded demonstration project" means an application selected by the department to receive funds to support planning, organizing, and implementing activities.

~~(13))~~ (8) "Deliverable" means a document that results from project activities. The term includes, but is not limited to:

(a) A form;

(b) An agreement;

(c) A plan;

(d) Documentation of numbers served;

(e) A report; or

(f) Presentation material.

(9) "Health care delivery system" means services ~~((and)),~~ personnel ~~((involved in providing health care to a population in a geographic area)),~~ and how they are organized and financed.

~~((14))~~ "Health care facility" means any land, structure, system, machinery, equipment, or other real or personal property or appurtenances useful for or associated with delivery of inpatient or outpatient health care service or support for such care or any combination thereof which is operated or undertaken in connection with a hospital, rural health care facility, clinic, health maintenance organization, diagnostic or treatment center, extended care facility, or any facility providing or designed to provide therapeutic, convalescent, or preventive health care services.

(15) "Interested party" means any eligible entity interested in proposing a rural health system development project.

~~(16))~~ (10) "Interested party" means an eligible entity that has submitted a letter of interest for a health systems resources project.

(11) "Letter of interest" means a brief description of a ~~((proposal for a demonstration))~~ project as described in WAC 246-560-040.

~~((17))~~ (12) "Letter of invitation" means a letter inviting an interested party who has submitted a letter of interest to submit an application.

~~((18))~~ (13) "Local project administrator" means an individual or organization representing the applicant and authorized to enter into legal agreements on behalf of the applicant.

~~((19))~~ (14) "Matching funds" means fifty percent of the total budget for recruitment and retention activities must be from a source other than this program. Matching funds may be in-kind contributions.

(15) "Metropolitan statistical area" or "MSA" means ~~((a metropolitan statistical))~~ an urban area defined and described by the United States Department of Census, Bureau of the Census, ~~((Statistical Abstract of United States: 1988, 108th edition, Washington, D.C., United States Government Printing Office, and displayed for the state of Washington))~~ and printed in the *State of Washington 1997 Data Book*, Office of Financial Management, Olympia, Washington ~~((, 1988, including))~~. The boundaries of all metropolitan statistical areas are county boundaries. The urban counties include:

(a) Benton;

(b) Clark;

(c) Franklin;

(d) Island;

(e) King;

~~((e))~~ (f) Kitsap;

~~((f))~~ (g) Pierce;

~~((g))~~ (h) Snohomish;

~~((h))~~ (i) Spokane;

~~((i))~~ (j) Thurston;

~~((j))~~ (k) Whatcom; and

~~((k))~~ (l) Yakima.

~~((20))~~ "Program" means the office of rural health, or its successor, within the Washington state department of health.

~~(21))~~ (16) "Outcome" means the anticipated result or impact of the project activities.

(17) "Project" means ~~((the Washington rural))~~ a health systems resources project ~~((as authorized under chapter 70.175 RCW)).~~

~~((22))~~ (18) "Rural" means a geographical area outside the boundaries of metropolitan statistical areas (MSA's) or an area within an MSA but more than thirty minutes average travel time from ~~((an area of at least ten thousand population))~~ a city or town or contiguous cities or towns with a population of ten thousand or more.

~~((23))~~ "Secretary" means the secretary of the department of health or his or her designee.

~~(24))~~ (19) "Successful applicant" means an applicant whose project has been selected ~~((as a demonstration project))~~ for contracting.

~~((25))~~ (20) "Urban underserved" means an area(s) within a MSA that ~~((are))~~ is thirty minutes average travel time or less from a city or town or contiguous cities or towns with a population of ten thousand or more, that has unmet health care needs.



(21) "Workplan" means a written document, usually in matrix form, that shows the detail of what is needed to complete a project. The activities, timeline, party responsible, budget, evaluation plan, and measurable outcome is shown for each deliverable.

#### NEW SECTION

**WAC 246-560-011 Activities.** (1) Health systems development activities include:

(a) The planning, development, and/or implementation of the infrastructure needed to support a cost effective health care delivery system. Examples of infrastructure development include:

- (i) Telemedicine and other communications systems;
- (ii) Modeling of managed care systems;
- (iii) Financial business systems;
- (iv) Clinical and quality assurance systems;
- (v) Development of cooperative agreements and referral arrangements between similar or dissimilar entities to ensure easy transition between care levels for patients and their families; and

(vi) Development of networks of providers and others, organized to share services, negotiate contracts and, plan new services or service delivery systems.

(b) The mobilization of community leaders to design, develop, and implement a project to maintain or improve the viability of the local health care delivery system. Examples of community mobilization include:

(i) Leaders from different governmental jurisdictions evaluate the health care delivery system or parts of the system, determine where changes are needed, and develop a workplan to affect the necessary changes;

(ii) Participants in the health care delivery system determine how to pool resources to eliminate service duplication or gaps, or, to focus on new identified priorities; and

(iii) Participants in the health care delivery system determine how to restructure the system, including the necessary legal, regulatory, fiscal, or practice actions that will accomplish the needed change.

(c) The planning, development, or implementation of a new basic health care service to meet an identified gap in the health care delivery system. Examples of new service development include:

(i) A service previously unavailable in the service area; and

(ii) A service previously unavailable to a portion of the population in the service area.

(2) Recruitment and retention activities may be funded, only to the extent that matching funds are provided. They include, but are not limited to:

(a) An assessment of community characteristics or assets, including school systems, housing, churches, recreational, social and cultural opportunities;

(b) An assessment of the community, physicians and other health care providers, community leaders and citizens about the need for new or replacement health care providers;

(c) A staff development plan;

(d) A recruitment plan;

(e) A recruitment and retention financial plan;

(f) A plan for providing a new practitioner with sufficient professional, intellectual and emotional support;

(g) A plan for call coverage to ensure adequate time off for personal and family pursuits;

(h) An assessment of office and hospital facilities, equipment and support personnel to determine if they are adequate to allow a new practitioner to practice in a high-quality manner; and

(i) A retention plan.

#### NEW SECTION

**WAC 246-560-025 Requests to receive information.**

Any interested party may be placed on the health systems resources mailing list maintained by the Department of Health, Office of Community and Rural Health, or its successor, P.O. Box 7834, Olympia, WA 98504-7834. Contacts on the mailing list will receive instructions for the next funding cycle.

#### NEW SECTION

**WAC 246-560-035 Eligibility.** (1) An interested party, may be a for-profit, not-for-profit, or governmental entity which is:

(a) Proposing services benefiting the population in a rural catchment area; and/or

(b) Proposing services benefiting an urban underserved area and including recruitment and retention activities.

(2) The majority of basic health services addressed by the project must be provided to people living in Washington state.

AMENDATORY SECTION (Amending Order 186, filed 8/7/91, effective 9/7/91)

**WAC 246-560-040 Letters of interest.** ~~(((1) Any interested party proposing a demonstration project shall submit a letter of interest. The letter shall follow the schedule in WAC 246-560-030 and:))~~ An interested party must submit a letter of interest to be considered for a health systems resources project. The department may solicit letters of interest.

The letter of interest must:

~~(((a)))~~ (1) Not exceed ~~two~~ three pages;

~~(((b)))~~ (2) Include the applicant name and address;

(3) Briefly describe the catchment area and the community;

~~(((e)))~~ (4) Identify the health systems resources program goal(s) addressed by the project;

(5) Identify the health care problem;

~~(((d)))~~ (6) Briefly describe ~~what will be done~~ proposed activities and the anticipated outcome; ~~and~~

~~(((e)))~~ (7) Identify key health care providers, business representatives, public officials, and community leaders to be involved in the project; and

(8) Indicate projected total project costs and the amount of state funding requested. If the project includes recruitment and retention activities, indicate the source or sources of matching funds.

~~((2) The department may request combining activities proposed in separate letters of interest for inclusion in a single application to:~~

- ~~(a) Avoid duplication;~~
- ~~(b) Increase cooperation; or~~
- ~~(c) Strengthen the overall health system serving the catchment area.~~

~~(3) The department may request additional information to enable it to apply the letter of interest selection criteria in WAC 246-560-050.))~~

## NEW SECTION

**WAC 246-560-045 Letter of interest review and action.** (1) Reviewers shall score letters of interest independently using a scoring system established by the department, which is incorporated by reference.

(2) Copies of the scoring system may be requested by writing to the Washington State Department of Health, Office of Community and Rural Health, P.O. Box 47834, Olympia, Washington 98504-7834.

(3) The director of the office of community and rural health shall make the final decision regarding letters of interest based on letter of interest scores and the best utilization of resources to promote the goals of the program.

(4) The department will send a written response to all interested parties who submit a letter of interest.

(5) The department may invite applications from some, none, or all of the interested parties who submit a letter of interest.

(a) The invitation will include:

- (i) Application content outline;
- (ii) Directions for completing applications; and
- (iii) Any letter of interest review comments to be addressed in the application.

(b) The department may request combining activities proposed by different interested parties for inclusion in a single application to:

- (i) Avoid duplication;
- (ii) Increase cooperation; or
- (iii) Strengthen the overall health care delivery system serving the catchment area.

(c) The department will set a due date for receipt of applications.

**AMENDATORY SECTION** (Amending Order 186, filed 8/7/91, effective 9/7/91)

**WAC 246-560-050** ~~((Letter of interest selection considerations.))~~ **Criteria for inviting applications.** ~~((The department shall consider the following factors to select interested parties to receive letters of invitation:~~

~~(1) The proposed demonstration project addresses the goals of the rural health system project specified under WAC 246-560-001;~~

~~(2) The proposed demonstration project is in an area where a financially vulnerable health care facility is present;~~

~~(3) The proposed demonstration project is in an area where a financially vulnerable health care facility is present~~

~~and an adjoining community in the same catchment area has a competing facility;~~

~~(4) The proposed demonstration project addresses access to basic health care services in an area where access is severely limited;~~

~~(5) The proposed demonstration project addresses needed improvements in the delivery of basic health services, including preventive services;~~

~~(6) The proposed demonstration project contains well thought out approaches to problem solving likely to result in improvements persisting after the project period;~~

~~(7) The proposed demonstration project reflects a cooperative approach, which may involve several organizations, categories of health care providers, and communities;~~

~~(8) The proposed demonstration project is unique and serves as a model for other communities; and~~

~~(9) The extent to which the proposed demonstration project uses multiple funding sources.))~~ **(1) The project addresses at least one of the goals of the health systems resources program, as described in WAC 246-560-001.**

**(2) The project addresses needed improvements in the delivery of basic health care services, including preventive services.**

**(3) The project reflects a cooperative approach, which may involve several organizations, categories of health care providers, or communities.**

**(4) The project can serve as a model for other communities.**

**(5) The project reflects priorities established for a particular funding cycle as set forth in the application materials.**

**(6) The project addresses access to basic health care services in an area where access is severely limited or inadequate; and**

**(7) If recruitment and retention of providers is identified as an outcome the application demonstrates:**

**(a) Recruitment and retention problems have been chronic; or**

**(b) The community is in need of primary care practitioners; or**

**(c) The community has unmet health care needs for specific target populations; and**

**(d) There is a fifty percent local funding match.**

**AMENDATORY SECTION** (Amending Order 186, filed 8/7/91, effective 9/7/91)

**WAC 246-560-060** ~~((Submission of))~~ **Application(s) content.** ~~((Applicants shall submit applications on the form provided by the department. The application shall, at a minimum, follow the time schedule in WAC 246-560-030 and:~~

~~(1) Describe the problem including:~~

~~(a) The duration of the problem or deficiency; and~~

~~(b) The number of people affected;~~

~~(2) Describe the catchment area. When the proposal involves a service or services not currently provided, the applicant shall demonstrate to the satisfaction of the department:~~

~~(a) A reasonable service delivery area in the sense that geographic conditions, health care delivery patterns, other~~

social and economic relationship patterns, and population characteristics make it a realistic market; and

(b) A reasonable use area from the perspective of the residents, in the sense that residents are likely to go to the proposed delivery site as a preferred source for the proposed service.

(3) Identify any special needs in the catchment area;

(4) Explain how the proposal addresses the goals identified in WAC 246-560-001 or why this proposal should be approved as a demonstration project if the goals are not addressed;

(5) Identify any model or models used in a proposed demonstration project;

(6) Describe the relationship between the proposed demonstration project and any current or previous programs designed in whole or in part to solve related health care problems in the catchment area;

(7) Identify key health care providers, business representatives, public officials, and community leaders involved in the project;

(8) Identify project goals, specific objectives, and procedures to assure results from the project consistent with the letter of interest;

(9) Specify the work program for achieving the objectives;

(10) Explain how the demonstration project will coordinate and avoid unnecessary duplication of services and activities with existing health services, including public and private health care services in the catchment area;

(11) Identify the potential and steps required to financially sustain the activities initiated as a result of the project;

(12) Describe how the applicant will evaluate the demonstration project;

(13) Describe the decision-making process or processes for determining appropriate courses of action throughout the demonstration project;

(14) Provide the proposed budget for the project period indicating:

(a) The amount of state funds requested;

(b) The amount by source of other financial support; and

(c) The schedule of payments requested from the state;

(15) Identify whether the proposal may be considered for:

(a) Designation as a funded demonstration project only;

or  
(b) Identify the portions of the proposal to be considered as an assisted demonstration project;

(16) Provide letters of support and commitment to participate from key providers, local government officials, and business and community leaders;

(17) Discuss any issues raised by the department in the letter of invitation.)) (1) A completed face sheet.

(2) A description of the applicant and its capacity to manage and oversee the project.

(3) A description of the proposed project including:

(a) Health systems resources program goal(s) addressed;

and  
(b) Health systems resources program priority addressed.

(4) A statement of the problem, including:

(a) The duration of the problem or deficiency;

(b) The number of people affected;

(c) How the problem has been documented;

(d) The community involvement in identifying the problem; and

(e) Special needs of the population to be served.

(5) A description of the catchment area(s) to be served by the project. The catchment area(s) must be a reasonable service delivery area such that:

(a) Geographic conditions, health care delivery patterns, other social and economic relationship patterns, and population characteristics make it a reasonable market; or

(b) Residents are likely to go to the proposed catchment area as a preferred source for the proposed services.

(6) A description of any model(s) used in the proposed project.

(7) A description of the relationship between the proposed project and current or previous programs designed to solve related health care problems in the catchment area.

(8) A description of the other individuals and entities involved in the project and their relationship with the applicant to implement the project. A copy of an organizational chart for the proposed project, lists of roles and responsibilities, or other items that document the relationship between the applicant and the involved activities may be submitted with the application.

(9) A workplan for what is needed to accomplish the project. For all major activities, include a timeline, entity responsible, funds needed and source of funds, and measurable outcome(s).

(10) A description of the evaluation process including measurable outcomes.

(11) A description of the plan for dissemination of information about the project.

(12) A detailed budget and budget justification for the project period, including:

(a) The amount of state funds requested;

(b) The amount, by source, of other financial or in-kind support and evidence of cost participation by the applicant and other entities involved in the project; if the application includes recruitment and retention activities, amounts by source(s) of matching funds must be identified;

(c) The steps required to financially sustain the project activities after state support had ended.

(13) Letters of agreement, support, commitment and contribution from each entity identified as participating in the project.

(14) Any additional information requested by the department in the letter of invitation.

## NEW SECTION

**WAC 246-560-065 Application screening criteria.** (1) The department will screen applications for the following criteria:

(a) Received in the Office of Community and Rural Health, P.O. Box 47834, Olympia, Washington 98504-7834; on or before the due date.

(b) One original application and two unbound copies provided, sufficiently legible to be copied. The department will determine legibility; and

(c) Application contains each of the items described in WAC 246-560-060.

(2) Applications that contain all screening criteria will be reviewed.

(3) If an application fails to contain any screening criterion, it will not be reviewed. The applicant will be notified in writing.

#### NEW SECTION

**WAC 246-560-075 Reviewer selection.** The department may consider the input of individuals outside the department who have expertise with rural and underserved communities. Selected reviewers must sign a statement:

(1) Agreeing to refrain from discussion of letters of interest or applications outside of the review process; and

(2) Asserting that they do not have a conflict of interest. A conflict of interest includes a reviewer:

(a) Holding a position in an organization under review;

(b) Having a significant financial interest in the outcome of the review; or

(c) Participating in the development of the letter of interest or application under review.

#### NEW SECTION

**WAC 246-560-077 Application review, selection, and funding.** (1) The department may, based on reviewer recommendations, funding limitations, or other considerations, offer funding to all, some or none of the applicants, and may offer to fund portions of projects.

(2) Reviewers shall score applications independently using a scoring system established by the department which is incorporated by reference.

(3) Copies of the scoring system may be requested by writing to the Washington State Department of Health, Office of Community and Rural Health, P.O. Box 47834, Olympia, Washington 98504-7834.

(4) The director of the office of community and rural health shall make the final decision regarding funding based on application scores, total funds available, and the best utilization of resources to promote the goals of the program.

#### NEW SECTION

**WAC 246-560-085 Appeal process.** (1) The following departmental actions are subject to administrative appeal:

(a) A decision not to invite an application;

(b) A determination that an application does not meet initial screening criteria and will not be reviewed; or

(c) A decision not to fund all or any portion of a project.

(3) The appeal process is governed by the Administrative Procedure Act (chapter 34.05 RCW), chapter 246-10 WAC, and this chapter.

(4) To initiate an appeal, the applicant must file a written request for an adjudicative proceeding within twenty-eight days of receipt of the department's decision. The request

shall be mailed, by a method showing proof of receipt, to the Adjudicative Clerk Office, P.O. Box 47879, 2413 Pacific Avenue, Olympia, Washington 98504-7879.

(5) The request must contain:

(a) A specific statement of the issue or issues and law involved;

(b) The grounds for contesting the department's decision; and

(c) A copy of the department's decision.

**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.

#### REPEALER

The following section of the Washington Administrative Code is repealed:

WAC 246-560-070 Selection criteria for funded demonstration projects.

#### **WSR 98-24-116**

#### **PROPOSED RULES**

#### **DEPARTMENT OF REVENUE**

[Filed December 2, 1998, 10:42 a.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 98-20-086.

Title of Rule: WAC 458-16A-010 Nonprofit homes for the aging.

Purpose: The rule explains the basis and requirements for property tax exemption, both partial and total, for homes for the aging.

Statutory Authority for Adoption: RCW 84.36.041 and 84.36.865.

Statute Being Implemented: RCW 84.36.041.

Summary: The amendments to this rule pertain to the set-aside requirements regarding the number of dwelling units reserved for low-income residents for homes for the aging when the home refinances its existing tax-exempt indebtedness. The amendments address the concerns of the Washington Association of Housing and Services for the Aging and the unintended results of the current set-aside requirements in the rule.

Reasons Supporting Proposal: When the current rule was adopted in 1995, the participants in the rule-making process failed to consider all the ramifications of a brand new facility financed with tax exempt bonds, which initially met the low-income set-aside requirements, needing to refinance because of interest rate changes or market growth. If such a facility is required to meet the higher set-aside requirements for low-income residents contained in the current rule, the facility may lose its capacity to serve low-income elders because it may lose its tax exempt status or ability to refinance.

Name of Agency Personnel Responsible for Drafting: Kim Qually, 711 Capitol Way South, #303, Olympia, WA, (360) 664-0086; Implementation and Enforcement: Sandy

Guilfoil, 6004 Capitol Boulevard, Tumwater, WA, (360) 753-5503.

Name of Proponent: Department of Revenue, governmental.

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

Explanation of Rule, its Purpose, and Anticipated Effects: The rule explains requirements that must be met to receive a total or partial property tax exemption for nonprofit homes for the aging. The proposed amendments revise the set-aside requirements regarding the number of dwelling units reserved for low-income residents of homes for the aging when the home refinances its existing tax-exempt indebtedness. This will allow nonprofit homes for the aging to retain their property tax exemption if they maintain their original set-aside requirements when refinancing existing tax-exempt indebtedness.

Proposal Changes the Following Existing Rules: This is a proposal to revise an existing rule. The proposed amendments address the concerns of the Washington Association of Housing and Services for the Aging and the unintended results of the current set-aside requirements in the rule. The current rule provides higher set-aside requirements for low-income residents if a facility refinances existing tax-exempt bonds. The proposed amendments allow nonprofit homes for the aging to retain their property tax exemption if they maintain their original set-aside requirements when refinancing existing tax-exempt indebtedness.

No small business economic impact statement has been prepared under chapter 19.85 RCW. The proposed amendments do not impose a performance requirement or impose costs upon any small businesses that are not already required by statute.

Section 201, chapter 403, Laws of 1995, does not apply to this rule adoption. This is an interpretive rule that explains the department's application of the statute providing a property tax exemption for nonprofit homes for the aging.

Hearing Location: Evergreen Plaza Building, 2nd Floor Conference Room, 711 Capitol Way South, Olympia, WA 98502, on January 5, 1999, at 10:00 a.m.

Assistance for Persons with Disabilities: Contact Virginia Sunde by December 29, 1998, TDD 1-800-451-7985, or (360) 586-8640.

Submit Written Comments to: Kim Qually, Department of Revenue, P.O. Box 47467, Olympia, WA 98504-7467, fax (360) 664-0693, e-mail kimq@dor.wa.gov, by January 5, 1999.

Date of Intended Adoption: January 15, 1999.

December 2, 1998

Claire Hesselholt, Rules Manager  
Legislation and Policy Division

**AMENDATORY SECTION** (Amending WSR 95-06-041, filed 2/24/95, effective 3/27/95)

**WAC 458-16A-010 Nonprofit homes for the aging.**

(1) **Introduction.** Under RCW 84.36.041, a nonprofit home for the aging may be totally or partially exempt from property tax. This section explains the exemptions allowed and the criteria that must be met in order to receive an exemption under

this statute. Throughout this section, all requirements will pertain to all types of homes for the aging including, but not limited to, adult care homes, assisted living facilities, continuing care retirement communities (CCRC), and independent housing, unless a particular type of home is separately identified.

(2) **Definitions.** For purposes of this section, the following definitions apply:

(a) "Acquisition" means that an existing home for the aging (or home) currently in operation is acquired by a nonprofit organization and the ownership of the facility will change as a result of a purchase, gift, foreclosure, or other method.

(b) "Assistance with activities of daily living" means the home provides, brokers, or contracts for the provision of auxiliary services to residents, such as meal and housekeeping service, transportation, ambulatory service, and attendant care including, but not limited to, bathing and other acts related to personal hygiene, dressing, shopping, food preparation, monitoring of medication, and laundry services.

(c) "Combined disposable income" means the disposable income of the person submitting the income verification form, plus the disposable income of his or her spouse, and the disposable income of each cotenant occupying the dwelling unit for the preceding calendar year, less amounts paid by the person submitting the income verification form or his or her spouse or cotenant during the previous year for the treatment or care of either person received in the dwelling unit or in a nursing home.

(i) If the person submitting the income verification form was retired for two months or more of the preceding calendar year, the combined disposable income of the person will be calculated by multiplying the average monthly combined disposable income of the person during the months the person was retired by twelve.

(ii) If the income of the person submitting the income verification form is reduced for two or more months of the preceding calendar year (~~by reason~~) because of the death of the person's spouse, the combined disposable income of the person will be calculated by multiplying the average monthly combined disposable income of the person after the death of the spouse by twelve.

(d) "Complete and separate dwelling units" means that the individual units of a home contain complete facilities for living, sleeping, cooking, and sanitation.

(e) "Construction" means the actual construction or building of all or a portion of a home that did not exist prior to the construction.

(f) "Continuing care retirement community" or "CCRC" means an entity that provides shelter and services under continuing care contracts with its residents or includes a health care facility or health service.

(g) "Continuing care contract" means a contract to provide a person, for the duration of that person's life or for a term in excess of one year, shelter along with nursing, medical, health-related or personal care services, that is conditioned upon the transfer of property, the payment of an entrance fee to the provider of the services, and/or the payment of periodic charges in consideration for the care and services provided. A continuing care contract is not excluded

from this definition because the contract is mutually terminable or because shelter and services are not provided at the same location.

(h) "Cotenant" means a person who resides with an eligible resident and who shares personal financial resources with the eligible resident.

(i) "Disposable income" means adjusted gross income as defined in the federal Internal Revenue Code, as amended prior to January 1, 1994, plus all of the following items to the extent they are not included in or have been deducted from adjusted gross income:

(i) Capital gains, other than nonrecognized gain on the sale of a principal residence under section 1034 of the federal Internal Revenue Code, or gain excluded from income under section 121 of the federal Internal Revenue Code to the extent it is reinvested in a new principal residence;

(ii) Amounts deducted for loss;

(iii) Amounts deducted for depreciation;

(iv) Pension and annuity receipts;

(v) Military pay and benefits other than attendant-care and medical-aid payments;

(vi) Veterans benefits other than attendant-care and medical-aid payments;

(vii) Federal Social Security Act and railroad retirement benefits;

(viii) Dividend receipts; and

(ix) Interest received on state and municipal bonds.

(j) "Eligible resident" means a person who:

(i) Occupied the dwelling unit as a principal place of residence as of January 1st of the year in which the claim for exemption is filed. The exemption will not be nullified if the eligible resident is confined to a hospital or nursing home and the dwelling unit is temporarily unoccupied or occupied by a spouse, a person financially dependent on the claimant for support, or both;

(ii) Is sixty-one years of age or older on December 31st of the year in which the claim for exemption is filed, or is, at the time of filing, retired from regular gainful employment by reason of physical disability. A surviving spouse of a person who was receiving an exemption at the time of the person's death will qualify for this exemption if the surviving spouse is fifty-seven years of age or older and otherwise meets the requirements of this subsection; and

(iii) Has a combined disposable income that is no more than the greater of twenty-two thousand dollars or eighty percent of the median income adjusted for family size as determined by the federal Department of Housing and Urban Development (HUD) for the county in which the person resides and in effect as of January 1 of the year the application for exemption is submitted.

(k) "Home for the aging" or "home" means a residential housing facility that:

(i) Provides a housing arrangement chosen voluntarily by the resident, the resident's guardian or conservator, or another responsible person;

(ii) Has only residents who are at least sixty-one years of age or who have needs for care generally compatible with persons who are at least sixty-one years of age; and

(iii) Provides varying levels of care and supervision, as agreed to at the time of admission or as determined necessary at subsequent times of reappraisal.

(l) "HUD" means the federal Department of Housing and Urban Development.

(m) "Local median income" means the median income adjusted for family size as most recently determined by HUD for the county in which the home is located and in effect on January 1st of the year the application for exemption is submitted.

(n) "Low income" means that the combined disposable income of a resident is eighty percent or less of the median income adjusted for family size as most recently determined by HUD for the county in which the home is located and in effect as of January 1st of the year the application for exemption is submitted.

(o) "Occupied dwelling unit" means a living unit that is occupied on January 1st of the year in which the claim for exemption is filed.

(p) "Property that is reasonably necessary" means all property that is:

(i) Operated and used by a home; and

(ii) The use of which is restricted to residents, guests, or employees of a home.

(q) "Refinancing" means the discharge of an existing debt with funds obtained through the creation of new debt. For purposes of this section, even if the application for tax exempt bond financing to refinance existing debt is treated by the financing agent as something other than refinancing, an application for a property tax exemption because of refinancing by tax exempt bonds will be treated as refinancing and the set-asides specific to refinancing will be applied. "Refinancing" shall include tax exempt bond financing in excess of the amount of existing debt that is obtained to modify, improve, restore, extend, or enlarge a facility currently being operated as a home.

(r) "Rehabilitation" means that an existing building or structure, not currently used as a home, will be modified, improved, restored, extended, or enlarged so that it will be used as a home for elderly and disabled individuals. A project will be considered a rehabilitation if the costs of rehabilitation exceed five thousand dollars. If a home has acquired tax exempt bond financing and does not meet the definition of "rehabilitation" contained in this subsection, the home may be eligible for a total exemption under the "refinancing" definition and if it meets the "refinancing" set-aside requirements. If such a home is not eligible for a total exemption, the department will determine the home's eligibility for a partial exemption in accordance with the pertinent parts of RCW 84.36.041 and this section.

(s) "Set-aside(s)" means the percentage of dwelling units reserved for low-income residents when the construction, rehabilitation, acquisition, or refinancing of a home is financed under a financing program using tax exempt bonds.

(t) "Shared dwelling units" or "shared units" means individual dwelling units of a home that do not contain complete facilities for living, eating, cooking, and sanitation.

(u) "Taxable value" means the value of the home upon which the tax rate is applied in order to determine the amount of property taxes due.

(v) "Total amount financed" means the total amount of financing required by the home to fund construction, acquisition, rehabilitation, or refinancing. Seventy-five percent of this amount must be supplied by tax exempt bonds to receive the total exemption from property tax available under the tax exempt bond financing provision of RCW 84.36.041.

(3) **General requirements.** To be exempt under this section, a home for the aging must be:

(a) Exclusively used for the purposes for which exemption is granted, except as provided in RCW 84.36.805;

(b) Operated by an organization that is exempt from income tax under section 501(c) of the federal Internal Revenue Code; and

(c) The benefit of the exemption must inure to the home.

(4) **Total exemption.** There are three ways in which a home may be totally exempt from property tax. All real and personal property used by a nonprofit home that is reasonably necessary for the purposes of the home is exempt if it meets the general requirements listed in subsection (3) of this section and:

(a) At least fifty percent of the occupied dwelling units in the home are occupied by eligible residents;

(b) The home is subsidized under a HUD program; or

(c) The construction, rehabilitation, acquisition, or refinancing of a home is financed under a program using bonds exempt from federal income tax if at least seventy-five percent of the total amount financed uses tax exempt bonds and the financing program requires the home to reserve or set-aside a percentage of all dwelling units so financed for low-income residents. See subsections (5), (6), and (7) of this section for tax exempt bond requirements and the percentage of units that must be set-aside for low-income residents in order for the home to be totally exempt.

(5) **Homes or CCRCs financed by tax exempt bonds—Generally.** All real and personal property used by a nonprofit home or CCRC may be totally exempt from property tax if at least seventy-five percent of the total amount financed for construction, rehabilitation, acquisition, or refinancing uses tax exempt bonds and the financing program requires the home or CCRC to reserve or set-aside a percentage of all dwelling units so financed for low-income residents.

(a) The percentage of set-aside units required will vary depending on whether the home is a CCRC, the purpose for which the tax exempt bond financing was obtained, the type of dwelling unit, and the receipt of Medicaid funds. The set-aside requirements for homes are set forth in subsection (6) of this section and for CCRCs are set forth in subsection (7) of this section.

(b) The exemption will be granted in direct correlation between the total amount financed by tax exempt bonds and the portion of the home or CCRC that is constructed, acquired, rehabilitated, or refinanced by tax exempt bonds.

(c) If tax exempt bonds are used for refinancing, the set-aside requirements set forth in subsections (6) and (7) of this section will be applied to the actual area or portion of the home or CCRC to which the bonds correspond.

(i) Example 1. A CCRC (that accepts Medicaid funds) is composed of a multistory building, six duplexes, and two independent homes and the CCRC has secured tax exempt

bonds to satisfy an existing mortgage on the multistory building. Only the multistory building will be considered eligible for a total exemption from property tax because of tax exempt bond financing. To receive the exemption, at least twenty percent of the dwelling units of the multistory building must be set-aside for residents at or below fifty percent of the local median income or at least forty percent of the dwelling units must be set-aside for residents at or below sixty percent of the local median income.

(ii) Example 2. A home obtains tax exempt bonds to refinance a portion of the home and to fund construction. The department will separately consider the area of the home that corresponds to the purpose for which the tax exempt bonds were obtained. The set-aside requirements related to refinancing will be applied to the portion of the home that corresponds to the mortgage being refinanced and the set-aside requirements related to construction will be applied to the area of the home to be newly constructed. The department will determine the eligibility for partial exemption of the remainder of the home that is not being refinanced or constructed.

(d) If a total exemption is granted under the tax exempt bond financing provision, the total exemption will remain in effect as long as:

(i) The home or CCRC remains in compliance with the requirements under which it received the tax exempt bonds;

(ii) The tax exempt bonds are outstanding; and

(iii) The set-aside requirements are met.

(e) If a home or CCRC has obtained tax exempt bond financing to modify, improve, restore, extend, or enlarge its existing facility and the project does not meet the definition of rehabilitation contained in subsection (2) of this section, the project will not be considered a rehabilitation and the set-aside requirements related to refinancing or acquisition will be applied in determining eligibility for a total exemption.

(f) When a home or CCRC no longer meets the criteria for exemption under the tax exempt bond financing portion of the statute, eligibility for exemption under RCW 84.34.041 will be determined by the other provisions of the statute. In other words, a home may receive a total or partial exemption depending on the number of residents who are deemed to be "eligible residents" or who require "assistance with activities of daily living." For example, if a home that previously received a total exemption due to the receipt of tax exempt bond financing has one hundred dwelling units and sixty of those dwelling units are occupied by eligible residents, the home may receive a total exemption.

(6) **Set-aside requirements related to homes and tax exempt bond financing.** A specified number of dwelling units within a home must be set-aside for low income residents to obtain a total property tax exemption because of tax exempt bond financing. The set-aside requirements for homes will be determined according to the type of dwelling units contained in the home and the purpose for which the tax exempt bond financing was obtained. The provisions of this section do not apply to CCRCs. The specific set-aside requirements for CCRCs are described in subsection (7) of this section.

~~((a) Complete and separate dwelling units construction or rehabilitation. If financing was obtained for the construc-~~

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tion or rehabilitation of a home with any complete and separate units, the following set-asides will apply:

(i) Ten percent of the total dwelling units financed must be set aside for residents with incomes at or below eighty percent of the local median income; and

(ii) Ten percent of the total dwelling units must be set aside for residents at or below fifty percent of the local median income.

(b) Complete and separate dwelling units—acquisition or refinancing. If financing was obtained to acquire or refinance a home with any complete and separate units, the following set-asides will apply:

(i) Twenty percent of the total dwelling units financed must be set aside for residents with incomes at or below fifty percent of the local median income; or

(ii) Forty percent of the total dwelling units must be set aside for residents at or below sixty percent of the local median income.

(c) Shared dwelling units—construction, rehabilitation, acquisition, or refinancing. If financing was obtained for the construction, rehabilitation, acquisition, or refinancing of a home with only shared units, the following set-asides apply:

(i) Ten percent of the total dwelling units financed must be set aside for residents with incomes at or below eighty percent of the local median income; and

(ii) Ten percent of the total dwelling units must be set aside for residents at or below fifty percent of the local median income.) A home must meet the following set-aside requirements to be totally exempt from property tax:

<u>PURPOSE OF BOND FINANCING</u>	<u>TYPE OF DWELLING UNIT</u>	<u>SET-ASIDE REQUIREMENTS</u>
<u>New construction or Rehabilitation</u>	<u>Complete Separate units</u>	<u>10% of total units set-aside for residents at or below 80% of local median income and 10% of total units set-aside for residents at or below 50% of local median income</u>
<u>Acquisition or Refinancing of dwelling units currently satisfying 10% and 10% set-aside requirements</u>	<u>Complete Separate units</u>	<u>10% of total units set-aside for residents at or below 80% of local median income and 10% of total units set-aside for residents at or below 50% of local median income</u>

<u>PURPOSE OF BOND FINANCING</u>	<u>TYPE OF DWELLING UNIT</u>	<u>SET-ASIDE REQUIREMENTS</u>
<u>Acquisition or Refinancing of dwelling units not currently satisfying 10% and 10% set-aside requirements</u>	<u>Complete Separate units</u>	<u>20% of total units set-aside for residents at or below 50% of local median income or 40% of total units set-aside for residents at or below 60% of local median income</u>
<u>Acquisition, New Construction, Refinancing, or Rehabilitation</u>	<u>Shared units</u>	<u>10% of total units set-aside for residents at or below 80% of local median income and 10% of total units set-aside for residents at or below 50% of local median income</u>

(7) **Set-aside requirements related to CCRCs and tax exempt bond financing.** A specified number of dwelling units of a CCRC must be set-aside for low income residents to obtain a total property tax exemption because of tax exempt bond financing. The set-aside requirements for CCRCs will be determined by whether the CCRC does or does not have Medicaid contracts for continuing care contract residents and the purpose for which the tax exempt bond financing was obtained. The provisions of this section do not apply to other homes. The specific set-aside requirements for other homes are described in subsection (6) of this section.

(a) The continuing care contract between the resident and the CCRC is a contract to provide shelter along with nursing, medical, health-related or personal care services to the resident for the duration of the resident's life or for a term in excess of one year. A resident's tenancy may not be terminated due to inability of the resident to fully pay the monthly service fee when the resident establishes facts to justify a waiver or reduction of these charges. This provision shall not apply if the resident, without the CCRC's consent, has impaired his and/or her ability to meet financial obligations required by the continuing care contract due to a transfer of assets, after signing the continuing care contract, other than to meet ordinary and customary living expenses, or by incurring unusual or unnecessary new financial obligations.

(b) A CCRC without Medicaid contracts for continuing care contract residents may not receive Medicaid funds from Washington state or the federal government during the term that the bonds are outstanding, except during the initial transition period as allowed by state law or if the regulatory agreement with the tax exempt bond financier exempts the CCRC from compliance with this requirement.

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(c) ~~The following set-aside requirements must be met by CCRCs not receiving Medicaid funds (including CCRCs that are permitted to receive Medicaid funds during an initial transition period only) ((—construction or rehabilitation. If financing was obtained for the construction or rehabilitation of a CCRC without Medicaid contracts for continuing care contract residents, the following set-asides apply:~~

~~(i) Ten percent of the total dwelling units financed must be set aside for residents with incomes at or below eighty percent of the local median income; and~~

~~(ii) Fifteen percent of the total dwelling units must be set aside for residents at or below one hundred percent of the local median income.~~

~~(d) CCRCs not receiving Medicaid funds (including CCRCs that are permitted to receive Medicaid funds during an initial transition period only) — acquisition or refinancing. If financing was obtained to acquire a CCRC or to refinance a CCRC without Medicaid contracts for continuing care contract residents, the following set-asides apply:~~

~~(i) Twenty percent of the total dwelling units financed must be set aside for residents with incomes at or below fifty percent of the local median income; or~~

~~(ii) Forty percent of the total dwelling units must be set aside for residents at or below sixty percent of the local median income:)) to receive a total exemption:~~

<u>PURPOSE OF BOND FINANCING</u>	<u>SET-ASIDE REQUIREMENTS</u>
<u>New construction or Rehabilitation</u>	<u>10% of total units set-aside for residents at or below 80% of local median income and 15% of total units set-aside for residents at or below 100% of local median income</u>
<u>Acquisition or Refinancing of dwelling units currently satisfying 10% and 15% set-aside requirements</u>	<u>10% of total units set-aside for residents at or below 80% of local median income and 15% of total units set-aside for residents at or below 100% of local median income</u>
<u>Acquisition or Refinancing of dwelling units not currently satisfying 10% and 15% set-aside requirements</u>	<u>20% of total units set-aside for residents at or below 50% of local median income or 40% of total units set-aside for residents at or below 60% of local median income</u>

~~((e)) (d) The following set-aside requirements must be met by CCRCs receiving Medicaid funds((—construction or rehabilitation. If financing was obtained for the construction or rehabilitation of a CCRC with Medicaid contracts for continuing care contract residents, the following set-asides apply:~~

~~(i) Ten percent of the total dwelling units financed must be set aside for residents with incomes at or below eighty percent of the local median income; and~~

~~(ii) Ten percent of the total dwelling units must be set aside for residents at or below fifty percent of the local median income.~~

~~(f) CCRCs receiving Medicaid funds — acquisition or refinancing. If financing was obtained to acquire a CCRC or to refinance a CCRC with Medicaid contracts for continuing care contract residents, the following set-asides apply:~~

~~(i) Twenty percent of the total dwelling units financed must be set aside for residents with incomes at or below fifty percent of the local median income; or~~

~~(ii) Forty percent of the total dwelling units must be set aside for residents at or below sixty percent of the local median income:)) to receive a total exemption:~~

<u>PURPOSE OF BOND FINANCING</u>	<u>SET-ASIDE REQUIREMENTS</u>
<u>New construction or Rehabilitation</u>	<u>10% of total units set-aside for residents at or below 80% of local median income and 10% of total units set-aside for residents at or below 100% of local median income</u>
<u>Acquisition or Refinancing of dwelling units currently satisfying 10% and 10% set-aside requirements</u>	<u>10% of total units set-aside for residents at or below 80% of local median income and 10% of total units set-aside for residents at or below 100% of local median income</u>
<u>Acquisition or Refinancing of dwelling units not currently satisfying 10% and 10% set-aside requirements</u>	<u>20% of total units set-aside for residents at or below 50% of local median income or 40% of total units set-aside for residents at or below 60% of local median income</u>

(8) **Partial exemption.** If a home does not qualify for a total exemption from property tax, the home may receive a partial exemption for its real property on a unit by unit basis and a total exemption for its personal property.

(a) **Real property exemption.** If the real property of a home is used in the following ways, the portion of the real property so used will be exempt and the home may receive a partial exemption for:

(i) Each dwelling unit occupied by a resident requiring significant assistance with activities of daily living;

(ii) Each dwelling unit occupied by an eligible resident; and

(iii) Common or shared areas of the home that are jointly used for two or more purposes that are exempt from property tax under chapter 84.36 RCW.

(b) **Assistance with activities of daily living.** A home may receive a partial exemption for each dwelling unit that is occupied by a resident who requires significant assistance with the activities of daily living and the home provides, bro-

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kers, facilitates, or contracts for the provision of this assistance. A resident requiring assistance with the activities of daily living must be a resident who requires significant assistance with at least three of the nonexclusive list of activities set forth below and who, unless he or she receives the assistance, would be at risk of being placed in a nursing home. Activities of daily living include, but are not limited to:

- (i) Shopping;
- (ii) Meal and/or food preparation;
- (iii) Housekeeping;
- (iv) Transportation;
- (v) Dressing;
- (vi) Bathing;
- (vii) General personal hygiene;
- (viii) Monitoring of medication;
- (ix) Ambulatory services;
- (x) Laundry services;
- (xi) Incontinence management; and
- (xii) Cuing for the cognitively impaired.

(c) Examples of assistance with the activities of daily living:

(i) If the resident of a home requires someone to assist him or her with daily dressing, bathing, and personal hygiene, weekly housekeeping chores, and daily meal preparation, he or she is a resident requiring significant assistance with activities of daily living and the home may receive a partial exemption for the dwelling unit in which he or she resides.

(ii) If the resident of a CCRC only requires someone to clean his or her house weekly and to do the laundry weekly, the resident does not require significant assistance with activities of daily living and the CCRC may not receive a partial exemption for the dwelling unit.

(d) Common or shared areas. Areas of a home that are jointly used for two or more purposes exempt from property tax under chapter 84.36 RCW will be exempted under RCW 84.36.041.

(i) The joint use of the common or shared areas must be reasonably necessary for the purposes of the nonprofit organization, association, or corporation exempt from property tax under chapter 84.36 RCW. A kitchen, dining room, and laundry room are examples of the types of common or shared areas for which a partial property tax exemption may be granted.

(ii) Example. A nonprofit organization uses its facility as a home for the aging and a nursing home. The home and nursing home jointly use the kitchen and dining room. The home may receive a property tax exemption for the common or shared areas under RCW 84.36.041. The eligibility of the other areas of the facility will be determined by the appropriate statute. The home's eligibility will be determined by RCW 84.36.041 and the nursing home's eligibility will be determined by RCW 84.36.040.

(e) Amount of partial exemption. The amount of partial exemption will be calculated by multiplying the assessed value of the property reasonably necessary for the purposes of the home, minus/less the assessed value of any common or shared areas, by a fraction. The numerator of the fraction is the number of the dwelling units occupied on January 1st of the assessment year by eligible residents and by residents requiring assistance with activities of daily living. The

denominator of the fraction is the total number of occupied dwelling units as of January 1st of the assessment year. Example:

Assessed value of home:	\$500,000
Less assessed value of common area:	- 80,000
Total	\$420,000

Number of units occupied on 1/1 by eligible residents and people requiring assistance with daily living activities =	6
Total of occupied units on 1/1	40 or .15

$\$420,000 \times .15 = \$63,000$  Amount of partial exemption  
 $\$420,000 - \$63,000 = \$357,000$  Taxable value of home

(f) Valuation of the home. The assessor will value a home that receives a partial exemption by considering only the current use of the property during the period in which the partial exemption is received and will not consider any potential use of the property.

(9) **Income verification required from some residents.** If a home seeks a total property tax exemption because at least fifty percent of the occupied dwelling units are occupied by eligible residents or seeks to receive a partial exemption based upon the number of units occupied by eligible residents, the residents must submit income verification forms. The department may request income verification forms from residents of homes receiving a total exemption because of tax exempt bond financing.

(a) The income verification forms must be submitted to the assessor of the county in which the home is located by July 1st of the assessment year in which the application for exemption is made.

(b) The income verification form will be prescribed and furnished by the department of revenue.

(c) If an eligible resident filed an income verification form for a previous year, he or she is not required to submit a new form unless there is a change in status affecting the resident's eligibility, such as a significant increase or decrease in disposable income, or the assessor or the department requests a new income verification form to be submitted.

(10) ~~(Three-year phase in for a home with increased taxable value. If the taxable value of a home is increased because of the change in the method of calculating the amount of partial exemption, the increased taxable value shall be phased in over a period of three years.~~

~~(a) Eligibility requirements for phase in. If the home meets the following conditions the increased taxable value may be phased in:~~

~~(i) The home was exempt or partially exempt for taxes levied in 1993 for collection in 1994;~~

~~(ii) The home is partially exempt for taxes levied in 1994 for collection in 1995; and~~

~~(iii) The taxable value of the home increased for taxes levied in 1994 for collection in 1995 due to the change prescribed by chapter 151, Laws of 1993 with respect to the numerator of the fraction used to determine the amount of partial exemption.~~

~~(b) Method of phase in. The increase in taxable value shall be phased in as follows:~~

PROPOSED

<u>Column 1</u> Year	<u>Column 2</u> Value after partial exemption	<u>Column 3</u> Increase in Value (Col. 2 minus TV from Prior Year)	<u>Column 4</u> Annual % of Increase to be Paid	<u>Column 5</u> Amount of Increase to be Paid (Col. 3 * Col. 4)	<u>Column 6</u> Taxable Value ("TV") (Col. 5 + TV from Prior Year)
1993	\$292,300-	—	—	—	\$292,300
1994	\$357,000*	\$64,700	33.00%	\$21,351	\$313,651
1995	\$336,000**	\$22,349	50.00%	\$11,175	\$324,826
1996	\$325,500-	\$674-	100.00%-	\$674-	\$325,500
1997	\$367,500-	—	—	—	\$367,500

\* This value is a continuation of the example in subsection (8)(e) of this section.

\*\* For the purposes of this example, we are assuming that the home is located in a county on a four year revaluation cycle and that value of this home after the partial exemption will fluctuate each year because the number of eligible residents and residents who require assistance with the activities of daily living will change each year. In this example, the number of units exempt from property tax within the home used in the example in subsection (8)(e) are as follows: Eight in 1995, nine in 1996, and five in 1997.

~~(i) For taxes levied in 1994 for collection in 1995, the home will pay taxes based on the taxable value in 1993 plus one-third of the increase in the taxable value from 1993 to the taxable value calculated under subsection (8)(e) of this section.~~

~~(ii) For taxes levied in 1995 for collection in 1996, the home will pay taxes based on the taxable value in 1994 plus one-half of the increase in the taxable value from 1994 to the taxable value calculated under subsection (8)(e) of this section.~~

~~(iii) For taxes levied in 1996 for collection in 1997 and for taxes levied thereafter, this subsection does not apply and the home will pay taxes on the taxable value without reference to this subsection.~~

~~(c) Example: Assume, for the purposes of this example, in 1993 the assessed value of a home was \$475,000, the value of the shared area was \$80,000, and twenty-six percent of the units were exempt. Therefore, the assessed value minus the value of the shared area or \$395,000 multiplied by .74 = a taxable value of \$292,300.~~

~~(11)) Additional requirements. Any nonprofit home for the aging that applies for a property tax exemption under this section must also comply with the provisions of WAC 458-16A-020 and 458-16-165. WAC 458-16A-020 contains information regarding the initial application and renewal procedures relating to the exemption discussed in this section. WAC 458-16-165 sets forth additional requirements that must be complied with to obtain a property tax exemption pursuant to RCW 84.36.041.~~

**WSR 98-24-118**  
**PROPOSED RULES**  
**SUPERINTENDENT OF**  
**PUBLIC INSTRUCTION**  
 [Filed December 2, 1998, 10:50 a.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 98-21-020.

Title of Rule: Enrollment reporting and state funding for alternative learning experience and contracted instruction, WAC 392-121-107 through 392-121-210 and 392-134-020.

Purpose: To increase program accountability, increase flexibility for distance learning and part-time enrollment, align alternative learning plans with education reform, and integrate the 1997 law allowing contracting for at-risk alternative education.

Statutory Authority for Adoption: RCW 28A.150.260 (2)(c), 28A.150.290, 28A.150.305(4).

Statute Being Implemented: Chapter 265, Laws of 1997.

Summary: Alternative learning experience program standards are clarified, student learning plans are strengthened and linked to learning goals. Schools are allowed to contract for alternative learning experience programs for at-risk students.

Reasons Supporting Proposal: Changes respond to developments in state education reform, new distance learning technology, and a need for greater accountability. Changes also allow contracting pursuant to chapter 265, Laws of 1997.

Name of Agency Personnel Responsible for Drafting: Melinda Brown, Office of Superintendent of Public Instruction, (360) 753-2298; Implementation: Allen Jones, Office of Superintendent of Public Instruction, (360) 753-2298; and Enforcement: Mike Bigelow, Office of Superintendent of Public Instruction, (360) 753-2298.

Name of Proponent: Office of Superintendent of Public Instruction, governmental.

Agency Comments or Recommendations, if any, as to Statutory Language, Implementation, Enforcement, and Fiscal Matters: In addition to the public hearing shown below, the Office of Superintendent of Public Instruction plans to solicit public comment through a video teleconference during the week of January 11-15, 1999 (date and time to be determined). The video conference will allow participation from several sites around the state.

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

PROPOSED

Explanation of Rule, its Purpose, and Anticipated Effects: Accountability for alternative learning experience is increased by: Clarifying program standards and stressing school district control of the program; requiring monthly student evaluations, annual student assessments, and annual reporting of enrollment; and requiring school board resolutions to identify responsible administrators and to be filed with the Office of Superintendent of Public Instruction.

Flexibility for distance learning is increased by allowing student/teacher contact requirements to be waived. Flexibility is provided for part-time enrollment in alternative learning experience by home-based students.

Alternative learning experience is linked to education reform by requiring written student learning plans to reference essential academic learning requirement and student learning goals defined in education reform.

The rules allow school districts to contract for alternative learning experience programs for at-risk students as provided in chapter 265, Laws of 1997.

Accountability changes will tend to restrict the growth of alternative learning experience programs. Flexibility changes will tend to promote the growth of these programs.

Proposal Changes the Following Existing Rules: See Explanation of Rule above.

No small business economic impact statement has been prepared under chapter 19.85 RCW. No small business impacts have been identified.

RCW 34.05.328 does not apply to this rule adoption. These rules are necessary for the administration of the Basic Education Act which requires the Office of Superintendent of Public Instruction to define how full-time equivalent enrollment is determined for the purposes of state funding.

Hearing Location: Brouillett Conference Room, 4th Floor, Old Capitol Building, P.O. Box 47200, Olympia, WA 98504-7200, on January 15, 1999, at 9:00.

Assistance for Persons with Disabilities: Contact Sheila Emery by December 31, 1998, TDD (360) 664-3631, or (360) 753-6758.

Submit Written Comments to: Legal Services, Office of Superintendent of Public Instruction, P.O. Box 47200, 600 South Washington Street, Olympia, WA 98504-7200, fax (360) 753-4201, by January 14, 1999.

Date of Intended Adoption: January 18, 1999.

December 2, 1998

Terry Bergeson

Superintendent of  
Public Instruction

**AMENDATORY SECTION** (Amending Order 97-06, filed 10/27/97, effective 11/27/97)

**WAC 392-121-107 Definition—Course of study.** As used in this chapter, "course of study" means those activities for which students enrolled pursuant to chapters 180-16, 180-50, 180-51, 392-169 and 392-134 WAC may be counted as enrolled students for the purpose of full-time equivalent student enrollment counts.

(1) Course of study includes:

(a) Instruction - teaching/learning experiences conducted by the school district staff as directed by the administration and the board of directors of the school district, inclusive of intermissions for class changes, recess and teacher/parent-guardian conferences that are planned and scheduled by the district for the purpose of discussing students' educational needs or progress, and exclusive of time for meals.

(b) Alternative learning experience - alternative learning experience (~~conducted~~) provided by the school district in conformance with WAC 392-121-182.

(c) (~~Contracting with a higher education institution in conformance with WAC 392-121-183.~~) Instruction provided by a contractor - instruction provided by a contractor in conformance with WAC 392-121-188.

(d) National guard - participation in a national guard high school career training program for which credit is being given toward either required or elective high school credits pursuant to RCW 28A.305.170 and WAC 180-50-320. Such participation may be counted as a course of study only by the school district which the individual last attended.

(e) Ancillary service - any cocurricular service or activity, any health care service or activity, and any other services or activities, for or in which enrolled students are served by appropriate school district staff. The term shall include, but not be limited to, counseling, psychological services, testing, remedial instruction, speech and hearing therapy, health care services, and if such service is provided by the district, certificated contact time pursuant to RCW 28A.225.010 (4)(a) with students who are in a home-based instruction program. The term shall exclude all extracurricular activities and all other courses of study defined in this section. In conformance with WAC 392-134-025, school districts report the actual number of student contact hours of ancillary service for part-time, private school, and home-based students to the superintendent of public instruction.

(f) Work based learning - training provided pursuant to WAC 180-50-315 and reported as provided in WAC 392-121-124. (~~One hour per scheduled school day may be counted for not less than four hundred five hours of scheduled work experience.~~)

(g) Running start - attendance at an institution of higher education pursuant to RCW 28A.600.300 through 28A.600.400, chapter 392-169 WAC.

(h) Transition school - participation in the University of Washington's transition school and early entrance program pursuant to RCW 28A.185.040, and chapter 392-120 WAC. Such participation shall be reported by the University of Washington and shall not be reported by a school district.

(i) Technical college direct funding - enrollment at a technical college pursuant to RCW 28A.150.275 and WAC 392-121-187. Such participation shall be reported by the technical college and shall not be reported by a school district unless the technical college and the school district agree to have the school district report such enrollment.

(~~(j) Contracting with an agency pursuant to WAC 392-121-188.~~)

(~~(k) Contracting with a public or nonpublic school agency for students with a disability in accordance with WAC 392-172-222.~~)

(2) Course of study does not include:

- (a) Home-based instruction pursuant to RCW 28A.225.010(4): Education programs provided by a parent which do not meet the requirements of WAC 392-121-182 cannot be claimed for state funding;
- (b) Private school instruction pursuant to chapter 28A.195 RCW;
- (c) Adult education as defined in RCW 28B.50.030(12);
- (d) Instruction provided to students who do not reside in Washington state (RCW 28A.225.260);
- (e) Enrollment in state institutions, i.e., state operated group homes, county juvenile detention centers, state institutions for juvenile delinquents, and state residential habilitation centers;
- (f) Instruction preparing a student for the general education development (GED) test if such instruction generates state or federal moneys for adult education;
- (g) Enrollment in education centers except as provided under contract with a school district pursuant to RCW 28A.150.305 and WAC 392-121-188;
- (h) Enrollment in the Washington state school for the deaf and the Washington state school for the blind;
- (i) Extracurricular activities including but not limited to before and after school activities such as classes, sports and other activities offered outside the regular curriculum or for which credit is not earned; or
- (j) Attendance at universities, colleges, community colleges, or technical colleges of students not earning high school credit.

AMENDATORY SECTION (Amending WSR 95-18-097, filed 9/6/95, effective 10/7/95)

**WAC 392-121-182 Alternative learning experience requirements.** ((An alternative learning experience may be counted as a course of study. An alternative learning experience is an individualized course of study for a student who is not home-based pursuant to RCW 28A.225.010(4), a private school student pursuant to RCW 28A.225.010 (1)(a), or an adult education student. The alternative learning experience is provided in accordance with a written alternative learning experience plan that is implemented pursuant to the school district board's policy for alternative learning experiences. The school district board policy must have been adopted in a public meeting. The alternative learning experience is provided by the school district and may be conducted in part outside of the regular classroom. A portion of the alternative learning experience may be provided by the student's parent(s) or guardian under supervision by the school district. Such alternative learning experience may be counted as a course of study pursuant to WAC 392-121-107 if the following requirements are met:

(1) School district board policies for alternative learning experiences—Effective January 1, 1996, each school district claiming basic education funding for alternative learning experiences shall have written policies on file that:

(a) Require a written plan for each student participating in an alternative learning experience that meets the minimum criteria pursuant to subsection (2) of this section;

(b) Require that all alternative learning experience curriculum and course requirements be approved by the school district;

(c) Describe how student performance will be supervised, evaluated, and recorded by school district staff;

(d) Require that each student's educational progress will be reviewed at least once during the first twenty school days and afterwards at least once every forty five school days and that the results of each evaluation shall be communicated to the student and if the student is in grades K-8, the student's parent or guardian. If the school district determines that a student is not substantially successful in completing the learning activities described in the written alternative learning experience plan, a revised written plan may be implemented. Any revised written plan shall be designed to enable the student to be substantially successful in completing the learning activities described in the revised written plan within ninety school days from the date that the district first determines that the student is not substantially successful in completing the assigned learning activities included in the original written plan. If the school district determines that the student is still not substantially successful in completing their assigned learning activities after ninety school days from the date that the district first determines that the student is not substantially successful in completing the learning activities included in the original written plan, or sooner at the discretion of the school district, a plan to remove the student from the alternative program shall be devised. Such plan shall specify that the student shall be removed from the alternative program no later than the end of the current school year for a period of at least one school term. Students removed from the alternative program shall be offered the opportunity to enroll in another course of study as defined in WAC 392-121-107;

(e) A requirement that the alternative learning experience plan for each student and all records of enrollment, attendance, and total hours of participation in educational activities for the student are maintained and available for audit in the appropriate school building; and

(f) At the discretion of the school district board, the policy may describe responsibilities of the student's parent(s) or guardian including, but not limited to:

(i) Approval of the written alternative learning experience plan;

(ii) Responsibility for the parent(s) or guardian to provide or supervise a portion of the student's alternative learning experience if the parent(s) or guardian agrees; and

(iii) Requirements to meet with district staff for purposes of evaluating the student's performance and/or receiving instructions on assisting with the student's alternative learning experience. The school district board may also prescribe requirements for appointing a person to provide or supervise a portion of the student's alternative learning experience in the event the student's parent(s) or guardian will not or can not be a participant in the student's alternative learning experience;

(2) A written alternative learning experience plan is developed—Effective January 1, 1996, the alternative learning experience plan for a student shall be)) Effective in the 1999-2000 school year and thereafter, alternative learning

experience may be counted as a course of study and claimed for state funding as provided in this section.

(1) Purpose. This section provides an alternative method of determining full-time equivalent enrollment and claiming state funding for public school learning opportunities that are:

(a) Developed and controlled by certificated staff of a school district or a contractor under RCW 28A.150.305; and

(b) Provided in whole or part, outside public school classrooms.

The section sets forth the standards, procedures, and requirements for state funded alternative learning experience programs. This section is not intended to prevent or limit alternative instruction or services provided by a school district with federal or local resources.

(2) School board policies. The board of directors of a school district claiming state funding for alternative learning experience shall adopt and periodically review written policies which shall be filed with the superintendent of public instruction within thirty days of adoption or revision. Such policies shall:

(a) Identify and approve each alternative learning program and program provider;

(b) Satisfy the state board of education's requirements for recognizing credit for learning experience conducted away from school or by persons not employed by the school district pursuant to WAC 180-50-300; and

(c) Designate one or more school district official(s) responsible for approving alternative learning courses, monitoring compliance with this section, and reporting at least annually to the board of directors on the program.

(3) Program standards.

(a) Instruction claimed for state funding shall be provided tuition-free.

(b) The program shall be free of sectarian or religious influence or control as required by the United States and Washington state Constitutions.

(c) Each course shall be approved by a designated school district official.

(d) The curriculum shall be developed and controlled by school district certificated staff or certificated staff of the contractor with the approval of the school district. Parents may assist in the development and delivery of a student's alternative learning program, but certificated staff of the school district or the contractor must actually assume and exercise the primary responsibility and final authority over the student's program, evaluation, and assessment.

(e) Contracting for alternative learning experience programs pursuant to WAC 392-121-188 shall be limited to programs for academically at-risk students and shall meet the requirements of RCW 28A.150.305.

(4) Written student learning plan. Beginning with the 1999-2000 school year, each student claimed for basic education funding for alternative learning experience shall have on the enrollment count date, a written plan of instruction designed to meet the individual needs of the student and approved by a school district official and any other person(s) as required or allowed by school district policy) certificated staff of the school district or the contractor.

The written plan shall include, but not be limited to, the following elements:

(a) A schedule of the duration of the program, including beginning and ending dates;

(b) The student's learning goals and performance objectives described with reference to the student learning goals of RCW 28A.150.210 and the essential academic learning requirements of RCW 28A.630.885. Such goals and objectives shall be in sufficient detail to guide and inform the monthly evaluations and annual assessment of the student's achievement. For elementary students, the plan shall identify learning goals for each of the basic skill areas.

(c) The learning activities the student is expected to complete;

(e) A description of the teaching component(s) of the program, including where and when teaching activities will be conducted by school district staff;

(d) A description of the responsibilities of the student including a requirement that if, on average, the student attends school less than five hours a week, the student shall meet one-on-one with qualified district staff for an average minimum of sixty minutes every five school days for instruction, review of the student's assignments, testing, and/or other learning activities. If more than one student meets with a qualified district staff member at one time, the required time is increased proportionately, for example, the requirement becomes one hundred twenty minutes if two 1.0 full-time equivalent students meet with the staff member at one time; and

(e) A reasonably accurate estimate of the instructional materials to be used, and the individuals responsible for providing or supervising the activities. The responsibilities of certificated staff, classified staff, contracted staff, the student's parent(s) or guardian, and other individuals shall be separately identified.

(d) A description of how student performance will be evaluated by certificated staff.

(e) If the course is for high school credit, the amount of credit awarded for successful completion of the course.

(f) The scheduled average number of hours per week that the student will be engaged in learning activities defined in the student learning plan. This estimate may be used in reporting enrollment in compliance with subsection (3) of this section and must be based upon the criteria in subsection (3)(a)(i) of this section; A minimum of twenty percent of scheduled hours shall be on school grounds or in direct contact with instructional staff of the school district or contractor. The superintendent of public instruction may waive the twenty percent requirement for distance learning programs if the school district provides acceptable assurances of program quality and accountability.

(5) Enrollment reporting — Effective beginning with the 1999-2000 school year the full-time equivalency of students enrolled in alternative learning experiences shall be based upon both (a) and (b) of this subsection as follows:

~~(a) Using)) on the definition of a full-time equivalent student in WAC 392-121-122 and the number of hours ((that each student engages in learning activities as determined by either (a)(i) or (ii) of this subsection-)) determined as follows:~~

~~((i) The total number of hours that the student engages in learning activities pursuant to the written alternative learning experience plan including:~~

~~(A) Those hours that meet the criteria in WAC 392-121-107(1)(a);~~

~~(B) Those hours of work-based learning calculated in accordance with WAC 392-121-107(1)(f);~~

~~(C) Those hours of learning activity other than those specified in (a)(i)(A), (B) and (D) of this subsection that are provided by the student's parent(s) or guardian, or other person as designated by the written plan, under the direct supervision of the district's qualified instructional staff; and~~

~~(D) Those hours that the student participates in learning activities other than those specified in (a)(i)(A), (B) and (C) of this subsection. Such learning activity shall be pursuant to the student's alternative learning experience plan and if the student is in grades K-8, only includes those hours the student is supervised by the student's parent(s) or guardian or other person designated by the written alternative learning experience plan;~~

~~(ii) The district may use the estimated average hours per month the student is engaged in learning activities as stated in the alternative learning experience plan which meet the requirements of (a)(i) of this subsection: *Provided*, That for any count date on which the student has averaged, for the immediate two prior months during the current school year, a number of hours engaged in learning activities that differ by more than five hours a week from the alternative learning experience plan estimate pursuant to subsection (2)(e) of this section, the district shall adjust the full-time equivalency of the student for such count date to the lesser of 1.0 or the full-time equivalency calculated using the two month average;~~

~~(b) The district shall exclude students meeting the definition of enrollment exclusions in WAC 392-121-108 or students who have not met with appropriate district staff for twenty consecutive school days. Any such student shall not be counted as an enrolled student until the student has met with appropriate district staff and resumed participation in their alternative learning experience or participated in another course of study as defined in WAC 392-121-107;~~

~~(4)) (a) On the first enrollment count date, the scheduled hours of learning activity in the student's written plan pursuant to subsection (4)(f) of this section.~~

~~(b) On subsequent monthly count dates, if the student remains enrolled in the course, the lesser of the student's scheduled hours of learning activity or the average documented hours of learning activity per week pursuant to the student's written plan for the prior month including:~~

~~(i) Instruction provided or supervised by school staff;~~

~~(ii) Instruction provided or supervised by the student's parent(s) or guardian(s), a contractor, or other persons designated by the written plan;~~

~~(iii) For high school students, self-directed study reported by the student and acknowledged by the certificated staff identified in the student's written learning plan; and~~

(iv) Hours of excused absence approved by certificated staff identified in the student's written learning plan.

(c) In addition to other state enrollment reporting requirements, the school district shall report alternative learning enrollment at least annually as required by the superintendent of public instruction. The report shall separately identify alternative learning experience enrollment of at-risk students provided under contract pursuant to RCW 28A.150.305 and WAC 392-121-188.

(6) Student evaluation and assessment.

(a) Each student's educational performance shall be evaluated at least monthly based on the learning goals and performance objectives defined in the written learning plan.

(b) The evaluation shall be conducted by certificated staff and shall include direct personal contact with the student. In the case of distance learning students at remote locations, direct personal contact may include use of telephone, interactive computer, or interactive video communication. Assessment of distance learning students at remote locations shall make use of proxies or proctors as needed to insure validity of evaluation results.

(c) The results of the evaluation shall be communicated to the student and, if the student is in grades K-8, the student's parent or guardian.

(d) Based on the evaluation, certificated staff shall determine and document in writing whether the student is making satisfactory progress in completing the learning activities and reaching the learning goals and performance objectives defined in the written plan.

(e) If the student is not making satisfactory progress for two consecutive months, a revised written plan shall be developed and implemented or the student shall be dropped from the course.

(f) If the student fails to follow the written learning plan, the plan shall be revised or the student shall be dropped from the course.

(g) Each student's educational progress shall be assessed at least annually using the state assessment provided for the grade level, or using another standardized assessment selected by the school district when a state assessment is not provided for the grade level.

(7) Documentation. ((required — Effective with the 1995-96 school year the district shall keep on file in the appropriate school building and have available for audit, documentation of all hours of learning activities used to determine the student's full-time equivalency including documentation of the following:

(a) For students in grades K-8, written statements from the student's parent(s) or guardian or other person as designated by the written alternative learning experience plan. Such statements shall be submitted to the district on a monthly basis or more often at the discretion of the district and shall list those hours that the student has engaged in planned learning activities while not in the presence of district staff. Reported hours shall be used to determine the full-time equivalency of the student pursuant to subsection (3) of this section; and

(b) For students in grades 9-12, the student shall submit to the district written statements on a monthly basis or more often at the discretion of the district. Such statements shall



~~list those hours that the student has engaged in planned learning activities while not in the presence of district staff. Reported hours shall be used to determine the full-time equivalency of the student pursuant to subsection (3) of this section;~~

~~(5) Effective with the 1995-96 school year)) A school district claiming state funding for alternative learning experience shall maintain the following written documentation available for audit:~~

~~(a) The board of directors' approval of the program pursuant to subsection (2) of this section;~~

~~(b) The written student learning plans required by subsection (4) of this section;~~

~~(c) Student evaluations and assessments required by subsection (6) of this section;~~

~~(d) Student enrollment detail substantiating full-time equivalent enrollment reported to the state; and~~

~~(e) The demonstration of program support required by subsection (8) of this section.~~

~~(8) Demonstration of program support. The school district shall either:~~

~~(a) Maintain a ratio of full-time equivalent certificated instructional staff serving the annual average full-time equivalent students reported for basic education funding pursuant to this section which is at least equal to the district's basic education funding ratio for the grade band of the students being reported for basic education funding pursuant to this section; or~~

~~(b) Separately account for, document, and have available for audit, evidence that ((the district expends during the school year)) at least seventy percent of the basic education entitlement claimed for students enrolled in alternative learning experiences is expended on the alternative learning experience program during the school year. Such expenditures shall be direct expenditures in valid activities in the following programs as defined in the *Accounting Manual for Public School Districts in Washington State* for the school year:~~

- ~~(i) Program 01, Basic Education; and/or~~
- ~~(ii) Program 31, Vocational, Basic, State; and/or~~
- ~~(iii) Program 45, Skills Center, Basic, State.~~

**AMENDATORY SECTION** (Amending WSR 95-18-097, filed 9/6/95, effective 10/7/95)

**WAC 392-121-188** ~~((Contracting with an agency))~~

**Instruction provided under contract.** ~~((Contracting with an agency)) School districts have general authority to contract for the services of individuals to provide instruction, subject to applicable state and federal laws and local collective bargaining agreements. However, when a school district contracts with an entity which employs staff to provide basic education instruction claimed by the school district for state support, the requirements of this section also apply. Instruction provided by such an entity (hereafter called the contractor) may be counted as a course of study ((pursuant to WAC 392-121-107 if)) and claimed by the school district for state funding if the following requirements are met:~~

~~(1) ((Effective with the 1995-96 school year)) The school district board of directors in accordance with RCW 28A.320.015 adopts a resolution that concludes it is in the~~

best interest of the students to expand the options available ~~((to))~~ by providing an appropriate basic education program ~~((for those students that are to be educated))~~ pursuant to the contract and sets forth the rationale in support of the conclusion;

~~(2) The school district retains full responsibility for compliance with all state and federal laws;~~

~~(3) The ((agency)) contractor complies with all state and federal laws that are applicable to the school district;~~

~~(4) The contractor provides instruction free of sectarian or religious influence or control.~~

~~(5) The ((agency)) contractor serves the students at no cost to the student for tuition and fees and enrollment is voluntary and no student or person is unlawfully excluded from participation on the grounds of race, creed, color, national origin, sex, marital status, or presence of any sensory, mental, or physical handicap;~~

~~((5)) (6) Each student is enrolled in the school district reporting the enrollment and each high school student is working toward course credits which satisfy high school graduation requirements;~~

~~((6) There is a requirement that) (7) If the contractor is another school district, a state higher education institution, a state funded education center, or any other state funded entity, the contractor is not claiming enrollment of the student or receiving direct state support for the contracted instruction reported pursuant to this section.~~

~~(8) The curriculum ((for the student shall be)) is approved by the district;~~

~~((7)) (9) The ((agency)) contractor provides enrollment reports to the school district that comply with ((the definition of a full-time equivalent student in WAC 392-121-122, work based learning in WAC 392-121-107 (1)(f), limitations on enrollment counts in WAC 392-121-136, and enrollment exclusions in WAC 392-121-108)) this chapter;~~

~~((8)) (10) The ((agency)) contractor maintains and has available for audit or review by the school district, state, or federal authorities documentation of enrollment, hours of instructional activity participated in by the students, personnel data, and financial data including all revenues and expenditures pertaining to the contract with the school district;~~

~~((9) If an agency)) (11) If a contractor at any time during the school year serves more than twenty-five students which equals more than one quarter of one percent (.0025) of the district's annual average full-time equivalent enrollment claimed for basic education funding the school district reports the certificated instructional employees of the ((agency)) contractor funded with any state moneys or federal moneys that flow through the school district as required by the SPI annual personnel reporting system for calculation of state funding, staff ratios and statistics;~~

~~((10) Effective with the 1995-96 school year)) (12) If the contract is with an entity other than a school district or college for the students served pursuant to the contract, the ((agency)) contractor maintains a ratio of full-time equivalent certificated instructional staff serving the annual average full-time equivalent students reported for basic education funding pursuant to this section which is at least equal to the district's basic education funding ratio for the grade level of the stu-~~



dents being reported for basic education funding pursuant to this section;

~~((11))~~ (13) The school district and ~~((agency))~~ contractor execute a written contract which is consistent with this section, and which sets forth the duties of the ~~((agency))~~ contractor in detail sufficient to hold the ~~((agency))~~ contractor accountable to the school district; ~~((and~~

~~(12))~~ (14) The school district and ~~((agency))~~ contractor establish a process for periodic on-site monitoring by the school district for compliance with this section and other terms of the contract between the school district and ~~((agency))~~ contractor.

(15) Contracts for services for students with disabilities shall comply with WAC 392-172-220.

(16) Full-time equivalent enrollment reported for students served under a contract with a higher education institution shall be based on the number of hours of instruction meeting the criteria in WAC 392-121-107 (1)(a) provided by staff of the higher education institution under the contract. This section does not apply to running start enrollment, which is governed by chapter 392-169 WAC; and

(17) Contracts for alternative education programs for academically at-risk students shall comply with RCW 28A.150.305. Alternative learning experience enrollment claimed for state funding shall meet the requirements of WAC 392-121-182.

AMENDATORY SECTION (Amending Order 95-09, filed 10/18/95, effective 11/18/95)

**WAC 392-121-201 Definition—**~~((Agency))~~ Contractor certificated employee. As used in this chapter, "~~((agency))~~ contractor certificated employee" means a person who holds a professional education certificate issued by the superintendent of public instruction and who is employed by ~~((an agency))~~ a contractor as defined in WAC 392-121-188 in a position for which such certificate is required.

AMENDATORY SECTION (Amending Order 95-09, filed 10/18/95, effective 11/18/95)

**WAC 392-121-206 Definition—**~~((Agency))~~ Contractor certificated instructional employee. As used in this chapter, "~~((agency))~~ contractor certificated instructional employee" means any ~~((agency))~~ contractor certificated employee where:

(1) The ~~((agency))~~ contractor, pursuant to WAC 392-121-288, serves more than twenty-five students which equals more than one-quarter of one percent (.0025) of the district's annual average full-time equivalent enrollment claimed for basic education funding; and

(2) The employee provides services to such students solely as one or both of the following:

(a) An elementary, secondary or other teacher who instructs pupils in classes or courses; or

(b) An educational staff associate who assists, evaluates, counsels, or instructs students in a manner consistent with the employee's educational staff associate certificate.

AMENDATORY SECTION (Amending Order 95-09, filed 10/18/95, effective 11/18/95)

**WAC 392-121-210 Definition—Basic education certificated instructional employee**. As used in this chapter, "basic education certificated instructional employee" means a district certificated instructional employee or ~~((an agency))~~ a contractor certificated instructional employee assigned in whole or in part to the following programs as defined in the accounting manual for public school districts in the state of Washington:

- (1) Basic education, program 01;
- (2) Vocational, basic, state, program 31;
- (3) Skills center, basic, state, program 45;
- (4) Instruction support, program 94; and
- (5) District-wide support, program 97.

#### REPEALER

The following sections of the Washington Administrative Code are repealed:

WAC 392-121-10603	Definition—Higher education institution.
WAC 392-121-10604	Definition—Agency.
WAC 392-121-183	Contracting with a higher education institution.

AMENDATORY SECTION (Amending Order 85-15, filed 12/9/85)

**WAC 392-134-020 Provision of educational program to part-time public school students—Reports—Sites.** (1) Courses, ancillary services, and any combination of courses and ancillary services shall be provided to part-time public school students at the same level and quality as provided by the public school to full-time students;

(2) Except for enrollment in alternative learning experiences pursuant to WAC 392-121-182 and except for part-time students with disabilities served pursuant to chapter 392-172 WAC, courses, ancillary services, and any combination of courses and ancillary services shall be provided to part-time public school students upon public school grounds or on sites which are controlled by a public school district and at the home or hospital where the student may be confined by reason of a ~~((physician [physical]))~~ physical disability or sickness. Courses and ancillary services shall not be provided upon or within any private sectarian (religious) school site or facility: *Provided*, That field trips and special events incident to the public school program which include participation by both full-time and part-time public school students may be conducted by a public school upon or within private sectarian school facilities;

(3) No test result, grade, or other evaluation of a part-time public school student's abilities, needs, and/or performance which is generated by a public school in connection with the student's attendance may be transmitted or communicated by a public school to a private school except upon the written request of a minor student's parent(s) or guardian(s)

or upon the written request of the student if the student is eighteen years of age or older; and,

(4) Transportation between a part-time public school student's private school and a public school in which he/she is enrolled may not be provided to the student at the expense of a public school district in whole or part: *Provided*, That the following interschool transportation may be provided at the expense of a public school district:

(a) Transportation which is provided in connection with a part-time student's participation in field trips and special events permitted by subsection (2) of this section; and

(b) The transportation of part-time public school students which:

(i) Is necessary to comply with a condition to the receipt of federal funds; and

(ii) Is paid or reimbursed for with the federal funds to which the condition is attached, not state or local tax funds or revenues.

### WSR 98-24-119

#### WITHDRAWAL OF PROPOSED RULES

#### DEPARTMENT OF LABOR AND INDUSTRIES

[Filed December 2, 1998, 11:00 a.m.]

The Department of Labor and Industries is withdrawing the following proposed amended section of chapter 296-307 WAC, Safety standards for agriculture: WAC 296-307-061 What requirements apply to working around bins, bunkers, hoppers, tanks, pits, and trenches?

These proposed changes were filed on August 5, 1998, with public hearings held on September 8 and 9, 1998, Washington State Register Issue No. 98-15 [98-16].

Gary Moore  
Director

### WSR 98-24-123

#### PROPOSED RULES

#### UTILITIES AND TRANSPORTATION COMMISSION

[Commission Docket No. UW-980082—Filed December 2, 1998, 11:10 a.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 98-05-056.

Title of Rule: Revising rules relating to investor owned water companies.

Purpose: To implement the requirements of Executive Order 97-02, requiring agencies to review significant rules for need; effectiveness and efficiency; clarity; intent and statutory authority; cost and fairness. The proposal would repeal the existing rules, reorganize and rewrite the substance of the text for compliance with Executive Order 97-02, and promulgate new sections incorporating the redrafted provisions. In addition, the proposal, adds provisions to set existing policies

in rules, adds a provision requiring refunds for poor water quality, updates definitions, and deletes obsolete provisions.

Statutory Authority for Adoption: RCW 80.01.040, 80.04.010, and 80.04.160.

Summary: See Explanation of Rule below.

Name of Agency Personnel Responsible for Drafting: Sondra Walsh, 1300 South Evergreen Park Drive S.W., Olympia, WA 98504, (360) 664-1286; Implementation and Enforcement: Carole J. Washburn, Secretary, 1300 South Evergreen Park Drive S.W., Olympia, WA 98504, (360) 664-1174.

Name of Proponent: Washington Utilities and Transportation Commission, governmental.

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

Explanation of Rule, its Purpose, and Anticipated Effects: These rules address how the Washington Utilities and Transportation Commission regulates the rates and operations of investor owned water companies. This review is in compliance with Executive Order 97-02 and reviews the chapter for clarity, intent and statutory authority, need, effectiveness and efficiency, coordination, cost and fairness. This proposal would redraft the rules to comply with the executive order, would incorporate and formalize policies, would add requirements for refunds for poor water quality, and would eliminate rules that are obsolete.

Proposal Changes the Following Existing Rules: The proposal would repeal existing rules and substitute reorganized and redrafted rules.

The proposed substantive changes to rule text include the following:

- (1) Deleting and adding definitions as needed.
- (2) Expanding companies' requirements to provide customer notice for tariff filings.
- (3) Adding requirements identifying information that companies must supply when making general rate filings.
- (4) Adding provisions to codify existing policies or clarify requirements relating to the following topics:
  - (a) When and how water companies may use funding mechanisms such as facilities charges;
  - (b) Requirements relating to adopted and initial tariff filings, and
  - (c) Clarifying when companies are jurisdictional by incorporating policy statement UW-930006 in WAC 480-110-023 Jurisdiction and withdrawing the policy statement. In addition, further clarification is provided by including in WAC 480-110-023 examples on how to calculate average annual revenue per customer to determine whether a water company is jurisdictional, and increasing the revenue threshold from \$418.00 to \$429.00 pursuant to specific legislative authority in RCW 80.04.010.
  - (5) Adding a provision that sets out when a water company may be required to refund charges due to water quality, and how to calculate the amount of the refund, and
  - (6) Separating rules relating to company and customer responsibilities.

No small business economic impact statement has been prepared under chapter 19.85 RCW. The Regulatory Fairness Act requires a small business economic impact statement if there are more than 10% of businesses affected by the

rule making. The Washington Utilities and Transportation Commission regulates less than 1% of the water company industry affected by this rule making.

RCW 34.05.328 does not apply to this rule adoption. The commission is not an agency to which RCW 34.05.328 applies.

Hearing Location: Commission Hearing Room, Second Floor, Chandler Plaza, 1300 South Evergreen Park Drive S.W., Olympia, WA 98504, on January 27, 1999, at 9:30 a.m.

Assistance for Persons with Disabilities: Contact Pat Valentine by January 21, 1999, TDD (360) 586-8203, or (360) 664-1133.

Submit Written Comments to: Carole J. Washburn, Secretary, P.O. Box 47250, Olympia, WA 98504 or e-mail to records@wutc.wa.gov, fax (360) 586-1150, by December 29, 1998. Please include Docket No. UW-980082 in your communication.

Date of Intended Adoption: January 27, 1999.

December 2, 1998

Terrence Stapleton  
for Carole J. Washburn  
Secretary

#### NEW SECTION

**WAC 480-110-500 Application of rules.** (1) These rules apply to any water company that distributes, sells, or supplies water, and which meets requirements for commission regulation or jurisdiction under RCW 80.04.010 and WAC 480-110-023. This includes investor owned water companies that meet the jurisdictional threshold of serving one hundred or more customers or receive average revenue of four hundred twenty-nine dollars or more per customer per year.

(2) The commission may waive or modify the application of any rule to a water company upon written request, except when such provisions are fixed by statute. The waiver or modification must be approved by the commission in writing. Violations of these rules are subject to the penalty provisions of chapter 80.04 RCW.

#### NEW SECTION

**WAC 480-110-510 Saving clause.** The commission may impose additional or different requirements on any water company in response to a complaint or on its own motion. These rules do not relieve any water company from any of its duties and obligations under the laws of the state of Washington.

#### NEW SECTION

**WAC 480-110-520 Definition of control.** (1) For purposes of determining commission jurisdiction over a water company as defined in RCW 80.04.010, "control" means the water system operator or manager has discretion over the property or finances or operations of a water system which is normally exercised by an owner. Factors indicating control include, but are not limited to, whether the operator or manager:

(a) May authorize the purchase or sale of all or part of the water system or its water rights;

(b) May authorize capital additions or improvements to the system;

(c) May accept contributed plant;

(d) May authorize the expenditure or acquisition of funds which encumber any asset of the company;

(e) May authorize the expenditure of funds for nonwater company purposes;

(f) Receives compensation of a type or amount having no reasonable relationship to the work performed or to be performed.

(2) Control shall not include management by a satellite management agency as defined in chapter 70.116 RCW if the satellite management agency is not an owner of the water company.

#### NEW SECTION

**WAC 480-110-530 Definitions.** (1) Commission - the Washington utilities and transportation commission.

(2) Water company or company - any corporation, company, association, joint stock association, partnership or person, their lessees, trustees or receivers appointed by any court whatever, owning, controlling, operating or managing any water plant within the state of Washington for the purpose of furnishing water service to the public for hire and subject to the jurisdiction of the commission.

(3) Applicant - any person, partnership, firm, corporation, municipality, cooperative organization, governmental agency, etc., that has completed a water company's application for water service.

(4) A "potential customer" is anyone who has been given a letter to provide service for a property but who is not yet receiving any type of service, and who may not have paid any fees to the company.

(5) A "customer" is:

(a) A person who has paid water company fees and/or has an accepted application for service; or

(b) A person whose service connection is installed and is ready to be served; or

(c) A person who is actually receiving water service from the company.

(6) A "jurisdictional customer" is anyone who is actually receiving water service, but does not include persons who pay standby fees to a water system. A standby fee denotes only a potential customer.

(7) Contributions in aid of construction - any money, services or property received by a water company to fund capital investments at no cost to the company with no obligation to repay.

(8) Ready to serve charge - a recurring charge when the water company has the ability to provide water service, has committed to provide water service, and has installed a service connection at the customer's property.

(9) Reconnect charge - the charge specified in the company's tariff for restoring water service that was disconnected for nonpayment or for failure to comply with the company's rules.

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(10) Service area - that area that the company has an obligation to serve.

(11) Standby charge - a charge for having transmission and distribution infrastructure installed without the current ability to provide water.

(12) Line extension - the water mains and equipment necessary to extend the company's transmission and distribution infrastructure.

(13) Service connection - the pipes, valves, and fittings between the water company's distribution system and the service line for the property.

(14) Water system - all plant, equipment, and other assets used to provide water service for a specific location.

(15) Initial tariff - the tariff filed by a water company when it first becomes subject to the jurisdiction of the commission, or, if the company was formerly subject to commission jurisdiction, but removed from jurisdiction, the tariff it files when it again becomes subject to commission jurisdiction. A tariff filed to add a newly acquired system or company to the tariff shall not be termed an initial tariff for purposes of WAC 480-80-240(2).

(16) Primary contaminants are substances present in drinking water which may adversely affect the health of the consumer by exceeding the permissible maximum contaminant level (MCL) that may be present in the water the purveyor delivers to any consumer. These MCLs are established as water quality "primary standards" and are based on chronic, nonacute, or acute human health effects. Under WAC 246-290-310, all water systems are responsible for complying with standards for water quality established within that section.

(17) Surcharge - a surcharge is a monthly fee for capital plant or expense paid to the water company. The surcharge is in addition to regular monthly service fees and typically has an expiration date or recovery dollar limit.

(18) Facility charge - a facilities charge is a one-time fee that a new customer must pay before the company will connect the customer's property to the water system. The facilities charge is a means by which the company may recover from the new customers causing the need for a portion of budgeted future capital costs required to meet system growth.

**NEW SECTION**

**WAC 480-110-540 Jurisdiction.** (1) The commission only regulates investor owned water companies:

(a) That own, operate, control, or manage one or more water systems; and

(b) Meet jurisdictional thresholds of one hundred or more customers, or receive average revenue of four hundred twenty-nine dollars per customer per year.

If a water company serves customers	and receives average annual revenue per customer	commission regulation
99 or less	less than \$429	No
99 or less	\$429 or more	Yes
100 or more	less than \$429	Yes

100 or more	\$429 or more	Yes
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(c) The commission does not regulate:

(i) Cities, towns, or counties.

(ii) Public utility districts.

(iii) Water districts.

(iv) Local improvement districts.

(v) Homeowner associations, cooperatives and mutual corporations, or similar entities that provide service to only their owners or members.

(vi) Homeowner associations, cooperatives and mutual corporations, or similar entities that provide service to nonmembers unless they serve one hundred or more nonmembers, or charge nonmembers more than four hundred twenty-nine dollars average annual revenue per nonmember.

(vii) Facilities such as mobile home parks, apartment buildings, and office buildings where the facility owner passes through to tenants only the cost the facility owner pays for water the facility receives, plus reasonable third-party costs for reading meters, billing, and collecting. The owner can use a flat rate approach or use submeters to apportion the cost of water to individual tenants.

(2) To determine jurisdiction the commission uses only those customers receiving water. The commission uses only those customers receiving water. The commission does not use customers who do not receive water, such as customers who have paid:

(a) Water availability letter fees.

(b) Standby fees.

(c) System readiness fees.

(d) Ready-to-serve fees.

(3) To calculate the average annual revenue per customer, the commission uses only those moneys that water-receiving customers pay on a monthly basis, other than contributions in aid of construction. For example, that would include money paid for flat rate service or the metered base charge and all usage charges.

(a) The commission does not include money paid by customers who do not receive water, such as:

(i) Water availability letter fees.

(ii) Standby fees.

(iii) System readiness fees.

(iv) Ready-to-serve fees.

(b) The commission does not use contributions in aid of construction in determining jurisdiction. Contributions can be money, plant, or equipment. Payments can be made in a lump sum or financed over time. Examples of contributions in aid of construction include payments for:

(i) Connection to system.

(ii) Meter installation.

(iii) System buy-in.

(iv) Facilities charges.

(v) Assessments for capital plant and equipment.

(4) The following example shows how to calculate the average annual revenue per customer for two hypothetical customers. The data for each customer is provided at the end of the example.

(a) Pick a period of twelve consecutive months.

Example: February 1997 through January 1998.

(b) For each customer that received water service during the twelve-month period, add the amount the customer paid to the water company for items other than contribution in aid of construction items.

Example: Customer A paid \$340.  
Customer B paid \$283.

(c) For each customer that received water service during the twelve-month period, add the number of months the customer received water service.

Example: Customer A received water service for twelve months.  
Customer B received water service for nine months.

(d) Total the amount paid by each customer during the twelve-month period.

Example:

	<u>Paid to Water Company During the Twelve-Month Period</u>
Customer A	\$340
Customer B	+ \$283
	<hr/>
Total Paid During Twelve-Month Period	\$623

(e) Total the number of months each customer received water service.

Example:

Number of Months Received Water Service During the Twelve-Month Period

Customer A	12
Customer B	+ 9
	<hr/>

Total Months Received Water Service During the Twelve-Month Period 21

(f) Calculate the "Average Monthly Revenue Per Customer": Divide the "Total Paid During the Twelve-Month Period" by the "Total Months Received Water Service During the Twelve-Month Period."

Example:

Total Paid During the Twelve-Month Period	\$623
Total Months Received Water Service During the Twelve-Month Period	+ 21
	<hr/>

Average Monthly Revenue Per Customer \$29.67

(g) Calculate the "Average Annual Revenue Per Customer": Multiply the "Average Monthly Revenue Per Customer" times 12 months.

(A) Average Monthly Revenue Per Customer	\$29.67
Months in a Year	x 12
	<hr/>

(B) Average Annual Revenue Per Customer \$356.04

**DATA USED IN THE EXAMPLE  
TO CALCULATE  
AVERAGE ANNUAL REVENUE PER CUSTOMER**

Example—  
Customer A

	<u>Standby Charge</u>	<u>Ready to Serve Charge</u>	<u>Connection Charge</u>	<u>Facilities Charge</u>	<u>Meter Base Charge</u>	<u>Meter Usage Charge</u>
<u>Receive Water Service</u>	No	No	Yes	Yes	Yes	Yes
<u>Contribution in Aid of Construction</u>	No	No	Yes	Yes	No	No

Total

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<u>Year</u>	<u>Month</u>					<u>Paid</u>
1997	February			\$20	\$4	\$24
1997	March			\$20	\$5	\$25
1997	April			\$20	\$2	\$22
1997	May			\$25	\$5	\$30
1997	June			\$25	\$6	\$31
1997	July			\$25	\$12	\$37
1997	August			\$25	\$6	\$31
1997	September			\$25	\$4	\$29
1997	October			\$25	\$4	\$29
1997	November			\$25	\$3	\$28
1997	December			\$25	\$2	\$27
1998	January			\$25	\$2	\$27
		\$0	\$0	\$0	\$0	\$285
						\$55
						\$340

Number of months service

12

Not Receiving Water

\$0

Receiving Water - Contribution in Aid of Construction

\$0

Receiving Water - Other than Contribution in Aid of Construction

\$340

Total customer paid during period

\$340

**DATA USED IN THE EXAMPLE  
TO CALCULATE  
AVERAGE ANNUAL REVENUE PER CUSTOMER**

**Example—  
Customer B**

	<u>Standby Charge</u>	<u>Ready to Serve Charge</u>	<u>Connection Charge</u>	<u>Facilities Charge</u>	<u>Meter Base Charge</u>	<u>Meter Usage Charge</u>
<u>Receive Water Service</u>	No	No	Yes	Yes	Yes	Yes
<u>Contribution in Aid of Construction</u>	No	No	Yes	Yes	No	No

<u>Year</u>	<u>Month</u>					<u>Total Paid</u>
1997	February	\$7				\$7
1997	March	\$7				\$7
1997	April		\$12			\$12
1997	May			\$300	\$4,500	\$25
1997	June					\$25
1997	July					\$25
1997	August					\$25
1997	September					\$25
						\$5
						\$4
						\$3
						\$12
						\$10
						\$340

1997	October				\$25	\$15	\$40
1997	November				\$25	\$5	\$30
1997	December				\$25	\$2	\$27
1998	January				\$25	\$2	\$27
		\$14	\$12	\$300	\$4,500	\$225	\$58
							\$5,109

Number of months service

9

Not Receiving Water	\$26
Receiving Water - Contributions in Aid of Construction	\$4,800
Receiving Water - Other than Contribution in Aid of Construction	\$283

Total customer paid during period \$5,109

(h) To ensure all customers are treated the same, staff will apply the same rates to all customers on the same system so that no customer receives free or reduced service.

(i) May authorize the expenditure or acquisition of funds which encumber any asset of the company.

(j) May authorize the expenditure of funds for nonwater company purposes.

(k) Receives compensation of a type or amount having no reasonable relationship to the work performed or to be performed.

(5) Control shall not include management by a satellite management agency as defined in chapter 70.116 RCW if the satellite management agency is not an owner of the water company.

**NEW SECTION**

**WAC 480-110-550 Tariffs.** (1) Tariff provisions filed by a water company must conform to the rules of this section and chapter 480-80 WAC Utilities General—Tariffs.

(2) If a tariff conflicts with a commission rule, the rule supersedes the tariff, unless the commission has authorized the deviation from the rules in writing.

**NEW SECTION**

**WAC 480-110-560 Accounting and reporting requirements and regulatory fees.** (1) Water companies must use the uniform system of accounts (USOA) published by the National Association of Regulatory Utility Commissioners (NARUC). The USOA sets out the accounting requirements for class A, B, and C water companies.

Water companies are classified by revenues.

Class	Annual Gross Operating Revenue
A	\$1,000,000 or more
B	\$200,000 to \$999,999
C	Less than \$200,000

(2) Water companies may use the accounting requirements for a higher class if they choose.

(3) The commission will distribute an annual report form that the water company must complete and file with the commission for the preceding calendar year. The annual report must be filed, and the company's regulatory fee paid, no later than May 1 of each year.

(4) An extension of the time for filing the annual report can be requested in writing prior to May 1. No extension of time for payment of regulatory fees will be granted.

**NEW SECTION**

**WAC 480-110-570 Securities, affiliated interest, transfer of property.** (1) Prior to issuance a water company must file an application with the commission to:

- (a) Issue securities.
- (b) Create liens.

Authority per chapter 80.08 RCW and chapter 480-146 WAC.

(2) A water company must file an application with the commission to transfer utility property:

(a) Authority per chapter 80.12 RCW and chapter 480-143 WAC.

(b) The commission must approve any application prior to the transfer.

(3) Contracts with affiliates must be filed with the commission.

(a) Authority per chapter 80.16 RCW and chapter 480-146 WAC.

(b) The commission may open an investigation of the contract anytime after filing.

**NEW SECTION**

**WAC 480-110-580 Adopted and initial tariffs.** A water company must file revisions to its filed tariff within thirty days of its acquisition of new service area, whether by acquisition of another regulated water company or by acquiring one or more previously unregulated water systems.

(1) **Adopted tariffs - when a regulated company acquires another regulated company.**

(a) Any regulated water company acquiring a regulated water company must adopt the latter's tariff. An adoption

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form must be completed and filed with the commission by the acquiring water company within thirty days of the acquisition. The commission will supply an adoption form upon request.

(b) When a regulated utility is acquired via a stock purchase, where commission approval is not required, a tariff adoption is not necessary. The acquired regulated water company retains its status as a separate company. The new owner must file a new tariff with the signature of the new owner on each tariff page.

**(2) Incorporate into existing tariff - when a regulated water company acquires a nonregulated company.**

(a) When a regulated water company acquires a nonregulated water company or water system, the regulated water company must file a separate tariff page indicating the name of the newly acquired company or system with the rates and charges that were in existence before the acquisition.

(b) No other rates and charges may apply to the customers on the newly acquired system except those specifically shown on the new tariff page unless the company obtains the commission's approval to charge a different rate.

**(3) Initial tariffs - when a company becomes jurisdictional.**

(a) An initial tariff must be filed in a standard tariff format, that the commission will provide upon request.

(b) The tariff must be accompanied by a cover letter describing the filing as an initial tariff.

(c) Customers must be notified before the commission receives the filing.

(d) The filing must be accompanied by supporting financial data justifying the proposed rates. See chapter 480-09 WAC, minimum filing requirements.

**NEW SECTION**

**WAC 480-110-590 Access to premises.** Authorized personnel of a water company have the right to enter a customer's property during reasonable hours to perform meter reading, maintenance, testing, installation or removal of the company's property. Customers may ask to see the identification of the water company personnel before allowing entry to the customer's property.

**NEW SECTION**

**WAC 480-110-600 Availability of information.** (1) A water company must notify its customers of its regular business hours, telephone number, mailing address and a twenty-four hour emergency telephone, pager, voice messaging, fax machine or mobile phone number, at least once a year.

(2) A water company must advise the commission and its customers of any change in address or telephone number(s) at least ten days prior to the effective date.

(3) The water company must develop procedures for prompt response to reported failures or emergencies. A company representative must respond to the customer who reported the service failure or emergency within twenty-four hours of the report.

(4) When a nonemergency customer call is received, each water company must return the customer's call within two business days.

(5) A water company must acknowledge and respond to a customer's written inquiry within a two week period of receiving the letter.

(6) The water company must provide a copy of the commission's "Your Rights and Responsibilities" water brochure to each new applicant for service, and once a year notify its customers of the availability of the brochure and how to obtain a copy.

(7) The water company must make the following information available for review by customers:

(a) A copy of the water rules, chapter 480-110 WAC.

(b) A copy of the company's current rates and regulations (tariff).

(c) Copies of "Your Rights and Responsibilities as a Residential Water Company Customer" brochure published by the commission.

**NEW SECTION**

**WAC 480-110-610 Application for service.** (1) The water company must obtain applications for service from potential customers in writing, on company supplied forms. The completed form must:

(a) Include the company's name, address and telephone number;

(b) Show the date the person applied for service;

(c) Comply with the water company's filed tariffs;

(d) Clearly state the type of service requested. (Examples: Residential or commercial, flat rated or metered service, a letter to provide service, ready to serve);

(e) Include a property lot description, street number, or other sufficient description of location for service;

(f) Include a complete list and description of all applicable charges. (Examples: Account set up, service connection, facilities charge, line extension);

(g) Include the date by which a customer can expect service;

(h) Include the application expiration date, if any;

(i) Include signatures of the potential customer and a company representative.

(2) After completing the application, the water company must:

(a) Provide the applicant with a copy of the form when completed;

(b) Keep a copy of the completed application in the company's business office for no less than three years after expiration date or denial of service;

(c) Inform the applicant of its intention to provide service or deny service within ten days. If service is denied, the company must tell the applicant the reason service is being denied and advise the applicant of the commission's toll-free number (1-800-562-6150) for appealing the decision.

**NEW SECTION**

**WAC 480-110-620 Establishment of credit and deposits.** (1) **Establishment of credit - residential.** If an



applicant for residential water service can establish satisfactory credit by any one of the following factors, the company must not collect a security deposit:

- (a) Prior service with the water company within the prior twelve months and:
    - (i) At least twelve consecutive months with no more than one delinquency notice; and
    - (ii) The service was not disconnected for nonpayment.
  - (b) Prior residential water service with another water company, as demonstrated in (a) of this subsection, for which references may be quickly and easily checked. The water company may request the reference in writing from the previous water company;
  - (c) Full-time consecutive employment during the prior twelve months with no more than two employers, and the applicant is currently employed or has a regular source of income;
  - (d) Ownership of a legal interest in the premises being served;
  - (e) Furnishing a satisfactory guarantor responsible for payment of water service bills in the event of disconnection or default by the customer, in a specified amount, not to exceed the amount of the cash deposit required;
  - (f) Producing, in person at the water company's business office copies of two major credit cards, or other credit references, which the company can quickly and easily check which demonstrates a satisfactory payment history.
- (2) **Establishment of credit - nonresidential.** An applicant for nonresidential water service may be required to demonstrate that it is a satisfactory credit risk by reasonable means appropriate under the circumstances.
- (3) **Deposit requirements.** A deposit may be required when:
- (a) The applicant has failed to establish a satisfactory credit history as outlined in subsections (1) and (2) of this section;
  - (b) During the prior twelve months, the applicant's service from another water company has been disconnected for failure to pay amounts owing, when due;
  - (c) There is an unpaid, overdue balance owing for similar service from the water company to which application is being made or from any other water company;
  - (d) Two or more delinquency notices have been served upon the applicant by any water company during the prior twelve months;
  - (e) The application is for the initiation or continuation of service to a residence where a prior customer still lives and owes a past due bill to the water company.
- (4) **Amount of deposit.** Required deposits will not exceed:
- (a) Two-twelfths of the estimated annual billings for that customer or location for companies billing monthly;
  - (b) Three-twelfths of estimated annual billings for companies billing bimonthly;
  - (c) Four-twelfths of estimated annual billings for companies billing trimonthly.
- (5) **Transfer of deposit.** When a customer moves to a new address within the water company's service territory, the deposit will be transferable, less any outstanding past due balance owing from the old address.

(6) **Interest on deposits.** Interest on deposits collected from applicants or customers will:

(a) Accrue at the rate calculated as a simple average of the effective interest rate for new issues of one year treasury bills, computed from December 1 of each year, continuing through November 30 of the following year. The commission will advise the water company each year of the specific rate by mail.

(b) Earn the calculated interest rate during January 1 through December 31 of the subsequent year.

(c) Be computed from the time of deposit to the time of refund or total application of the deposit and will be compounded annually.

(7) **Extended payment arrangement of deposits.** When an applicant or customer is required to pay a deposit but is unable to pay the entire deposit in advance of connection or continuation of service, the applicant or customer must be allowed to pay fifty percent of the deposit prior to service, with the remaining balance payable in equal amounts over the next two months.

(8) **Cash payments.** When payment is made in cash a receipt will be furnished to each applicant or customer for the amount deposited.

(9) **Refund of deposits.** Deposits plus accrued interest will be refunded under the following circumstances and in the following form:

(a) Satisfactory payment - when a customer has paid for service for 12 consecutive months in a prompt and satisfactory manner as evidenced by the following:

(i) The water company has not initiated disconnection proceedings against the customer.

(ii) No more than two notices of delinquency have been made to the customer by the water company.

(b) Termination of service - upon termination of service, the utility will return to the customer the amount then on deposit plus accrued interest, less any amounts due the utility by the customer for service rendered.

(c) How to refund deposits - any deposit, plus accrued interest, will be refunded to the customer:

(i) In the form of a check issued and mailed to the customer no later than fifteen days following completion of twelve months' satisfactory payment as described above; or

(ii) Applied to the customer's account for service beginning in the 13th month; or

(iii) In accordance with the preference indicated by the customer at the time of deposit or as modified on a later date.

(10) **Additional deposit.** Nothing in this rule prevents the requirement of a larger deposit or a new deposit when conditions warrant. Should a larger or new deposit be required, the reasons must be specified in writing to the customer. Any requirement for a new or larger deposit will be in conformity with the standards set forth in this rule.

#### NEW SECTION

**WAC 480-110-630 Refusal of service.** (1) A water company must not refuse or discontinue service to an applicant or customer when there are unpaid bills from a prior customer at the same premises unless the company believes,

based on objective evidence, that the applicant is acting on behalf of the prior customer with the intent to avoid payment.

(2) A water company cannot permanently deny service to an applicant or customer because of a prior obligation to the company. A prior obligation is the dollar amount that has been billed to a customer but left unpaid at the time of disconnection of service for nonpayment.

(3) The water company may refuse to connect an applicant for service, or to increase service to a customer, when one or more of the following conditions exist:

(a) The service will adversely affect service being provided to other customers;

(b) The applicant or customer has not complied with state, county, or municipal codes or regulations concerning the approved design of the facilities;

(c) In the company's judgment, the applicant's or customer's installation of piping or equipment is hazardous, or of such design that satisfactory service cannot be provided;

(d) The applicant or customer has not installed on its premises required proper protective devices necessary to protect the company's property or that of its other customers;

(e) The company is unable to secure all necessary rights of way, easements, and permits;

(f) Furnishing the water is contrary to the provisions of the company's water system plans approved under chapter 43.20 or 70.116 RCW; or

(g) The location to be served is located outside of the company's service area.

#### NEW SECTION

#### **WAC 480-110-640 Discontinuance of service. (1) When service may be disconnected.**

(a) **Customer directed** - customers desiring to discontinue service must notify the water company. The company must disconnect the service as requested by the customer. If the customer fails to request disconnection of service the customer will be responsible to continue paying for water service at the company's tariff rate until the company becomes aware the customer vacated the property.

(b) **Company directed, with notice requirements** - after properly notifying the customer, as explained in subsection (3) of this section, the water company may discontinue service to its customers for:

(i) Unpaid bills;

(ii) Water use for purposes or properties other than that specified in the customer's application for service;

(iii) Willful waste of water through improper or defective piping, equipment, or otherwise;

(iv) Piping or equipment that does not meet the company's standards or fails to comply with other applicable codes and regulations;

(v) Tampering with the company's property;

(vi) Vacating the premises;

(vii) Nonpayment of any proper charges, including deposit, as provided in the company's tariff;

(viii) Refusing to allow access as required in WAC 480-110-091, access to premises;

(ix) Violating rules, service agreements, or effective tariffs;

(x) Use of equipment which detrimentally affects the company's service to its other customers.

(c) **Service obtained by fraud, no advance notice required before termination** - a water company may terminate service without notice when it discovers a customer has obtained service fraudulently. Examples: Fraud may occur when service is connected without the company's knowledge, when service is obtained by fraudulent means or representations, or when service is used to provide service to other persons who must otherwise obtain their own service.

(i) **First offense:** The company may disconnect service immediately and without prior notice when it discovers fraud, unless the customer immediately pays:

(A) The tariff rate for service that the company estimates was taken fraudulently; plus

(B) All company costs resulting from the fraudulent use; plus

(C) Any applicable required deposit.

(ii) **Second offense:** The company may refuse to reconnect service to a customer that has been disconnected for fraud if the company finds evidence of further fraud.

(iii) **Commission review:** A customer may ask the commission to review any company determination of fraud through an informal or formal complaint. The company will have the burden of proving that fraud occurred. However, this rule does not relieve any person who has committed fraud from civil or criminal responsibility.

(2) **Medical Emergencies** - when a water company has cause to disconnect or has disconnected a residential service, it must postpone disconnection of service or must reinstate service for a grace period of five business days after receiving either verbal or written notification of the existence of a medical emergency. When service is reinstated, payment of a reconnection charge and/or deposit shall not be required prior to reinstatement of service.

(a) The company may require that the customer, within five business days, submit written certification from a qualified medical professional stating that the disconnection of water service would significantly endanger the physical health of a resident of the household. "Qualified medical professional" means a licensed physician, nurse practitioner, or physician's assistant authorized to diagnose and treat the medical condition without supervision of a physician. Nothing in this section precludes a company from accepting other forms of certification but the maximum the company can require is written certification. If the company requires written certification, it may require that the certification include some or all of the following information:

(i) Residence location;

(ii) An explanation of how the physical health of the person will be endangered by disconnection of local service;

(iii) A statement of how long the condition is expected to last; and

(iv) The title, signature and telephone number of the person certifying the condition.

(b) A medical emergency does not excuse a customer from paying delinquent and ongoing charges. The company may require that the customer do the following within the five business day grace period: Pay a minimum of twenty-

five percent of the delinquent balance and enter into an agreement to pay the remaining delinquent balance within ninety days and to pay subsequent bills when due. Nothing in this section precludes the company from agreeing to an alternate payment plan, but the company may not require the customer to pay more than this subsection prescribes. The company must send a notice to the customer confirming the payment arrangements within two business days.

(c) If within the five-day grace period the customer fails to provide an acceptable payment arrangement, the company may disconnect service without further notice.

(d) If the customer fails to abide by the terms of the payment agreement the company may disconnect service without further notice.

(e) The medical certification shall be valid only for the length of time the health endangerment is certified to exist but no longer than six months without renewal.

(3) **Required notice prior to disconnecting service** - water companies must notify customers before disconnecting their service except in case of danger to life or property, fraudulent use, impairment of service, or violation of law. In all other cases, the company must not disconnect service until it has met the following requirements:

(a) The company must serve a written disconnection notice on the customer, either by mail, or, at the company's option, by personal delivery of the notice to the customer's address, attached to the primary door. Each disconnection notice must include:

(i) A delinquent date which is no less than eight working days after the date of mailing if mailed from inside the state of Washington or a delinquent date which is no less than eleven days if mailed from outside of the state of Washington; and

(ii) All pertinent information about the reason for the disconnection notice; and how to correct the problem; and

(iii) The company's name, address, and telephone number by which a customer may contact the company to discuss the pending disconnection of service.

(b) In addition to (a) of this subsection, an additional notice must be provided by one of the two options listed below:

(i) **Delivered notice** - the company must deliver a second notice to the customer and attach it to the customer's primary door. The notice must contain a deadline for compliance that is no less than twenty-four hours after the time of delivery; or

(ii) **Mailed notice** - the company must mail a second notice, which must include a deadline for compliance that is no less than three working days after the date of mailing if mailed from within the state of Washington or six days if mailed outside the state of Washington.

(c) Disconnection notices must:

(i) Include detail information pertinent to the situation; and

(ii) Include the company's name, address and telephone number by which the customer may contact the company to discuss the pending disconnection of service; and

(iii) Expire after ten working days from the first day that the company may disconnect service, unless other mutually agreed upon arrangements have been made and confirmed in

writing by the company. If mutually accepted arrangements are not kept, the company may disconnect service without further notice.

(d) Except in case of danger to life or property, companies must not disconnect service on Saturdays, Sundays, legal holidays, or on any other day on which the company cannot reestablish service on the same or following day.

(e) A company employee dispatched to disconnect service must accept payment of a delinquent account at the service address if tendered in cash, but is not required to give change for cash tendered in excess of the amount due and owing. The company must credit any excess payment to the customer's account. When disconnection does not take place due to payment made by the customer, the company may assess a fee for the disconnection visit to the service address as provided in the company's tariff. The disconnection notice must describe the disconnection visit charge, the amount, and the circumstances under which the charge will be made.

(f) When service is provided through a master meter, or where the utility has reasonable grounds to believe service is to other than the customer of record, the company must undertake all reasonable efforts to inform occupants of the service address of the impending disconnection. Upon request of one or more service users, where service is to other than the customer of record, a minimum period of five days must be allowed to permit the service users to arrange for continued service.

(g) When service is provided to a hospital, medical clinic with resident patients, or nursing home, notice of pending disconnection must be provided to the director of the Washington state department of health (DOH), and to the customer. Upon request to the company from the DOH director or designee, an additional five business days must be allowed before disconnecting service to allow the department to take whatever steps are necessary to protect the interests of resident patients who are responsibilities of the DOH.

(h) Service may not be disconnected while the customer is pursuing any remedy or appeal provided by these rules, while working with the company's representatives or with the commission. However, any amounts not in dispute must be paid when due and any conditions posing a danger to health, safety, or property must be corrected.

(4) **Payments at a payment agency** - payment of any past due amounts to a designated payment agency of the water company constitutes payment when the customer informs the company of the payment and the company has verified the payment with the payment agency.

(5) **Reconnecting water service after disconnection** - the water company must restore disconnected service when:

(a) The causes of disconnection are removed; or

(b) The customer pays all proper charges; or

(c) The customer pays a deposit as provided for in the company tariff in accordance with WAC 480-110-051; and

(d) The company has agreed to bill any tariffed reconnection fee or it has been paid.

In addition, the commission may order reconnection pending resolution of any bona fide dispute between the company and the customer over the propriety of disconnection.

NEW SECTION

**WAC 480-110-650 Service responsibilities.** (1) Customer responsibility - customers must notify the water company in writing prior to making a change in equipment or usage that will materially affect the service being provided by the company. The customer must:

(a) Notify the company in time to allow the company the necessary time to install additional facilities or supply, if required; and

(b) Pay an equitable share of the cost of necessary facilities, if any, as provided in the company's tariff or through a contract submitted to the commission for approval.

(2) **Water company responsibility** - water companies must:

(a) Install and maintain all equipment at appropriate locations necessary to operate the system;

(b) Install additional equipment as required by the commission in connection with performing special investigations; and

(c) Notify all affected customers when changes to the service will require customers to adjust their equipment.

(i) Where equipment must be adjusted to permit use under the changed conditions, the cost of any necessary adjustments must be equitably shared by the company and customer; or

(ii) **Exception** - when the customer has been advised of the needed change prior to taking service or when the change is required by law, the customer must pay all costs in connection with making changes in the customer's equipment.

(3) **Maintenance** - each company must maintain its plant and system in a condition that enables it to furnish adequate service and meet its obligation under chapter 246-290 or 246-291 WAC, as applicable.

(4) **Quality of water** - each water company must meet state board of health requirements under chapter 246-290 or 246-291 WAC, as applicable.

(5) **Protection of water supply** - each water company must protect its sources of supply, as required under state board of health, WAC 246-290-135 or chapter 246-291 WAC, as applicable.

(6) **Operations and maintenance** - the water company must comply with state board of health rules regarding operation and maintenance, as required under chapter 246-290 WAC and by good engineering practices.

(7) **Test records** - water companies must:

(a) Keep a complete record of each test made for quality and service conditions as required under these rules. The records must contain complete information concerning the test, including such items as the commission may require;

(b) Provide the records to the commission staff upon request.

(8) **Interruptions of service.**

(a) Water companies must make all reasonable efforts to avoid interruptions of service and when interruptions do occur, must reestablish service with a minimum of delay.

(b) When making necessary repairs or changes to its facilities, a water company:

(i) May interrupt service for a period of time as reasonably necessary and in a manner which minimizes the inconvenience to the customers; and

(ii) Must attempt to do the work during working hours regularly maintained by the company.

(c) A water company may interrupt service without incurring any liability.

(9) **Notice of interruptions of service** - water companies must:

(a) Notify its customers of a scheduled interruption twenty-four hours in advance of the work to be done, if practicable, through newspapers, radio announcements or other means;

(b) Notify police and fire departments affected by the interruption individually;

(c) Keep a record of all interruptions of service affecting a substantial number of customers, including in such record:

(i) The location;

(ii) The date and time;

(iii) The duration; and

(iv) The cause of each interruption, if known;

(d) Provide copies of records to the commission staff, upon request.

NEW SECTION

**WAC 480-110-660 Form of bills.** (1) Customer bills must:

(a) Be issued at intervals not to exceed three months and identify if the water company is billing in arrears or advance;

(b) Show a reference to the applicable rate schedule;

(c) Identify and show each separate charge as a line item;

(d) Show the total amount of the bill;

(e) Include enough information that, together with tariff rates (available from the company or the commission on request), the customer can calculate its bill;

(f) Show the date the bill becomes delinquent if not paid;

(g) Include the water company's business address and telephone number and/or emergency telephone number, by which a customer may contact the company;

(h) Include the date the meter was last read, the reading on that date, and the number and kind of units consumed, if a metered customer;

(i) Within jurisdictions where applicable, state the amount of taxes and the percentage rate at which said tax is computed, which represents municipal occupation, business and excise taxes that have been levied by a municipality against the company, but are being passed on to the customer as a part of the charge for water service; and

(j) Clearly identify when a bill has been estimated.

(2) Water companies may prorate bills for customers that have taken service for a fraction of the billing period. If the company does not have its method of prorating bills in its tariff, the company must prorate bills in the following manner:

(a) For flat rate service, the charge must be prorated on the basis of the proportionate part of the period during which service was rendered.

(b) For metered service, service must be billed for the amount metered, except the minimum charges will be the applicable minimum as shown in the company's tariff.

(3) The water company must include its method for estimating bills in its tariff or provide it to the commission in writing. Estimating of bills is allowed for no more than two consecutive billing cycles.

(4) When a company has cause to back bill a customer, the company must allow the customer payment arrangements, if requested, for the same number of months to pay, as it took the company to bill the customer. (Example: If the company is back billing for a one-year period, the company must allow the customer twelve months of equal payments to pay the total amount of the back billing.) These payments will be in addition to current billings.

#### NEW SECTION

**WAC 480-110-670 Water company responsibility for complaints and disputes.** (1) If a water company receives a complaint or dispute from a customer or an applicant for service it must:

- (a) Acknowledge the complaint;
- (b) Investigate promptly;
- (c) Report the results of the investigation to the complainant;
- (d) Take corrective action, if warranted, as soon as appropriate under the circumstances;
- (e) Tell the complainant, that the decision may be appealed to a higher level representative at the company, if any;
- (f) Tell the complainant if still dissatisfied after speaking with the higher level representative, of the commission's availability for review of the complaint; and
- (g) Provide the complainant with the commission's address and toll-free telephone number.

(2) Applicants or customers, or their representatives, may file with the commission:

- (a) An informal complaint against the company as set forth in WAC 480-09-150; and/or
- (b) A formal complaint against the company as set forth in WAC 480-09-500.

(3) When commission staff refers an informal complaint to the company, the company must:

- (a) Investigate and report the results to the commission staff within two working days. The commission staff may grant an extension of time for responding to the complaint, if requested, and warranted; and

(b) Keep the commission staff informed of progress toward the solution and the final result.

(4) Each water company must keep a record of all complaints concerning service or rates for at least one year and, on request, make them readily available for commission review. The record must contain:

- (a) Complainant's name and address;
- (b) Date and nature of the complaint;
- (c) Action taken; and
- (d) Final result.

#### NEW SECTION

**WAC 480-110-680 Water quality refunds.** (1) Water companies may be required to refund charges due to water

quality only upon commission order in response to a formal proceeding before the commission, when there are violations of the state board of health water quality standards in WAC 246-290-310 (primary contaminants) and if the company does not take follow up steps outlined in WAC 246-290-320.

(2) The amount of the refund will be determined in a formal proceeding before the commission and must not be recoverable through rates.

#### NEW SECTION

**WAC 480-110-690 Meter accuracy and water pressure complaints.** (1) When the water company receives a meter accuracy or pressure complaint, it must perform a test and share the results with the customer. The test must be at no charge to the customer, except the water company may charge for any additional meter or pressure tests requested by the customer within a twelve-month period as provided in its tariff.

(2) The test must be performed within ten days of the complaint.

(3) The customer has the option to witness the test. Should the customer choose to witness the test, a mutually agreed time will be established.

(4) The meter or pressure test must be taken using industry standard methods and equipment.

(5) If a meter test reveals a meter error in excess of two percent water flow to the detriment of the customer, the company must repair or replace the meter at no cost to the customer. A refund for the over billing must be made for the number of months the meter is in service up to six months of usage.

(6) If the water company and customer cannot resolve a complaint, it may be appealed to the commission for resolution.

(7) The water company must keep a record of meter and pressure tests and have them available for inspection. The record must list the customer's name and address, type of complaint, resolution, and what test method was used.

(8) The water company must provide, at the commission's request, a description of the test procedures and equipment used to perform meter and pressure complaint tests.

#### NEW SECTION

**WAC 480-110-700 Meters.** (1) **Water company rights and responsibilities:**

(a) The water company must:

- (i) Bear the cost of the meter and meter installation.
- (ii) Install water meters that are in working order and accurately measure water flow.
- (iii) Record meter serial numbers and identify by location.
- (iv) Repair or replace a malfunctioning meter unless a customer causes the malfunction.

(b) The water company may:

- (i) Install meters and charge the tariff meter rate after thirty days notice to affected customers.
- (ii) Install any apparatus to detect fraud or waste without notifying the customer.

**(2) Water customer rights and responsibilities:**

(a) A customer may request a standard residential meter as defined in the company's tariff be installed provided metered rates are in effect.

(b) When a customer requests a meter installation, the water company may charge in advance for the meter cost and meter installation, provided the rule is named in the company's tariff. The company will reimburse the customer, by bill credit, at least ten percent of the meter and installation charge each month until fully paid.

(c) The water company has thirty days from the date of request to install the meter.

(d) If the water company fails to install the meter within the time limit, the customer will be charged only the meter base charge until the meter is installed.

(e) If a customer tampers with a meter, the customer will pay for any repair or replacement.

(f) If the customer requests assistance in reading a meter, the water company will provide information on how to read the meter.

**NEW SECTION**

**WAC 480-110-710 Water company customer notice requirements.** (1) Draft customer notices must be submitted to the commission for review at least one week prior to the company's planned printing date for distribution.

(2) At a minimum, the water company must notify:

(a) Anyone who may be affected by the water company's proposal including customers and potential customers; and

(b) The public affairs section of the commission.

(3) Notice to customers must be provided thirty days prior to the requested effective date when a water company proposes:

(a) A change in rates;

(b) A change in services and/or conditions;

(c) A change in ownership or control of the operating company;

(d) A change in ownership by way of sale or transfer of assets (see chapter 480-143 WAC for content of notice);

(e) To institute a charge for a service that was formerly free;

(f) To eliminate or grandfather any service.

(4) Content of notice for rate change - the notice to customers must contain, at a minimum, the following:

**IMPORTANT NOTICE**

(a) Date

(b) (Insert water company name) has filed for approval from the Washington utilities and transportation commission to increase rates (insert total annual revenue and the total percentage increase). If approved, the rates will be effective on (insert effective date).

(c) (Clearly explain the reason for the proposal - be as specific as possible.)

Current Rates/Services	Proposed Rates	Percentage of Increase
\$	\$	%

(d) If you have questions about the proposed filing and how it will affect you, please call (insert company name & office phone number). If you have questions about the ratemaking process, you may contact the Washington Utilities and Transportation Commission at the following address: WUTC, 1300 S. Evergreen Park Drive S.W., P.O. Box 47250, Olympia, WA 98504-7250; 1-800-562-6150 (toll free).

(e) If you would like to comment on this proposal, it is important for you to do so now. Comments must be submitted in writing or presented at the commission's open meeting to be considered as part of the formal record. The commission encourages your written comments, either supporting or opposing, regarding this proposal. All open meetings are held in Olympia, WA. If you would like to be added to the commission's mailing list to be notified of the open meeting date, please call the toll-free number listed above and leave your name and complete mailing address.

Sincerely,

Company Name/Representative

(5) Notice after commission action is permitted only when:

(a) The commission approves an increase in federal, state, county or city-imposed taxes, fees or surcharges, and when credits are issued.

(b) At a minimum, companies must include the effective date, a clear description of changes to rates or services resulting from the commission's decision, and a company contact number where customers may seek additional information.

(c) This type of notice may be accomplished by a bill message, bill insert, printed in a company newsletter or mailed separately to customers.

(d) The commission may require other notification to the public as it determines necessary.

**NEW SECTION**

**WAC 480-110-720 Line extension contracts.** (1) Each water company must file, as a part of its tariff, a line extension rule that states the conditions required by the company before it will extend its transmission and distribution infrastructure to provide water service to an applicant.

(2) Companies entering into any line extension contract must:

(a) File the contract with the commission not less than thirty days before the proposed effective date of the contract.

(b) Conform the proposed contract to the applicable provisions of WAC 480-80-335.

(3) Line extension contracts will include the documentation necessary to show that the proposed charges are fair, just, reasonable, and sufficient.

PROPOSED

NEW SECTION

**WAC 480-110-730 Service connections and service lines.** A service connection is the pipes, valves, and fittings between the water company's distribution system and the service line for the property. A meter or valve will be installed at the service connection location.

(1) A service connection must not be longer than the width of the road from the distribution system and the point of connection. A service connection longer than the width of the road will be treated as a distribution extension.

(2) Service connections may be installed when the system is originally built or at a later date, after the system is operational. The service connection will be owned and maintained by the water company.

(3) The company may install the service connection at the property line, property corner, or at a location on the property mutually agreed upon. The water company may also install the meter, if applicable, at the service connection location or at a different mutually agreed location.

(4) There are four types of service connections. A water company may collect a service connection charge for (a) and (b) of this subsection if named in its tariff. The service connection charge for (a) and (b) of this subsection may be based on the average installation cost of the two.

(a) Retrofit: Where the water main is buried and in service. The water company must tap the main and install all pipes, valves, and fittings to connect to the customer service line.

(b) New construction: A connection installed by the water company at its own expense during construction of the water system. The applicant will pay the service connection charge when connected.

(c) Meter drop in: The service connection has been previously installed during system construction and is set up for meters.

(d) Flat rate customers: A valve is already installed and the water company need only open the valve to supply water.

(5) A service connection charge will not be charged if the water company did not incur any cost to install the connection (e.g., the service connection will be a contribution in aid of construction).

(a) A charge for a new service connection may be made when the service connection has been previously removed for good cause and must be reinstalled to provide water service.

(6) The customer service line is the line from the customer's point of usage that connects to the water company's distribution system.

(7) The customer's service line should be installed to provide easy access to the water company's distribution system. If there is doubt as to where the proper location should be, the water company should be consulted and a location agreed upon.

(a) The water company may request that the trench be left open and pipe exposed in order to inspect the connection for potential problems. The water company must do the inspection within two business days after notification that the trench is open.

NEW SECTION

**WAC 480-110-740 Water company funding mechanisms.** (1) Many small water companies have insufficient funds to respond to emergencies, replace or upgrade failing infrastructure, or add plant(s) to provide for growth. Frequently, they cannot obtain financing through traditional capital markets. The purpose of the surcharge and facilities charge is to provide the water company with a source of capital, provided by customers, to fund capital needs. This rule controls how the company handles and spends the money.

(2) Types of surcharges. There are three types of surcharges.

(a) Future capital plant. This type of surcharge is authorized by RCW 80.28.022, allows the company to collect money from current customers to pay for future capital projects in accordance with the company's approved comprehensive water system plan.

(b) Current capital plant. This type of surcharge is used to pay for current plant improvements required by WDOH order or letter to adequately serve current customers. This surcharge is generally tied to the repayment of a loan used for the needed capital plant when no other source of funding was available to the company.

(c) Current expense. This type of surcharge may be used to pay for current operating expenses that are independent of other expenses and may need occasional reevaluation without impacting other expenses or requiring a general rate case. Examples of this type of surcharge may be for the expense of safe drinking water act testing, extraordinary expenses, or temporary taxes.

(3) A water company may impose a facilities charge by tariff or contract when the water company has an approved comprehensive water system plan identifying the plant to add capacity to an existing system, and the Washington department of health (WDOH) requires the additional plant to increase the number of authorized connections on that system.

(4) A surcharge may finance up to one hundred percent of the plant or expense. A facilities charge must not finance one hundred percent of the plant. The commission will establish the kind of surcharge or facilities charge to maintain or develop an appropriate ratio of rate base to total plant in service.

(5) When seeking approval of a surcharge or facilities charge the company must file:

(a) A cover letter explaining the request;

(b) A tariff page or signed contract, stating the amount and who will pay; and

(c) Detail supporting justification for the proposal.

(6) Oversight: Accounting, approval of spending, and reporting requirements for a surcharge or a facility charge:

(a) Money collected from a capital surcharge or a facilities charge is a contribution in aid of construction.

(b) Surcharge funds and facility charge funds collected pursuant to this rule, and interest earned upon such funds must be held in a separate account by the company for the benefit of customers. Such funds do not become the property of company owners and may not (except as authorized in (c) of this subsection), be disbursed, alienated, attached, or oth-

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erwise encumbered by the company or its owners. In the event of a sale or transfer of the company, the trust obligations established in this rule regarding any unspent facilities charge funds must be transferred to the new owner of the company.

(c) Funds may be used from the account only to the extent and for the purposes approved by the commission by order. The commission must approve payments from the fund, and may do so by letter from the secretary. The company must file requests for each disbursement, including details, in writing. Requests for capital surcharges or facilities charge funds must refer to the appropriate sections of the company's approved comprehensive water system plan, or include a copy of the WDOH order or letter requiring plant improvements to serve current customers.

(d) The water company must report for each surcharge and facilities charge information to the commission quarterly:

- (i) Beginning balance;
- (ii) Amounts received for facilities charge funds, listed by customer;
- (iii) Amounts spent for capital surcharges and facilities charges listed by project, by plant account; and
- (iv) Ending balance.

#### NEW SECTION

**WAC 480-110-750 Political information and political education activities.** (1) Political information and political education activities include, but are not limited to:

- (a) Encouraging support or opposition to legislation, candidates for an office, or current public office holders.
- (b) Soliciting support for political action committees.
- (c) Gathering data for political mailing lists.
- (d) Soliciting political contributions or recruiting political volunteers.

(2) The commission will not allow expenses for political information or political education activities for ratemaking purposes.

#### NEW SECTION

**WAC 480-110-760 Reports of accidents.** Each water company must notify the commission within seventy-two hours after every accident resulting in death or serious injury to any person occurring in its plant or through contact with its facilities. At a minimum, the report must include the name of the injured person, time and place of the accident, and an explanation of the accident. The water company may notify the commission by phone, but must provide a written report within five business days.

#### NEW SECTION

**WAC 480-110-770 Retention and preservation of records and reports.** (1) The water company must retain all records and reports for three years unless otherwise specified in subsection (2) of this section. No records will be destroyed prior to the expiration of the time specified in subsection (2) of this section.

(2) The *Regulations to Govern the Preservation of Records of Electric, Gas and Water Companies*, published by the National Association of Regulatory Utility Commissioners is prescribed as the requirement for the state of Washington. This document is available at the commission branch of the Washington state library. The commission secretary will provide a copy of the document on request, subject to any charge, or it may be ordered directly from the National Association of Regulatory Utility Commissioners.

#### NEW SECTION

**WAC 480-110-780 Maps.** Each water company shall maintain a current map of each of its water systems showing the current service area. The company must provide the current maps to the commission for review within five days of a request. The maps must contain enough detail to answer questions related to rates and charges and obligations to serve.

#### NEW SECTION

**WAC 480-110-790 Minimum filing requirements—General rate case.** A general rate increase filing for a water company must include at least the following information:

- (1) The proposed tariff.
- (2) A detailed general ledger or expanded checkbook available for the test year.
- (3) Supporting work papers for the test period. The supporting work papers must include:
  - (a) A calculation of the revenue impact of proposed rates;
  - (b) Balance sheet and income statement;
  - (c) Detailed depreciation schedule listing all used and useful assets held by the company during the test year, including the date of purchase, the cost of purchase, the depreciable life, the salvage value, depreciation expense, and accumulated depreciation expense at the end of the test year;
  - (d) Results of operations, including restating adjustments, proforma adjustments with effect of proposed rates;
  - (e) Work papers explaining both restating and proforma adjustments;
  - (f) Usage statistics verifying test year revenues and proposed revenues; and
  - (g) Public water system identification number and the water facility inventory number for each system that the new rates will affect.
- (4) Final notice mailed to customers.

#### REPEALER

The following sections of the Washington Administrative Code are repealed:

WAC 480-110-011	Application of rules.
WAC 480-110-016	Saving clause.
WAC 480-110-018	Definition of control.
WAC 480-110-021	Glossary.



WAC 480-110-023	Average customer revenue jurisdictional threshold.
WAC 480-110-026	Tariffs.
WAC 480-110-028	Fire flow requirements.
WAC 480-110-031	Accounting.
WAC 480-110-032	Accounting—Political information and political education activities.
WAC 480-110-036	Finance—Securities, affiliated interests, transfer of property.
WAC 480-110-041	Availability of information.
WAC 480-110-046	Application for service.
WAC 480-110-051	Deposits.
WAC 480-110-056	Refusal of service.
WAC 480-110-061	Contract for service.
WAC 480-110-066	Distribution extensions—Service installations—Service connections.
WAC 480-110-071	Discontinuance of service.
WAC 480-110-076	Service responsibilities.
WAC 480-110-081	Service connections.
WAC 480-110-086	Meter location.
WAC 480-110-091	Access to premises.
WAC 480-110-096	Complaints and disputes.
WAC 480-110-101	Form of bills.
WAC 480-110-111	Refund for inaccurate metering.
WAC 480-110-116	Responsibility for delinquent accounts.
WAC 480-110-121	Meter charges and installation.
WAC 480-110-126	Meter readings.
WAC 480-110-131	Identification of meters.
WAC 480-110-136	Initial accuracy of meters.
WAC 480-110-141	Accuracy of meters.
WAC 480-110-146	Dispute as to accuracy of meters.
WAC 480-110-151	Complaint meter test.
WAC 480-110-156	Statement of test procedures.
WAC 480-110-161	Frequency of periodic tests.
WAC 480-110-166	Meter history records.
WAC 480-110-171	Reports of accidents.

WAC 480-110-176

Filing of records and reports and the preservation of records.

**WSR 98-24-124  
PROPOSED RULES  
UTILITIES AND TRANSPORTATION  
COMMISSION**

[Commission Docket No. UT-971469—Filed December 2, 1998, 11:14 a.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 98-05-055.

Title of Rule: Prepaid calling services, establishes a separate section to set minimum service and consumer information and protection standards relating to prepaid calling services.

Purpose: Formalize commission policies relating to debit card companies. Defines prepaid calling services; establishes pre- and post-sale disclosure requirements for prepaid calling service; and establishes performance standards for prepaid calling services. Allows relaxation of financial requirements for companies meeting specified financial standards.

Statutory Authority for Adoption: RCW 80.01.040(4), 80.36.520, and 80.04.160.

Summary: The proposed rules would require companies that are accepting customer advance payments to post a bond, or establish a trust account, or demonstrate the standards for waiver of the bond/trust requirement. The rule would establish reporting criteria and calculation levels on the bond/trust account. The proposed rule would establish written pre-sale and verbal pre-call disclosure requirements; establish technical and billing standards; and require notification when a company ceases operations in Washington state.

Reasons Supporting Proposal: Competition in the telecommunications industry has resulted in a number of new telecommunications services, such as debit cards. Many of these services require the customer to make payment prior to provision of service. The commission does not have rules specific to these services. The current practice is to put conditions in companies' registration orders to address disclosure and technical issues. The proposed rule would formalize these requirements in rule and assure their consistent application, and would set criteria to decide when the bond or trust is not needed.

No other commission rule focuses specifically on prepaid calling services. This type of service is growing in popularity and, because it involves payment prior to receipt of services, requires special attention to assure that consumers get the services that they pay for.

Name of Agency Personnel Responsible for Drafting: Mary Taylor, 1300 South Evergreen Park Drive S.W., Olympia, WA 98504-7250, (360) 664-1102; Implementation and Enforcement: Carole Washburn, 1300 South Evergreen Park Drive S.W., Olympia, WA 98504-7250, (360) 664-1174.

**PROPOSED**

Name of Proponent: Washington Utilities and Transportation Commission, governmental.

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

Explanation of Rule, its Purpose, and Anticipated Effects: This proposed rule defines prepaid calling services; establishes disclosure requirements for prepaid calling service; and establishes performance standards for prepaid calling services; and add flexibility to existing commission requirements related to protection of customer advanced payments by setting criteria for waiving security.

The effect will be that consumers of prepaid calling services will receive uniform, consistent information among various service providers to assist consumers in making informed decisions regarding prepaid calling services. Consumers will see consistent practices among different companies in how cards operate and how consumers can receive assistance. In addition, companies will have flexibility that does not currently exist in meeting the requirements of establishing a bond or trust account to protect consumer prepayments.

Proposal Changes the Following Existing Rules: No existing rules are amended. Additional requirements are imposed on prepaid telecommunication services beyond those required of other companies.

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

#### Small Business Economic Impact Statement

The Washington Utilities and Transportation Commission (commission) is proposing rules relating to prepaid telecommunication services. The purpose of the proposed rule making is to codify disclosure requirements, technical requirements, billing requirements for companies providing prepaid telecommunications services and to allow more flexibility relating to protection of customer prepayments.

The commission requested involvement from small and large telecommunication companies to analyze the economic impact of the proposed rule making. Staff held a stakeholders meeting with industry, consumer interest groups, and the media to discuss the issues and impacts of the proposed rules. Small and large telecommunication providers were asked to complete a questionnaire and comment on the economic impacts of the proposed rules. One small business and one large business responded.

The small telecommunication provider stated that the proposed rules would cause no significant change in the company's costs. The small telecommunication provider stated that the change is insignificant because most of the requirements of the proposed rules are requirements that the commission typically requires of prepaid telecommunication providers by order when it grants registration authority. The minimal cost of printing to provide consumer disclosure in a presale document or on a debit card will be the most significant impact of the proposed rule making.

The large telecommunication provider reported that the proposal would cause a significant economic impact. The large telecommunication company is a national telecommunication provider and would incur significant costs to modify its services to comply with the requirements of the pro-

posed rule making. The proposed rules would impose specific procedures that are unique only to the state of Washington. The company reports that proposed rule language requiring the maintenance of call data for three years, presale or point of sale documentation, refund of unused balances, and performance standards would be unique to the state of Washington. The company's cost estimates for production and distribution of new debit cards that comply with the proposed rules is \$500,000. This cost estimate does not include other significant administrative costs that the company contends would also be incurred, such as training, inventory management, tracking, and system changes.

The proposed rule will have a minimal impact on prepaid telecommunication providers. The majority of the requirements of the proposed rule making are requirements that the commission typically requires as conditions for registration. The proposed rule making will relieve some prepaid telecommunication providers of the requirement to post a surety bond, escrow, or trust account.

The additional disclosure requirements may be burdensome for the national telecommunication companies but will provide valuable information and security to the consumers that purchase its prepaid telecommunication services. The economic impact will be proportionate amongst small, medium, and large size companies to incorporate additional disclosure information. The proposal may impose a new requirement on some carriers because they were registered as telecommunications carriers before prepaid calling cards became a widely accepted means of marketing telecommunication services and thus before the commission began requiring consumer protections of new providers. To the extent that some companies are not now required to provide these consumer protections, they enjoy a competitive advantage over later entrants at the expense of consumer protections.

The technical performance standards and call detail retention requirements of the proposed rule making are reasonable and should not place an economic burden on prepaid telecommunication providers. Current commission rules require telecommunication providers to maintain similar levels of technical performance standards and call detail retention requirements. The proposed rules will clarify that prepaid telecommunication providers are held to the same standards as all other telecommunication providers.

A copy of the statement may be obtained by writing to Washington Utilities and Transportation Commission, Attention: Records Center, P.O. Box 47250, Olympia, WA 98504-7250, phone (360) 664-1260, fax (360) 586-1150.

RCW 34.05.328 does not apply to this rule adoption. The commission is not an agency to which RCW 34.05.328 applies.

Hearing Location: Commission Hearing Room, Second Floor, Chandler Plaza Building, 1300 South Evergreen Park Drive S.W., Olympia, WA 98504, on January 27, 1999, at 9:30 a.m.

Assistance for Persons with Disabilities: Contact Pat Valentine by January 20, 1999, TDD (360) 586-8203, or (360) 664-1133.

Submit Written Comments to: Carole Washburn, Secretary, P.O. Box 47250, Olympia, WA 98504 or e-mail to

records@wutc.wa.gov, fax (360) 586-1150, by December 30, 1998. Please include Docket No. UT-971469 in your communication.

Date of Intended Adoption: January 27, 1999.

December 2, 1998

Terrence Stapleton  
for Carole Washburn  
Secretary

## NEW SECTION

**WAC 480-120-052 Prepaid calling services.** (1) Prepaid calling services - Defined. Prepaid calling services (PPCS) means any transaction in which a consumer pays for service prior to use and the prepaid account is depleted as a consumer uses the service. Prepaid calling services may require the use of an access number or authorization code. The transaction often includes an object the size of a credit card which displays relevant information about the service. These objects are defined as prepaid calling cards.

(2) Business office requirements for providers of prepaid calling services. A company offering prepaid calling services must provide consumers a without charges telephone number staffed by live personnel during regular business hours. The personnel must be sufficient to respond to all service related inquiries and must be capable of answering general account related questions.

(3) Technical assistance requirements when providing prepaid calling services. A company offering prepaid calling services must provide consumers a without charge number staffed by live personnel twenty-four hours a day, seven days a week. The personnel must be sufficient to respond to all inquiries and must be capable of assisting consumers with technical problems or questions related to their service.

(4) Billing requirements for prepaid calling services.

(a) Billing increments must be defined in the company's price list, or tariff and presale document. If a company uses an increment based on a time measurement, the increments must not exceed one minute. If the company bills usage in "unit" measurements, units must clearly be defined using both equivalent dollar amounts and time measurement. Unit billing increments can not exceed the equivalent one minute rate.

(b) Service may be rated only for the actual time a circuit is open that allows for conversation. Conversation time of less than a full billing increment shall not be rounded up beyond that full increment.

(c) Companies may not reduce the value of a PPCS account by more than the charges specified on the prepaid calling card; prepaid calling card packaging; visible display at the point of sale; rates specified in the presale document; or the rate authorized by the commission at the time of purchase. The PPCS may, however, be recharged by the consumer at a rate different from that specified in the initial presale agreement or the last recharge information so long as the rate and surcharges conform with the company's tariff or price list at the time of purchase. The consumer must be informed of the new rates at the time of recharge.

(d) Companies providing prepaid calling services must be capable of providing consumers, upon request, call detail reports at no charge.

(e) Companies providing prepaid calling services must maintain call data for a minimum of three years. The data must include the following:

- (i) Dialing and signaling information that identifies the inbound access number called or the access identifier;
- (ii) The number of the originating phone;
- (iii) The date and time the call was originated;
- (iv) The duration or termination time of the call;
- (v) The called number; and
- (vi) The personal identification number (PIN) and/or account number.

(5) Written disclosure requirements for prepaid calling services - Prepaid calling cards.

(a) *Information required on prepaid calling cards.* At a minimum the cards must contain the following information:

(i) The company's name as registered with the commission. A "doing business as" name may only be used if officially filed with the commission. The language must clearly indicate that the company is providing the prepaid telecommunication services.

(ii) The toll-free or without charge number to reach the company's business office;

(iii) The toll-free or without charge number to reach the company's technical assistance office, if different than the business office number;

(iv) The company's toll-free or without charge number used to access the company's service, if applicable;

(v) Authorization code, if required to access the service;

(vi) Expiration date, if applicable. If an expiration date is not disclosed on the card it will be considered live indefinitely; and

(vii) Cards must be voided or otherwise physically marked if they were produced as a "nonlive" card so that it is clear to the user that the card is only a sample and is not active. If the card is not disclosed as a nonoperative card, the card is considered live and the issuing company must honor it.

(viii) Statement which warns consumers to safeguard their cards, if consumers assume full liability for lost or stolen cards. If the company is unable to place this statement physically on the card, the information must be provided in the presale document.

(b) *Prepaid calling card - Presale or point of sale documents.* The following information must be legibly printed on the card, packaging, or display visible in a prominent area at the point of sale of the prepaid calling card in such a manner that the consumer may make an informed decision prior to purchase. If the information below is to be displayed at the point of sale the company must ensure by contract with its retailers or distributors that the information is provided to the consumer.

(i) Maximum charge per billing increment for prepaid calling card service. If a company charges varying rates for intrastate, interstate and international calls all applicable rates must be provided. The rates displayed must be no more than those approved in the tariff or price list of the company at the time of retail purchase;

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(ii) Approved charges for all services, and surcharges, fees, and taxes, if applicable and the method of application;

(iii) Expiration policy, if applicable. If an expiration date is not disclosed the service will be considered live until the prepaid balance is depleted;

(iv) Recharge policy, if applicable. If an expiration date is not disclosed at the time service is recharged the service will be considered live indefinitely; and

(v) A statement that indicates if a consumer is unable to resolve a complaint with the company that the consumer has the right to contact the state regulatory agency which has oversight within the state where prepaid service originally purchased.

(c) When requested by a Washington state consumer, the company's business office and technical assistance office must provide the consumer the number for the Washington utilities and transportation commission.

(6) Written disclosure requirement for prepaid calling service - Other than prepaid calling cards.

(a) *Presale agreement.* The following information shall be provided in a presale document to an applicant prior to consumer prepayment and initiation of service:

(i) The company's name as registered with the commission. A "doing business as" name may only be used if officially filed with the commission. The language must clearly indicate that the company is providing the prepaid telecommunication services.

(ii) The toll-free or without charge number to reach the company's business office;

(iii) The toll-free or without charge number to reach the company's technical assistance office, if different than the business office number;

(iv) The company's toll-free or without charge number used to access the company's network, if applicable;

(v) Authorization code, if required to access the service;

(vi) Maximum charge per billing increment for prepaid calling service. If a company charges varying rates for intrastate, interstate and international calls all applicable rates must be provided. The rates displayed shall be no more than those approved in the tariff or price list of the company at the time of retail purchase;

(vii) Approved charges for all services, and surcharges, fees, and taxes if applicable, and the method of application;

(viii) Expiration date, if applicable;

(ix) Recharge policy, if applicable; and

(x) A statement that indicates if a consumer is unable to resolve a complaint with the company that the consumer has the right to contact the state regulatory agency which has oversight within the state where prepaid service originally purchased.

(b) When requested by a Washington state consumer, the company's business office and technical assistance office must provide the number for may be directed to the Washington utilities and transportation commission at 1-800-562-6150.

(7) Verbal disclosure requirements for prepaid calling services. Companies offering prepaid calling service must:

(a) Provide an announcement at the beginning of each call indicating the time remaining on the prepaid account or prepaid calling card;

(b) Provide an announcement when the prepaid account or prepaid calling card balance is about to be depleted. This announcement must be made at least one minute prior to depletion.

(8) Requirements for refund of unused balances. When a customer contends that a company has failed to provide service at rates provided in presale documentation or quoted at the time an account is recharged, or that the company has failed to meet technical standards, companies offering prepaid calling services must provide refunds for any unused service or provide equivalent credit in services offered. Refunds must equal the value remaining on the prepaid calling account or prepaid card. The customer is allowed to choose either the refund or equivalent service option.

(9) Performance standards for prepaid calling services. Each company shall ensure that:

(a) A minimum of ninety-nine percent of all call attempts are completed to the called party's number. Station busies and unanswered calls will be considered completed calls.

(b) A minimum of ninety-nine percent of all call attempts are completed to a company's business office number. Station busies and unanswered calls will not be counted as completed calls.

(c) A minimum of ninety-nine percent of all call attempts are completed to the company's technical assistance number. Station busies and unanswered calls will not be counted as completed calls.

(10) Requirements when a company ceases operations in the state of Washington. When a company ceases operations in the state, the company must:

(a) Provide the commission with thirty days advance notice in writing.

(b) At least twenty-one days before termination, provide written notice to customers at the address on file with the company, if applicable, indicating that service will be ending, and explain how customers may receive a refund on any unused service.

(c) Beginning at least fifteen days before termination, provide oral notice of termination at the beginning of each call originated in Washington, including the date of termination and a number to call for more information.

(d) Provide information to consumers via its customer service number outlining the procedure for obtaining refunds and continue to provide this information for sixty days from the date company ceases operations.

(e) Within twenty-four hours after ceasing operations, provide the commission and the company's bonding agent a list of all account numbers with unused balances. The list must include the following:

(i) The identification number used by the company on each account for billing/debit purposes;

(ii) The unused portion of any prepaid monthly fee on each account;

(iii) The unused time, stated in units or minutes as applicable on each account and the equivalent dollar amount.

(11) Compliance requirements for prepaid calling services. All presale and point of purchase documents displayed or offered to the public and all prepaid calling cards offered for sale in the state of Washington must be in compliance

with this rule within ninety days of the effective date of this rule.

(12) Other regulatory requirements. Companies providing prepaid calling services must comply with all other laws and commission rules relating to provision of telecommunications services unless the company has filed for and received waiver from the commission.

(13) Penalties for provision of service by an unregistered telecommunications company. When a penalty is imposed upon finding that an unregistered company has provided prepaid calling services within the state of Washington, the commission may assess penalties of up to one hundred dollars per day per violation under RCW 80.04.405 and/or up to one thousand dollars per day per violation under RCW 80.04.380.

### NEW SECTION

**WAC 480-120-058 Protection of customer prepayments.** (1) A company that intends to collect customer prepayments must first demonstrate to the commission that it meets (a), (b), or (c) of this subsection.

(a) The company has a corporate debt rating, according to Standard & Poor's of BBB or higher, or according to Moody's of BAA of higher, with respect to outstanding debt obligation; or

(b) The company has a performance bond satisfactory to the commission sufficient to cover any customer prepayments; or

(c) The company has made provision for deposit of customer prepayments in a federally insured interest bearing trust account maintained by applicant solely for customer advances. The prepayments must be deposited in a bank, savings and loan association, mutual savings bank, or licensed escrow agent with access to such funds only for the purpose of refunding prepayments to customers. The funds must be maintained in an account within the state of Washington. In any order granting certification, the commission may require either bond or trust account or escrow as a condition.

(2) Reporting requirements for every bond or trust account.

(a) Each company collecting customer prepayments must submit to the commission a report within fifteen days after the end of each calendar quarter. The report must contain the following information specific to state of Washington operations:

(i) Total outstanding balance of customer prepayments at the beginning of the reporting period;

(ii) Dollar amount of prepaid services sold during the reporting period;

(iii) Depleted usage of prepaid services during the reporting period; and

(iv) Total outstanding prepaid service balances at the end of the reporting period.

(b) Nothing in this rule precludes commission staff from requesting current company financial or operating information at any time.

(c) A company may petition the commission for a reduction in reporting requirements. The commission may grant or deny the request by letter from the commission secretary.

(3) Calculation of trust or bond levels.

(a) The initial level of the bond or trust must comply with the provisions of subsection (1)(b) or (c) of this section.

(b) The company must adjust the subsequent level of the bond or trust based upon quarterly reports data and the company must notify the commission of that adjustment.

(4) A company may petition for and the commission may grant waiver of the bond/trust requirement either at the time of registration or at such later time as the company can demonstrate to the commission's satisfaction that it meets standards for waiver of the bond/trust requirement. The petitioning company must provide documentation to the commission in support of the petition. The commission may grant or deny the request by letter from the commission secretary. The commission will evaluate the following to determine whether a waiver of the bond/trust requirement will be granted:

(a) Certified financial statements establishing adequate financial resources sufficient to provide service to consumers of prepaid telecommunications service;

(b) Confirmation that the company has received approval for and has been providing comparable services satisfactorily in one or more other state jurisdictions. The documentation must consist of information from the regulatory agency in the other state and must demonstrate that the company has complied with that states' rules and regulations and has provided adequate levels of service for twelve consecutive months;

(c) Compliance, following registration with the commission, with Washington rules and provision of adequate levels of service for at least twelve consecutive months;

(d) Documentation that the company has established a bond rating as provided for in subsection (1)(a) of this section.

### **WSR 98-24-125**

#### **PROPOSED RULES**

#### **UTILITIES AND TRANSPORTATION COMMISSION**

[Commission Docket No. UT-980311(r)—Filed December 2, 1998, 11:15 a.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 98-10-080.

Title of Rule: Rules to implement a universal service program to assure affordable basic telecommunications service for the citizens of Washington state.

Purpose: The proposal complies with the requirements of chapter 337, Laws of 1998, to prepare rules that would implement a program, using a universal service fund as a central element, to assure universal and affordable service for the citizens of Washington state.

Statutory Authority for Adoption: RCW 80.01.040, 80.04.160, 80.36.600, section 1, chapter 337, Laws of 1998.

Statute Being Implemented: Chapter 337, Laws of 1998.

Summary: The proposal would create a new chapter to implement a comprehensive program of universal service,

PROPOSED

consistent with chapter 337, Laws of 1998, and the requirements of federal law.

**Reasons Supporting Proposal:** The statute, chapter 337, Laws of 1998, directs the commission to "plan and prepare to implement a program for the preservation and advancement of universal telecommunications service..." The proposed chapter meets the directive of the legislature.

**Name of Agency Personnel Responsible for Drafting:** Bob Shirley, 1300 South Evergreen Park Drive S.W., Olympia, WA 98503, (360) 664-1292; **Implementation and Enforcement:** Carole J. Washburn, 1300 South Evergreen Park Drive S.W., Olympia, WA 98503, (360) 664-1174.

**Name of Proponent:** Washington Utilities and Transportation Commission, governmental.

**Agency Comments or Recommendations, if any, as to Statutory Language, Implementation, Enforcement, and Fiscal Matters:** Implementation of some of these proposed rules depends upon affirmative action of the legislature before adoption. For this reason, no adoption date is set in this CR-102.

Rule is necessary because of federal law, the Federal Telecommunications Act of 1996, Public Law No. 104-104, 110 Stat. 56, codified at 47 USC Sections 151, et seq.

**Explanation of Rule, its Purpose, and Anticipated Effects:** These rules are proposed to meet the directive of the legislature in chapter 337, Laws of 1998, to "plan and prepare to implement a program for the preservation and advancement of universal telecommunications service." The rules are also designed to comply with requirements of the federal Telecommunications Act of 1996 and to reform Washington's present program of universal service to be compatible with competition consistent with Regulatory Flexibility Act of 1985, chapter 450, Laws of 1985, codified at RCW 80.36.300 et seq. The anticipated effect of the proposal is that a program of universal service that is competitively and technologically neutral will be established, and that universal affordable telecommunications service will be available to the citizens of the state of Washington.

One section, included after the end of the proposed chapter is a draft administrative code section labeled "WAC 480-123-XXX Network Transmission Standard." This section goes beyond the requirements of chapter 337, Laws of 1998. However, it garnered considerable attention and it is included for the purpose of seeking formal comment. Interested parties who comment are invited to comment on this proposal as well.

Proposal does not change existing rules.

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

#### Small Business Economic Impact Statement

This is a small business economic impact statement (SBEIS) for proposed WAC 480-123-010 through 480-123-570 "universal service program," applicable to all telecommunications carriers in the state of Washington.

**Background:** The Washington Utilities and Transportation Commission (WUTC) is proposing a new chapter of the WAC applicable to all telecommunications service providers (a subset of SIC 4813; see Appendix 1 for list) operating in the state of Washington.

This new rule is intended to address the state's responsibility under chapter 337, Laws of 1998, the Regulatory Flexibility Act of 1985 (RCW 80.36.300), and the requirements in 47 U.S.C. § 254 of the Telecommunications Act of 1996 to provide sufficient funding to local exchange service providers to ensure that consumers receive basic telecommunications services at just, reasonable and affordable rates.

**The goal of the proposed rule is to preserve and advance the availability of basic telecommunications services to all consumers in the state of Washington.**

The Washington Utilities and Transportation Commission (WUTC) is proposing to establish a program of support for the provision of basic telecommunications services in high-cost locations with rates and services reasonably comparable to those in low-cost locations. The state has authority under 47 U.S.C. § 254(f) to adopt regulations not inconsistent with the FCC's rules to preserve and advance universal service. This proposal is consistent with the Federal Communications Commission's (FCC) rules and policies.

**Summary of Proposed Rule:** The proposed rule would: A) Require basic telecommunications services be provided in high-cost locations with rates and services reasonably comparable to those in low-cost locations; B) promote competition in all local telecommunications markets through minimizing implicit sources of support and maximizing explicit sources of support; C) provide that all carriers contribute to the state universal service fund on an equitable and nondiscriminatory basis; D) require that support be specific, predictable and sufficient to promote universal service; and E) provide that the program of support be competitively and technologically neutral.

**Small Business Economic Impact Statement:** The purpose of the SBEIS is to ascertain if there are disproportionate adverse economic impacts to small businesses, when compared to large businesses, for complying with proposed rules. Pursuant to RCW 19.85.030, an SBEIS is required in this instance because more than 10% of one industry (i.e., SIC 481 - Telephone Communications) will be affected by the proposed rule.

Consistent with the SBEIS requirements for compliance, the commission issued a questionnaire soliciting specific information from interested parties throughout the state. In addition, the commission hosted a workshop meeting on September 29, 1998, to allow parties to participate in the preparation of the SBEIS for the rule making on universal service. Attending the meeting were representatives from the telecommunications industry, the Independent Business Association, and the National Federation of Business. At the meeting issues pertaining to the development of the SBEIS were addressed and mitigation measures proposed. Mitigation measures are those which reduce the economic impact to small businesses for complying with a proposed rule.

**Types of Small Businesses Impacted by this Rule:** There are two subsets of small businesses which will be affected by the proposed state universal service rule: 1) Those that provide telecommunications services; and 2) those that use these services. Providers of telecommunications services will incur costs associated with complying with the proposed rule. For example, under the proposed rule, telecom-

munications service providers will be required to submit reports to the universal service fund administrator so that funds can be received and disbursed. Similarly, all retail telecommunications service providers (with certain exceptions) will be required to contribute to the fund which places another cost on affected small businesses involved in this industry. Contributors may or may not be beneficiaries of the fund and therefore the associated economic impacts imposed by this rule will vary from company to company. (See the commission's report to the legislature for a complete explanation of the contribution requirements and impacts.)

The second subset of small businesses potentially impacted by this rule are those that utilize basic telecommunications services in the state. Historically, rates for basic services have been subsidized through various means - both implicitly (e.g., through the use of state-wide averaged rates) and explicitly (e.g., rate elements on access charges). The proposed rule is consistent with state law that requires implicit subsidies be minimized and explicit subsidies be maximized. Without some form of support, it is possible that rates for basic telecommunications services will become so high that in some locations some consumers may not be able to continue to purchase basic telecommunications service.

**Cost of Compliance for Telephone Companies:** To determine the associated costs of complying with the proposed rule for small businesses engaged in providing telecommunications service, the commission solicited responses from members of the industry through a questionnaire distributed on September 11, 1998. The commission also sought comment from the industry at a workshop meeting on September 29, 1998. When no responses were received from small telecommunications companies, and after the Washington Independent Telephone Association (WITA) stated at the September 29 meeting that its members were disinclined to respond, an e-mail was sent from the commission staff to WITA to ask that they reconsider and respond. To date, the commission has not received any response from a telecommunications service provider that is a small business as defined by RCW 19.85.020. Without this information, it was not possible for the commission to determine whether compliance with the rule will cause local exchange service providers that are small businesses to: 1) Lose sales or revenue; and/or 2) be disproportionately economically impacted when compared to large businesses providing telecommunications services complying with the rule.

**Costs for Small Businesses (Nontelephone Companies):** With respect to the subsection of small businesses that purchase telecommunications services, an analysis was performed that illustrates the potential impact to small business telephone bills under the following scenarios:

- 1) If no support funds are provided;
- 2) If support funds are provided for one line only;
- 3) If support funds are provided for all lines;
- 4) What rates would migrate to in a purely competitive market.

The results of this analysis are in Exhibit A<sup>1</sup>. It is important to note that the cost of service for exchanges served by rural local exchange companies are not listed in the commission's order in Docket UT-980311(r). As a result, this SBEIS does not contain illustrations of the effect on price for univer-

sal service support options for the exchanges served by those carriers. However, a small business operator who desires to understand what the cost might look like for the rural telephone company serving its business, may wish to look at some of the higher cost exchanges illustrated for the three nonrural companies in Exhibit A in order to draw a reasonable inference about the cost of providing service in their area.

<sup>1</sup> Exhibit A is available from the commission by contacting the Commission's Record Center, P.O. Box 47250, Olympia, WA 98504-7250 (360) 664-1234 or on the commission's website at <http://www.wutc.wa.gov>.

The underlying premise of this analysis is to compare the current tariff rate for flat-rated, one-party business service versus the cost of providing the service. Note that under scenario 1 (no support), if no support is provided it may be necessary for telephone companies to raise their service rates to levels which cover their costs. In many instances this could have a dramatic impact on small businesses that purchase telecommunications services. For example, if support were not provided to a service provider in General Telephone's Republic exchange, the rate for basic service would have to increase from \$37.65 to \$124.61 in order for General Telephone to cover its cost of providing service. However, not all exchanges would necessarily experience increases to rates. For example, there are instances in which the current tariffed rate exceeds the cost of providing service in a given local telephone company exchange. In those instances, there would be no cost-related reason for rates to increase.

Under scenario 2 (support for one line only), it is assumed that support would be for only one business line at a given premises, thus requiring all other lines to recover the residual costs of providing service in that exchange. For example, in United Telephone's Bickelton exchange, providing support in the above manner would keep the rate for the first business line at \$17.85, however, each additional line would have to be priced at a level which would cover the cost of providing service to that exchange. In the example shown, each additional business access line is priced at the stated cost, or \$285.04 per line. This would obviously have an impact on small business consumers who need more than one business access line to operate.

Scenario 3 (support for all lines) is simply the status quo - enough funds will be provided to telecommunications service providers to support all access lines so that current tariffed rates can be maintained. This is the effect of what is done today. However, in today's environment, this support is provided through a combination of both implicit and explicit funding mechanisms as described earlier. Under the proposed rule, the required funds will be explicitly derived and provided for through the proposed universal service fund program.

Scenario 4 (market rate) is similar in concept to scenario 1 in that no support is contemplated. However, under this scenario telephone service rates reflect what would likely occur in a purely competitive market; that is, they will be driven toward the cost of providing service regardless of the current tariffed rates. In other words, the difference between this scenario and scenario 1 is this scenario permits rates to fall below current tariff levels whereas scenario 1 does not. For example, the cost of providing service in U S WEST's



Bellevue exchange is \$17.12, whereas the current tariff rate is \$26.60. Under scenario 4 the rate for basic telecommunications service would likely be driven toward \$17.12 (cost of service) which is below the current U S WEST tariffed rate. In high-cost locations, the price would increase.

**Stakeholder Involvement:** This statement has been developed based upon cost estimates established in the companion adjudicative proceeding to this docket (UT-980311(a)), incumbent local exchange service provider's tariff information, and responses from small businesses to the commission's questionnaire and workshop regarding telecommunications services associated with this docket.

The analysis on one-party flat rated business service provided in Exhibit A is intended to provide illustrative examples of the impact of various levels of support for local telecommunications services.

Since the initial proposed rule (CR-101) was filed, comments have been received and considered. Based upon input from interested parties, the rule has been modified to reduce implementation costs on small businesses.

**Mitigation:** Cost impacts have been mitigated by the following measures:

- Permitting Incumbent local exchange service providers to file a noncontested tariff to reduce rates for universal service funds received on a dollar-for-dollar basis (proposed WAC 480-123-390);
- Exempting qualifying telecommunications service providers from contributing to the Universal Service Fund if their contribution is de minimis (i.e., under \$100);
- Reducing the mandatory reporting requirements contemplated in earlier drafts of the rule;
- Using reports that the majority of telecom companies already file with the FCC, and mirroring FCC dates for data collection.

A copy of the statement may be obtained by writing to Washington Utilities and Transportation Commission, Attention: Records Center, P.O. Box 47250, Olympia, WA 98504-7250, phone (360) 664-1234, fax (360) 586-1150.

RCW 34.05.328 does not apply to this rule adoption. The commission is not an agency that is subject to the requirements of this law.

**Hearing Location:** No hearing date is set on this proposal because action on the comprehensive proposal would require prior legislative approval. Further commission action on this comprehensive proposal will be scheduled contingent on legislative action and pursuant to a new or amended CR-102.

Submit Written Comments to: Carole J. Washburn, Secretary, P.O. Box 47250, Olympia, WA 98504, or e-mail to records@wutc.wa.gov, fax (360) 586-1150, by January 29, 1999. Please include Docket No. UT-980311(r) in your communication.

**Date of Intended Adoption:** No adoption hearing is scheduled because commission action on this comprehensive proposal would require prior legislative authorization. Further commission action on this comprehensive proposal will

be scheduled contingent on legislative action and pursuant to a new or amended CR-102.

December 2, 1998  
Terrence Stapleton  
for Carole J. Washburn  
Secretary

## GENERAL

### NEW SECTION

**WAC 480-123-015 Name and authority.** The program prescribed by this chapter shall be known as the universal service program and the fund created in RCW 80.36.600 shall be known as the state universal service fund.

### NEW SECTION

**WAC 480-123-020 Purpose.** The purpose of this chapter is to preserve and advance access to affordable basic telecommunications service in a competitive environment and to prescribe a program of support for the provision of basic telecommunications service in high-cost locations with rates and services reasonably comparable to those in low-cost locations. Principles that will guide the program are that quality services should be available at just, reasonable and affordable rates; competition will be promoted in all local telecommunications markets through minimizing implicit sources of support, and maximizing explicit sources of support; access to advanced telecommunications and information services should be promoted in all regions; carriers should contribute to the fund on an equitable and nondiscriminatory basis; support should be specific, predictable and sufficient; and the program of support should be competitively and technologically neutral.

### NEW SECTION

**WAC 480-123-030 Applicability.** Unless the context clearly requires otherwise, these rules apply to all telecommunications carriers.

### NEW SECTION

**WAC 480-123-040 Reports include declaration.** All reports filed with the commission or the administrator must be filed with a declaration that the information is correct and the filing is made subject to the penalty of perjury provided for in RCW 9A.72.030.

### NEW SECTION

**WAC 480-123-050 Coordination.** The commission will implement these rules in coordination with the federal program of universal service.

### NEW SECTION

**WAC 480-123-060 Reserved.**

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NEW SECTION

**WAC 480-123-070 Outcome measures.** The commission will develop outcome measures to determine if the program established under this chapter has furthered the purpose stated in WAC 480-123-020. The administrator will provide the commission with the information necessary to measure outcomes and carriers must provide such information as the administrator may need.

**DEFINITIONS**NEW SECTION

**WAC 480-123-080 Definitions.** The definitions in WAC 480-123-090 through 480-123-200 apply to this chapter unless the context clearly requires otherwise. Unless defined in this chapter, terms used in this chapter have the same meaning they have in WAC 480-120-021.

NEW SECTION

**WAC 480-123-085 Nonwireline service.** Nonwireline means telecommunications services over a radio access line as defined in RCW 82.14B.020 and provided by a radio communications service company as defined in RCW 80.04.010.

NEW SECTION

**WAC 480-123-090 Access line.** Access line means the connection of the end-user customer to the local and toll public switched network. A reference to access lines means switched access lines as defined in WAC 480-120-021 and radio access lines as defined in RCW 82.14B.020 and access line equivalents. This definition is not limited to wireline or any other technology.

NEW SECTION

**WAC 480-123-100 Access-line equivalent.** When they are used to connect customers to the public switched network the following are access line equivalents: Each trunk for PBX local exchange service; each Network Access Register (NAR) for restricted (blocked) centrex service; each line for unrestricted (unblocked) centrex service; each trunk for Digital Switched Service (DSS); and each B-channel for ISDN service.

NEW SECTION

**WAC 480-123-110 Administrator.** Administrator means:

- (1) A program administrator designated by the commission and subject to the policy direction and control of the commission, but acting independently in the day to day operation of the program; or
- (2) The commission when performing the function of the administrator.

NEW SECTION

**WAC 480-123-120 Commission.** Commission means the Washington utilities and transportation commission.

NEW SECTION

**WAC 480-123-130 Telecommunications carrier.** Telecommunications carrier has the same meaning as 47 U.S.C. § 153(44).

NEW SECTION

**WAC 480-123-140 Eligible telecommunications carrier (ETC).** Eligible telecommunications carrier, or ETC, means a telecommunications carrier designated by the commission pursuant to WAC 480-123-330 as eligible to draw from either the federal universal service fund, or state universal service fund, or both, for the support of universal telecommunications service.

NEW SECTION

**WAC 480-123-150 Service area.** Service area means a geographic area established by the commission for the purpose of determining universal service obligations and support.

NEW SECTION

**WAC 480-123-160 End-user retail revenue.** (1) End-user retail telecommunications revenue is the carrier's total end-user retail revenue reported on FCC Universal Service Worksheet Form 457, line 49 column (a), multiplied by the percentage of revenue attributable to Washington operations. Washington operations means revenue from telecommunications services billed to Washington customers.

(2) References in this section and subsequent sections to FCC Universal Service Worksheet Form 457 means the worksheet and the instructions for contributor revenue information in effect on the date of adoption of this rule.

NEW SECTION

**WAC 480-123-170 Telecommunications services.** For the purposes of this chapter, telecommunications services are those for which revenues must be reported on FCC Universal Service Worksheet Form 457.

NEW SECTION

**WAC 480-123-180 High-cost location.** High-cost location means a geographic area where the commission has determined the average cost per line to provide basic telecommunications service exceeds the applicable benchmark.

NEW SECTION

**WAC 480-123-190 Revenue benchmark.** Revenue benchmark means an amount of revenue per access line determined by the commission and based on revenue from

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local exchange service; subscriber line charge (SLC); presubscribed interexchange carrier charge (PICC); vertical or discretionary services, also known as advanced features, or premium services, such as, but not limited to, call waiting, call forwarding, and caller ID; services billed on a per-use basis such as last call return dialing; local exchange carrier toll revenue; access payments received for origination and termination of toll calls; line extension charges; and such other revenue as the commission determines will be included. In the case of bundled service offerings at one price, the commission will determine, for the purpose of calculating a revenue benchmark, what portion of the bundled price will be considered in determining a revenue benchmark.

#### NEW SECTION

**WAC 480-123-200 Services supported by the universal service fund.** The USF supports basic services, consisting of:

- (1) Single-party service;
- (2) Voice-grade access to the public switched network;
- (3) Support for local usage;
- (4) Dual tone multifrequency signaling (touch tone);
- (5) Access to enhanced emergency services (E-911);
- (6) Access to operator services;
- (7) Access to interexchange services;
- (8) Access to directory assistance and white pages directory; and
- (9) Toll limitation services.

#### **CONTRIBUTORS AND CONTRIBUTIONS**

#### NEW SECTION

**WAC 480-123-210 Contributors to the universal service fund.** All telecommunications carriers providing telecommunications services to end users in the state of Washington must contribute to the USF.

#### NEW SECTION

**WAC 480-123-220 De minimis contributions not required.** No telecommunications carrier is required to make a contribution if it would be de minimis. For purposes of this chapter, a contribution under one hundred dollars per year is deemed to be de minimis.

#### NEW SECTION

**WAC 480-123-230 Contributions based on end-user retail revenue as reported on FCC Universal Service Worksheet Form 457.** Each carrier's contribution to the fund is determined by the ratio of the carrier's total end-user retail revenue attributable to Washington operations to the total end-user retail revenue attributable to Washington operations of all carriers as these amounts are reported pursuant to WAC 480-123-160. Each carrier's ratio is its revenue share.

#### NEW SECTION

**WAC 480-123-240 Revenue reports.** (1) A copy of the completed FCC Universal Service Worksheet Form 457 and the portion of each line that is attributable to Washington operations must be submitted by September 1 and March 31 of each year. The September 1 report must reflect revenue data for January 1 through June 30. The March 31 report must reflect revenue collected for January 1 through December 31 of each year. Carriers that do not contribute to the federal universal service fund, must complete the form and submit it for the purposes of this section.

(2)(a) For reports that are more than seven days late but less than fourteen days late, the commission will impose a penalty equal to two percent of the carrier's required contribution for the previous calendar year. For reports that are fourteen days late but less than twenty-one days late, the commission will impose a penalty equal to four percent of the carrier's required contribution for the previous calendar year. For reports more than twenty-one days late and less than twenty-eight days late, the commission will impose a penalty equal to six percent of the carrier's required contribution for the previous calendar year. For reports more than twenty-eight days late, the commission will impose a penalty equal to not less than eight percent of the carrier's required contribution for the previous calendar year. The commission may increase the penalty by an additional two percent per week that the report is late at its discretion if the report is not forthcoming.

(b) In the event a carrier files a late report and has not made or been obligated to make a contribution in the previous calendar year, the commission will impose a penalty that may be up to ten thousand dollars for every day the report is late and the commission may increase the fine in the event a report is not filed after a fine or fines are imposed. Every day for which no report is filed is a separate violation subject to the maximum penalty.

(c) The administrator may grant an extension for filing a report if the carrier demonstrates that extraordinary circumstances prevented a timely filing.

(d) A carrier penalized under this section may petition the commission for waiver of the penalty. The commission may waive or reduce a penalty for good cause shown and after taking into account the effect on the fund.

(3) In the event any report is more than fifteen days late, the administrator may make calculations based on the administrator's estimate of the carrier's revenue.

#### NEW SECTION

**WAC 480-123-250 Access line reports.** (1) On the last day of each month, state eligible telecommunications carriers (SETCs) must report to the administrator the number and type of access lines subscribed to in high-cost locations on the last day of the preceding month. The report must contain such other information as the administrator may require.

(2) In the event any report is more than fifteen days late, the administrator may make calculations based on the administrator's estimate of the SETC's access lines.

(3) Once a year, at the direction of the administrator, every carrier must report the number of access lines for all locations.

#### NEW SECTION

**WAC 480-123-260 Reserved.**

#### NEW SECTION

**WAC 480-123-270 Determination of contribution.**

(1) The administrator will determine no later than October 1, based on the September 1 filing and May 1, based on the March 31 filing required under WAC 480-123-240, the monthly contribution for each carrier. The level of contribution will be in effect for six months from December 1 and June 1, respectively.

(2) Each carrier's contribution for each month is the amount that results from multiplying its revenue share, as determined under WAC 480-123-230, by the total support amount projected by the administrator for the next six-month period, divided by six.

(3) Contributions must be paid to the fund on the last business day of each month.

(4) For contributions that are more than seven days late but less than fourteen days late, the commission will impose a penalty equal to two percent of the carrier's required contribution for the previous calendar year. For contributions that are fourteen days late but less than twenty-one days late, the commission will impose a penalty equal to four percent of the carrier's required contribution for the previous calendar year. For contributions more than twenty-one days late and less than twenty-eight days late, the commission will impose a penalty equal to six percent of the carrier's required contribution for the previous calendar year. For contributions more than twenty-eight days late, the commission will impose a penalty equal to not less than eight percent of the carrier's required contribution for the previous calendar year and may increase the penalty by an additional two percent per week that the payment is late at its discretion if the payment is not forthcoming.

(5) In the event a carrier does not make a timely contribution and has not made or been obligated to make a contribution in the previous calendar year, the commission will impose a penalty that may be up to ten thousand dollars for every day the contribution is late and the commission may increase the fine in the event a contribution is not made after a fine or fines are imposed. Every day for which no contribution is made is a separate violation.

(6) A carrier penalized under this section may petition the commission for waiver of the penalty. The commission may waive or reduce a penalty for good cause shown and after taking into account the effect on the fund.

#### NEW SECTION

**WAC 480-123-280 Net contributions required.** Only carriers required to contribute more than it will draw from the fund must make payments to the fund in accordance with this

chapter. Each carrier's monthly contribution is reduced by the amount it has been authorized to draw from the fund.

#### NEW SECTION

**WAC 480-123-290 Contributions from carrier revenue.** Contributions to the SUSF must be paid from carrier revenue and must not be billed directly to customers. Carriers may choose:

(1) To provide no information; including no information regarding percent of customer payment contributed by the carrier to the fund; or

(2) To provide full and accurate information about receipts and contributions, including:

(a) The amount of monthly support the carrier receives from the fund;

(b) The amount of the carrier contribution;

(c) The amount of support per-line received by the carrier in the customer's service area;

(d) A recurring statement of the carrier total and per-line rate reduction ordered under WAC 480-123-390.

#### NEW SECTION

**WAC 480-123-300 Notice on universal service fund.** Once a year, the fund administrator will inform the public of the purpose and operation of the state and federal universal service funds.

### **ELIGIBLE TELECOMMUNICATIONS CARRIERS**

#### NEW SECTION

**WAC 480-123-310 Eligibility to draw universal service fund support.** A telecommunications carrier must be designated by the commission as a state eligible telecommunications carrier (SETC) to be eligible to draw support from the state universal service fund (SUSF). A telecommunications carrier must be designated by the commission as a federal eligible telecommunications carrier (FETC) to be eligible to draw support from the federal universal service fund (FUSF).

#### NEW SECTION

**WAC 480-123-320 Petition for eligible telecommunications carrier designation.** Any telecommunications carrier which seeks to be designated as an ETC must file with the commission a petition which must include evidence sufficient to make the demonstration required in WAC 480-123-330 and a description of the service area or areas for which it seeks designation. The petition must also include a statement of why the proposed service area designation will promote competition.

#### NEW SECTION

**WAC 480-123-330 Designation of eligible telecommunications carriers.** (1) The commission will either approve a petition, deny a petition, or, on its own motion or

## REVENUE BENCHMARK AND CALCULATION OF SUPPORT

by request of the petitioner, set the petition for an adjudication or a brief adjudication. Any approval or denial will include findings of fact and conclusions of law and will specify the service area or areas for which designation is made. Designation for wireline carriers will be for an exchange and conform to any existing exchange boundaries. For nonwireline carriers, the commission will determine a service area or areas that best promotes competition in telecommunications services, giving substantial weight to the nonwireline carrier's existing coverage area commonly referred to as "footprint."

(2) The commission will designate a telecommunications carrier as a state ETC if the carrier demonstrates that:

(a) It offers or will offer upon designation the basic services required by WAC 480-123-200 throughout the service area for which designation is received;

(b) It offers or will offer such services at a sufficient level of quality; and

(c) It will advertise in media of general distribution that it offers such services required by WAC 480-123-200.

(3) A petition for designation as an FETC for purposes of the federal universal service program must meet the requirements of 47 U.S.C. § 214(e).

(4) The commission may grant a petition for approval of FETC status for the federal program in conjunction with a petition for SETC status.

(5) The commission will require an annual verification from each SETC that it continues to meet the requirements of subsection (2) of this section and annual verification from each FETC that it continues to meet the requirement of subsection (3) of this section.

### NEW SECTION

**WAC 480-123-340 Modification, revocation, or suspension of eligible telecommunications carrier designation.** On its own motion or in response to a petition, the commission may modify the service area of an ETC for purposes of the state or federal universal service program. On its own motion or in response to a petition, and after notice and for good cause shown, the commission may modify, suspend, or revoke the designation with respect to matters other than service area.

### NEW SECTION

**WAC 480-123-350 Limitations on resellers' eligibility for designation.** A carrier that provides service solely through resale in a service area is not eligible for ETC designation for that service area. A carrier that provides service through resale and facilities combined, unbundled network elements, or both, is eligible for ETC designation but may not receive support for access lines it purchases for resale.

### NEW SECTION

**WAC 480-123-360 Revenue benchmark—Wireline.** For each exchange the commission determines to be high-cost, the commission will determine a revenue benchmark for residential service and a revenue benchmark for business service. The initial benchmark will be based on the state-wide average revenue per line of wireline service. Not less than every eighteen months the commission will consider appropriate adjustments to the revenue benchmark based on the effects of competition on per-line revenues and such other factors as the commission considers appropriate.

### NEW SECTION

**WAC 480-123-370 Revenue benchmark—Nonwireline.** For each service area the commission determines to be high-cost, the commission will also determine a revenue benchmark that applies to nonwireline service. The initial benchmark will be based on the state-wide average revenue per line of nonwireline service. Not less than every eighteen months the commission will consider appropriate adjustments to the revenue benchmark based on the effects of competition on per-line revenues and such other factors as the commission considers appropriate.

### NEW SECTION

**WAC 480-123-380 Universal service fund support calculation.** The per-line support available to an SETC in a high-cost location will be the commission determined per-line cost minus the applicable benchmark and federal support. For each month in which an SETC serves subscribers in the high-cost location, the SETC is eligible to apply for and be paid an amount equal to the per-line support in the high-cost location multiplied by the number of subscribed access lines served on the last day of the month.

### **DRAWS UPON THE UNIVERSAL SERVICE FUND**

### NEW SECTION

**WAC 480-123-390 Implicit support offset required.** (1) For carriers subject to rate regulation under Title 80 RCW, prior to an initial application for support from the universal service fund, the carrier must propose tariff revisions designed to reduce prices of services that contain implicit support in an amount equal to its expected annual draw from the state USF, and the federal USF to the extent it is available to offset intrastate rates. The administrator may not disburse support to an SETC until the commission has approved a revised tariff designed to reduce the regulated carrier's revenue in an amount equal to its expected annual draw from the universal service fund.

(a) When a carrier that is a small business as defined in chapter 19.85 RCW files a tariff in accord with this subsection, the commission will approve the tariff if it reduces rates

for services in proportion to the amount of implicit support attributable to each service.

(b) To the extent that costs previously covered by line extension charges paid by customers are included in the commission's determination of costs and are covered by payments from the SUSF, line extension charges must be reduced in an equal amount.

(2) After each determination of the cost of providing basic telecommunications service to subscribers in high-cost locations, the commission will determine if any additional tariff filing to adjust revenue is required and, if so, will order the same to be filed.

#### NEW SECTION

**WAC 480-123-400 Disbursement of support for all subscribed lines.** (1) A state eligible telecommunications carrier that serves subscribers in high-cost locations may apply for support from the fund for each subscribed access line.

(a) An SETC may draw support for access lines that have been resold by another carrier to a subscriber in a high-cost location.

(b) An SETC that provides unbundled network elements that are used to provide service to a subscriber in a high-cost location may draw support if the price of unbundled network elements has been determined on a state-wide average basis. If the price of unbundled network elements has been determined at the exchange level, the SETC purchaser of unbundled network elements that are used to provide service to a subscriber in a high-cost location may draw the support and the provider of the elements may not draw the support.

(2) When carriers that receive support under this chapter construct or upgrade access lines in high-cost locations, the new and upgraded lines must be capable of sending and receiving information at rates no lower than 28.8 kilobits per second. Five years after the adoption of this rule, all lines for which support is received must be capable of end-to-end transfer rates sending and receiving information at a rate no lower than 28.8 kilobits per second. Carriers must report to the administrator once a year on their progress.

(3) An SETC must apply to the administrator for payment on such forms and in such a manner as prescribed by the administrator. An application for payment from the fund must be filed with the administrator at the same time as the SETC's access line report is filed. The administrator will act to approve or reject the payment within fifteen days after the application and will disburse funds within five days of approval.

(4) No disbursement will be made if the SETC's required contribution for the same period is greater than the amount that would be disbursed. The SETC's required contribution will be reduced in an amount equal to what would be disbursed.

#### NEW SECTION

**WAC 480-123-410 Approval for payment by administrator.** (1) An application will be approved for payment by the administrator if the SETC has filed all reports required

under this chapter, has submitted the application on the form and in the manner prescribed, if the administrator is satisfied that the information contained in the application is accurate, and the SETC meets all other requirements of this chapter.

(2) In the event of insufficient funds to pay all approved applications, the administrator will prorate payments to all recipients.

#### NEW SECTION

**WAC 480-123-420 Form of payment.** The fund administrator may make payment either by electronic funds transfer or by check.

#### NEW SECTION

**WAC 480-123-430 Fund balance.** The administrator will accumulate an adequate fund balance of not less than one-tenth of the expected annual disbursement of USF support prior to initial disbursements from the fund. Thereafter, the administrator will maintain an adequate fund balance. The fund balance will be invested in a prudent manner and the proceeds from the investment will be used to reduce the required company contributions. If in the opinion of the administrator the fund balance is larger than necessary at any time, the administrator may distribute the excess to contributors based on their proportionate contribution during the preceding year.

### ADMINISTRATION

#### NEW SECTION

**WAC 480-123-440 Administrator.** (1) The fund will be administered by an independent fund administrator designated by the commission and subject to the guidance and direction of the commission. To contract with a program administrator, the commission will use a competitive bid process and consider the following in evaluating the bids:

- (a) Each bidder's ability to be neutral and impartial;
- (b) Whether the bidder is a member of a trade association that advocates positions before this commission or other state commissions;
- (c) Whether the bidder is an affiliate of any provider of telecommunications services;
- (d) Whether the bidder has a substantial financial interest in any telecommunications carrier or affiliate of any other carrier; and
- (e) Whether the bidder has a board of directors that includes any member with direct financial interests in entities that contribute to or receive support from the USF program in this state or any other state.

(2) If the competitive bid process is not successful, the administrator may be an employee of the commission.

(3) The administrator may establish an account or accounts in one or more independent financial institutions.

(4) The commission will establish and approve the budget for the administrator and the administrative expense will be paid out of the fund when such expenses have been approved by the commission.

NEW SECTION

**WAC 480-123-450 Expenditure authorization and information.** The commission will authorize, in the form of a biennial budget, the necessary expenditures for administration of USF and these will be paid from contributions to the fund. USF expenditure information will be made available at least once each year at an open meeting of the commission.

NEW SECTION

**WAC 480-123-460 Reserved.**

NEW SECTION

**WAC 480-123-470 Dispute resolution.** (1) If a carrier and the administrator disagree on any matter, either may ask the commission for assistance in resolving the disagreement informally. The commission favors the informal resolution of disputes.

(2) A carrier aggrieved by a decision of the administrator may request a hearing.

(3) The commission may delegate the final decision in any disputed matter relating to the universal service fund to an administrative law judge, for a particular case or class of cases.

NEW SECTION

**WAC 480-123-480 Bank accounts.** The administrator will establish such accounts in one or more independent financial institutions as are necessary for the operation of the SUSF.

NEW SECTION

**WAC 480-123-490 Program compliance.** (1) The administrator must ensure that support from SUSF is used for the purpose of the program and that each telecommunications carrier is making its required contribution to the program. The administrator will audit the use of SUSF payments and contributions to the SUSF on a regular basis.

(2) Upon a finding by the administrator that a carrier has used universal service support for purposes other than to preserve and advance universal service or a finding that a carrier has not contributed in the full amount required by this chapter, the administrator will issue a written finding. The administrator will request the carrier to pay a sum equal to the misused funds or the deficiency in its contribution not later than fourteen days after the finding is issued.

(3) The carrier must pay the requested amount into the fund or seek dispute resolution under WAC 480-123-470 within fourteen days of the issuance of the finding.

(4) In the event a carrier fails to pay the requested amount or seek dispute resolution, the administrator will request an order from the commission to compel the carrier to pay the requested amount, and may request statutory penalties.

NEW SECTION

**WAC 480-123-500 Access to books, records and property.** The administrator will have access to the books of account, records and property of all telecommunications carriers to the extent necessary to verify information reported under this chapter. The administrator may direct a carrier to send copies of records to the administrator or may inspect records at the offices of the carriers, at the administrator's discretion.

NEW SECTION

**WAC 480-123-510 Notice of inspection.** In the normal course of business, the administrator will give three days' notice of its plans to inspect records in the offices of a carrier. The administrator may apply to the commission for a subpoena in order to inspect records without notice.

NEW SECTION

**WAC 480-123-520 Program records.** The administrator will create such data bases and maintain such records as are necessary to administer the program and account for the funds.

NEW SECTION

**WAC 480-123-530 Program forms.** The administrator will develop appropriate forms for use in collecting information from carriers and carriers must report information in the manner prescribed by the administrator. Required reporting will not be unduly burdensome and will be accomplished electronically when practicable.

NEW SECTION

**WAC 480-123-540 Reserved.**

NEW SECTION

**WAC 480-123-550 Time for reporting.** Where no date is specified for a report, or when a request is made by the administrator for information necessary for the administration of the fund, the administrator will specify when the report must be filed.

NEW SECTION

**WAC 480-123-560 Audit of administrator and fund.** Not less than once every two years the commission will engage the state auditor or an outside auditor to review the financial administration of the fund and the administrator with respect to matters of budget and accounting.

**DETERMINATION OF COSTS**NEW SECTION

**WAC 480-123-570 Determination of costs.** The commission will review the need to determine the cost of provid-

ing basic telecommunications service to subscribers in high-cost locations at least every three years, beginning in 2001. The commission will consider affordability, comparability and changes in technology and will consider revisions to this chapter.

**WSR 98-24-126**  
**PROPOSED RULES**  
**DEPARTMENT OF**  
**SOCIAL AND HEALTH SERVICES**  
(Medical Assistance Administration)  
[Filed December 2, 1998, 11:17 a.m.]

Original Notice.

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

Title of Rule: WAC 388-513-1305 Maintenance standard—Alternate living, 388-513-1315 Eligibility determination—Institutional, 388-513-1320 Institutional status, 388-513-1330 Institutional—Available income, 388-513-1350 Institutional—Available resources, 388-513-1360 Resource exemptions, 388-513-1365 Transfer of assets, 388-513-1395 Institutional—Medically needy, 388-515-1510 Community alternatives program (CAP) and outward bound (OBRA), and 388-515-1530 Coordinated community AIDS services alternatives (CASA) program.

Purpose: This is a housekeeping action to correct outdated Washington Administrative Code (WAC) references. It does not include any policy changes.

Statutory Authority for Adoption: RCW 74.08.090, 74.09.500.

Statute Being Implemented: RCW 74.08.090, 74.09.500.

Summary: The recent major rewrite of financial and medical assistance eligibility rules, in which the rules were renumbered, rendered the Washington Administrative Code citations found in chapters 388-513 and 388-515 WAC as incorrect. These citations are being updated with the correct new WAC numbers.

Reasons Supporting Proposal: The current WAC cross references in chapters 388-513 and 388-515 WAC are incorrect.

Name of Agency Personnel Responsible for Drafting, Implementation and Enforcement: Stephen Kozak, Medical Assistance Administration, 617 8th Avenue S.E., Olympia, WA 98504, (360) 586-1034.

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: This proposed rule updates WAC references, which were made obsolete by the major rewrite of financial and medical eligibility rules for public assistance clients, in chapters 388-513 and 388-515 WAC. People will be able to reference the correct WAC citations when reviewing the institutional medical rules in chapters 388-513 and 388-515 WAC.

Proposal Changes the Following Existing Rules: Updates certain WAC cross reference numbers, which changed when public assistance rules were renumbered under chapter 388-400 WAC series of chapters on September 1, 1998.

No small business economic impact statement has been prepared under chapter 19.85 RCW. Does not affect small businesses.

RCW 34.05.328 does not apply to this rule adoption. These rule changes do not meet the definition of a significant legislative rule.

Hearing Location: Lacey Government Center (behind Tokyo Bento Restaurant), 1009 College Street S.E., Room 104-B, Lacey, WA 98503, on January 26, 1999, at 10:00 a.m.

Assistance for Persons with Disabilities: Contact Paige Wall by January 15, 1998 [1999], phone (360) 902-7540, TTY (360) 902-8324, e-mail pwall@dshs.wa.gov.

Submit Written Comments to: Identify WAC Numbers, Paige Wall, Rules Coordinator, Rules and Policies Assistance Unit, P.O. Box 45850, Olympia, WA 98504-5850, fax (360) 902-8292, by January 26, 1999.

Date of Intended Adoption: January 27, 1999.

December 1, 1998

Marie Myerchin-Redifer, 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 99-01 issue of the Register.

**WSR 98-24-127**  
**PROPOSED RULES**  
**DEPARTMENT OF**  
**SOCIAL AND HEALTH SERVICES**  
(Medical Assistance Administration)  
[Filed December 2, 1998, 11:20 a.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 98-05-052, and 98-05-051.

Title of Rule: WAC 388-513-1340 Institutional—Exempt income, 388-513-1345 Institutional—Disregarded income, and 388-515-1505 Community options program entry system (COPES).

Purpose: WAC 388-513-1340 and 388-513-1345, federal law exempts funds received under the *Susan B. Walker v. Bayer Corporation et al.*, 96-C-5024 (N.D. III. May 8, 1997) class settlement as income when determining institutional Medicaid eligibility and post-eligibility. Certain veteran's benefits (currently exempt) will be considered as income when determining Medicaid post-eligibility. WAC 388-515-1505, the rule will be amended to allow: 1) COPES-eligible individuals living in residential settings to retain a personal maintenance allowance of \$58.84, and 2) certain veterans will be allowed to retain a personal maintenance allowance of \$90.

Statutory Authority for Adoption: RCW 74.08.090, 74.04.050, 74.04.057, 42 CFR 435.601, 42 CFR 435.725-

726, and sections 4715 and 4735 of the Federal Balanced Budget Act of 1997 (Public Law 105-33) (H.R. 2015).

Statute Being Implemented: Sections 4715 and 4735 of the Federal Balanced Budget Act of 1997 (Public Law 105-33) (H.R. 2015); and RCW 74.08.090.

Summary: See Purpose above.

Reasons Supporting Proposal: Most of the changes proposed are beneficial to clients receiving institutional medical care. The lone exception, certain veterans' benefits which have been exempt will now be considered as income when determining Medicaid post-eligibility, is a change mandated by federal law.

Name of Agency Personnel Responsible for Drafting, Implementation and Enforcement: Stephen Kozak, Medical Assistance Administration, 617 8th Avenue S.E., Olympia, WA 98504, (360) 586-1034.

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

Rule is necessary because of federal law, sections 4715 and 4735 of the Federal Balanced Budget Act of 1997 (Public Law 105-33) (H.R. 2015).

Explanation of Rule, its Purpose, and Anticipated Effects: To incorporate the following federal changes: Funds received under the *Susan B. Walker v. Bayer Corporation et al.*, 96-C-5024 (N.D. III. May 8, 1997) class settlement are considered exempt income when determining institutional Medicaid eligibility and post-eligibility; certain veterans' benefits that were exempt will now be considered as income when determining institutional Medicaid post-eligibility; and certain veterans will be allowed to retain a personal maintenance allowance of \$90. The department is also increasing the amount a person who is COPES-eligible is allowed to retain for their personal maintenance.

Proposal Changes the Following Existing Rules: See Explanation of Rule above.

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

RCW 34.05.328 applies to this rule adoption. These rules do fit the definition of a significant legislative rule but the Department of Social and Health Services is exempt from preparing further analysis under (RCW 34.05.328 (5)(b)(vii)).

Hearing Location: Lacey Government Center (behind Tokyo Bento Restaurant), 1009 College Street S.E., Room 104-B, Lacey, WA 98503, on January 5, 1999, at 10:00 a.m.

Assistance for Persons with Disabilities: Contact Paige Wall by December 31, 1998, phone (360) 902-7540, TTY (360) 902-8324, e-mail pwall@dshs.wa.gov.

Submit Written Comments to: Identify WAC Numbers, Paige Wall, Rules Coordinator, Rules and Policies Assistance Unit, P.O. Box 45850, Olympia, WA 98504-5850, fax (360) 902-8292, by January 5, 1999.

Date of Intended Adoption: January 6, 1999.

December 1, 1998

Marie Myerchin-Redifer, Manager  
Rules and Policies Assistance Unit

**AMENDATORY SECTION** (Amending WSR 95-02-028, filed 12/28/94, effective 1/28/95)

**WAC 388-513-1340 Institutional—((Exempt)) Excluded income.** ((The department shall consider a client's income exemptions as unavailable income when determining initial institutional eligibility or post-eligibility. The department shall exempt sequentially from income)) This section describes income which is excluded when determining a client's eligibility and participation in the cost of care for institutional services. These deductions are taken in the following order:

- (1) Any public agency's refund of taxes paid on real property and/or on food;
- (2) Supplemental security income (SSI) and state public assistance based on financial need;
- (3) Any portion of a grant, scholarship, or fellowship used to pay tuition, fees, and/or other necessary educational expenses at any educational institution;
- (4) Child support received by a parent from an absent parent, for a minor child who is not institutionalized;
- (5) Tax exempt payments received by Alaska natives under the Alaska Native Claims Act;
- (6) Tax rebates or special payments excluded by other statutes;
- (7) Compensation provided to volunteers in ACTION programs established by P.L. 93-113, The Domestic Volunteer Service Act of 1973;
- (8) Veteran's Administration benefits designated for:
  - (a) The veteran's dependent; and
  - (b) Unusual medical ~~((expense; and~~
  - (e)) expenses, aid and attendance ((and housebound) allowance, and household allowance, except for a veteran or a veteran's surviving spouse who:
    - (i) Resides in a state veterans home; and
    - (ii) Has no dependents.
- (9) Income received by an ineligible or nonapplying spouse from a governmental agency for services provided to an eligible client, for example, chore services;
- (10) Funds received from the Agent Orange Settlement Fund or any other funds established to settle Agent Orange liability claims under P.L. 101-201;
- (11) Payments to certain survivors of the Holocaust under the Federal Republic of Germany's Law for Compensation of National Socialist Persecution or German Restitution Act. Interest earned ~~((on conserved))~~ from such payments is not ((exempt)) excluded;
- (12) Payments under the Radiation Exposure Compensation Act received by the injured person, the surviving spouse, children, grandchildren, or grandparents;
- (13) Payments under sections 500 through 506 of the Austrian General Social Insurance Act. ~~((The department shall consider the earned))~~ Interest earned from such payments ((as countable income)) is not excluded;
- (14) Certain cash payments a client receives from a governmental or nongovernmental medical or social service agency to pay for medical or social services;
- (15) Restitution payment, and interest earned on such payment to a civilian of Japanese or Aleut ancestry under P.L. 100-383;



(16) Payments from Susan Walker v. Bayer Corporation, et. al., 95-C-5024 (N.D. Ill.) (May 8, 1997) settlement funds. Interest earned from such payments is not excluded;

(17) The amount of expenses directly related to a client's impairment that allows the permanently and totally disabled client to continue to work;

~~((17))~~ (18) The amount of blindness-related work expenses of a blind client;

~~((18))~~ (19) Interest earned on excluded burial funds and any appreciation in the value of an exempt burial arrangement which are left to accumulate and become part of the separately identified burial funds set aside on or after November 1, 1982;

~~((19))~~ (20) Earned income tax credit (EITC); ~~(and~~  
~~(20))~~ (21) Victim's compensation;

(22) Native American benefits excluded by federal statute;

(23) Payments from the Dutch government, under the Netherlands' Act on Benefits for Victims of Persecution (WUV). Interest earned from such payments is not excluded;

(24) Up to two thousand dollars per year derived from an individual interest in Indian trust or restricted land;

(25) Self-employment income allowed as a deduction by the Internal Revenue Service (IRS);

(26) Emergency Energy Conservation Services program funds;

(27) Assistance (other than wages or salary) received under the Older Americans Act;

(28) Assistance (other than wages or salary) received under the foster grandparent program; and

(29) The amount a guardian or representative payee charges to provide services necessary for the client to receive the income.

**AMENDATORY SECTION** (Amending Order WSR 95-02-028, filed 12/28/94, effective 1/28/95)

**WAC 388-513-1345 Institutional—Disregarded income.** ~~((The department shall consider))~~ This section describes income which is disregarded ((income as unavailable income)) when determining ((initial eligibility but shall consider the income available during post-eligibility. See WAC 388-513-1380 for post-)) a medically needy client's eligibility ((treatment of income. The department shall disregard sequentially from income:)) for institutional services. Disregarded income is not deducted, however, when determining a client's participation in the cost of care.

(1) The following deductions are taken in the following order:

(a) Income that is not reasonably anticipated, or is received infrequently or irregularly, when such income does not exceed:

~~((a))~~ (i) Twenty dollars per month if unearned; or  
~~((b))~~ (ii) Ten dollars per month if earned.

~~((2))~~ (b) The first twenty dollars per month of earned or unearned income with the following exception. ~~((The department may not exclude))~~ Income paid to a client on the basis of need ~~(and),~~ which is totally or partially funded by the federal government or by a private agency is not disregarded.

~~((3))~~ (2) For an SSI-related person, the first sixty-five dollars per month of earned income not exempted under WAC 388-513-1340, plus one-half of the remainder.

~~((4))~~ (3) For ~~((an AFDC))~~ a TANF-related person, ~~((the first ninety dollars))~~ fifty percent of gross earned income.

(4) Veteran's Administration benefits if:

(a) Benefits are designated for:

(i) Unusual medical expenses;

(ii) Aid and attendance allowance; or

(iii) Housebound allowance; and

(b) The client is a veteran or veteran's surviving spouse who:

(i) Resides in a state veterans home; and

(ii) Has no dependents.

(5) Money voluntarily withheld from SSA Title II benefits by the Social Security Administration for the recovery of an SSI overpayment ~~((and)).~~

(6) ~~((A fee charged by))~~ The amount a guardian ((as reimbursement for provided)) or representative payee charges to provide services ((when such guardianship services are a requirement)) necessary for the client to receive ((payment of)) the income.

**AMENDATORY SECTION** (Amending WSR 96-14-058, filed 6/27/96, effective 7/28/96)

**WAC 388-515-1505 Community options program entry system (COPEs).** This section describes eligibility criteria related to COPEs. (1) ~~((The department shall determine))~~ A person eligible for COPEs ((when a person)):

(a) Is eighteen years of age or over ((and:

(a) Meets the categorically needy eligibility requirements for an SSI-related institutionalized person. For the purposes of COPEs, a person is considered institutionalized as of the date all eligibility criteria, except institutionalized status, is met);

(b) ~~((Requires the level of care provided in a nursing facility))~~ Meets SSI-related criteria;

(c) Has income and resources at or below the standards for institutional care as described under WAC 388-513-1315 (1)(a)-(d), 388-513-1330, 388-513-1340, and 388-513-1350;

(d) Has ((a department approved plan of care that meets the eligibility requirements for COPEs personal care)) attained institutional status as described under WAC ((388-15-610; and

~~((d))~~ 388-513-1320(1), but is able and chooses to reside at home with community support services, or in a ((

(i) Congregate care facility (CCF);

(ii) department-contracted;

(i) Adult residential care (ARC) facility;

(ii) Enhanced adult residential care (EARC) facility;

(iii) Licensed adult family home (AFH); ((or

(iii)) (iv) Licensed boarding home (LBH); or

(v) Assisted living (AL) facility.

(e) ~~((Is institutionalized, or the department determines is likely to be institutionalized within the next thirty days in the absence of waived services under WAC 388-15-615))~~ Is approved for a plan of care as described under WAC 388-15-610.

~~(2) ((The department shall exempt SSI income from participation)) An SSI client does not participate in the cost of COPEs ((care)) services. An SSI client:~~

~~(a) Living at home, retains all income; or~~

~~(b) Living in an ARC, EARC, AFH, LBH, or AL:~~

~~(i) Retains a personal needs allowance (PNA) of:~~

~~(A) Ninety dollars, if the client is a veteran or a veteran's surviving spouse, who has no dependents, and receives an improved pension; or~~

~~(B) Fifty-eight dollars and eighty-four cents; and~~

~~(ii) Pays remaining SSI income to the facility for the cost of board and room.~~

~~(3) ((The department shall allocate available income of the SSI-related COPEs client as described under WAC 388-513-1380 (1), (2), (3), (4), (d), (e), (f), (g), and (h), (5), and (6). The client shall retain for maintenance needs an amount equal to:~~

~~(a) For a single person or a married person not living with a community spouse, one hundred percent of the one-person Federal Poverty Level (FPL);~~

~~(b) For a married couple who are both receiving COPEs, one hundred percent of the one-person FPL for each person; or~~

~~(c) For a married person living with a community spouse, the one-person MNIL)) A general assistance (GA) client does not participate in the cost of COPEs services. A GA client:~~

~~(a) Living at home, retains full amount of GA grant; or~~

~~(b) Living in an ARC, EARC, AFH, LBH, or AL:~~

~~(i) Retains a PNA of:~~

~~(A) Ninety dollars, if the client is a veteran or a veteran's surviving spouse, who has no dependents, and receives an improved pension; or~~

~~(B) Thirty-eight dollars and eighty-four cents; and~~

~~(ii) Pays remaining GA income to the facility for the cost of board and room.~~

~~(4) ((The SSI-related client residing in a CCF, AFH, or LBH shall:~~

~~(a) Retain from a maintenance needs amount, a personal needs allowance of fifty dollars; and~~

~~(b) Pay the remaining maintenance needs amount to the facility for the cost of board and room.~~

~~(5) The department shall include the remaining income after allocations as the participation amount for COPEs services as described under WAC 388-15-620)) Countable income of the SSI-related client is allocated as described under WAC 388-513-1380 (1), (2), (3)(b)-(d), (4) and (5).~~

~~(a) The client living in the home retains a maintenance needs amount equal to the following:~~

~~(i) For a single person or a married person not living with a community spouse, one hundred percent of the one-person Federal Poverty Level (FPL);~~

~~(ii) For a married couple who are both receiving COPEs, one hundred percent of the one-person FPL for each person; or~~

~~(iii) For a married person living with a community spouse, the one-person medically needy income level (MNIL).~~

(b) The client living in an ARC, EARC, AFH, LBH, or AL receives a maintenance needs amount equal to the one-person MNIL;

(i) Retains a PNA taken from the MNIL of:

(A) Ninety dollars, if the client is a veteran or a veteran's surviving spouse, who has no dependents, and receives an improved pension; or

(B) Fifty-eight dollars and eighty-four cents; and

(ii) Pays the remainder of the MNIL to the facility for the cost of board and room.

(c) Any income remaining after allocations under subsection (5)(a) or (b) of this section is the client's participation in the cost of care for COPEs services.

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.

**WSR 98-24-128**  
**PROPOSED RULES**  
**LIQUOR CONTROL BOARD**  
[Filed December 2, 1998, 11:28 a.m.]

Original Notice.

Preproposal statement of inquiry was filed as WSR 98-01-068.

Title of Rule: WAC 314-12-210 Alcohol impact areas and neighborhood livability—Purpose, 314-12-215 Alcohol impact areas—Definitions—Guidelines, 314-12-220 Neighborhood livability—Definitions—Guidelines, and 314-12-225 Severability.

Purpose: The purpose of the proposed rules is to provide a framework under which the board, in partnership with local government subdivisions, can take action to mitigate any negative impacts on a community's livability that result from the presence of chronic public inebriation or illegal activity associated with alcohol sales and consumption.

Statutory Authority for Adoption: RCW 66.08.030.

Statute Being Implemented: RCW 66.24.010.

Summary: The proposed rules establish an expanded local review process for liquor license applications and renewals inside an alcohol impact area; create additional standards under which the board may refuse to issue or renew a liquor license, may place conditions upon the issuance or renewal of a license, or may place conditions upon an existing liquor license; and allow the board, in specific circumstances, to restrict the off-premises sale of certain alcohol products.

Name of Agency Personnel Responsible for Drafting: Bill Daley, P.O. Box 43075, Olympia, WA 98504-3075, (360) 664-9802; Implementation: David Goyette, P.O. Box 43075, Olympia, WA 98504-3075, (360) 753-2724; and Enforcement: Gary Gilbert, P.O. Box 43075, Olympia, WA 98504-3075, (360) 753-6270.

Name of Proponent: Washington State Liquor Control Board, governmental.

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

PROPOSED

**Explanation of Rule, its Purpose, and Anticipated Effects:** Per chapter 66.08 RCW, part of the board's responsibility to protect the welfare, health, peace, and safety of the people of the state is to ensure that liquor licensees conduct their business in a lawful manner, and that the presence of a licensee's alcohol sales does not unreasonably disturb the health, peace, and safety of the surrounding community.

Therefore, the purpose of these rules concerning alcohol impact areas and neighborhood livability is to provide a framework under which the board, in partnership with local government subdivisions, can take action to mitigate any negative impacts on a community's livability that result from the presence of chronic public inebriation or illegal activity associated with alcohol sales and consumption.

The proposed rules establish an expanded local review process for liquor license applications and renewals inside an alcohol impact area (AIA); create additional standards under which the board may refuse to issue or renew a liquor license, may place conditions upon the issuance or renewal of a license, or may place conditions upon an existing liquor license; and allow the board, in specific circumstances, to restrict the off-premises sale of certain alcohol products.

Proposal does not change existing rules.

No small business economic impact statement has been prepared under chapter 19.85 RCW. No known disproportional impact to small business.

Section 201, chapter 403, Laws of 1995, does not apply to this rule adoption. The Washington State Liquor Control Board is not a listed agency in section 201.

**Hearing Location:** Three hearings: On January 6, 1999, at 8:30 a.m., at Cavanaugh's on 5th Avenue, Whidbey Room, 1415 5th Avenue, Seattle, WA; on January 6, 1999, at 2:30 p.m., at the Spokane Community College, Sasquatch Room, Building 6, North 1810 Greene Street, Spokane, WA; and on January 7, 1999, at 8:30 a.m., at the Oxford Suites, 1701 Terrace Heights, Yakima, WA.

**Assistance for Persons with Disabilities:** Contact Teresa Berntsen by January 5, 1999, TDD (360) 586-4727, or (360) 586-1641.

**Submit Written Comments to:** Teresa Berntsen, Rules Coordinator, P.O. Box 43080, Olympia, WA 98504-3080, fax (360) 664-9689, by January 7, 1999.

**Date of Intended Adoption:** January 13, 1999.

December 2, 1998

Nathan S. Ford, Jr.  
Chair

## NEW SECTION

**WAC 314-12-210 Alcohol impact areas and neighborhood livability—Definitions—Purpose (1) What is the purpose of these rules concerning alcohol impact areas and neighborhood livability?**

(a) RCW 66.08 is the enabling statute for the liquor control board. This statute exercises the police power of the state for the protection of the welfare, health, peace, and safety of the people of the state.

(b) Part of the board's responsibility to protect the welfare, health, peace, and safety of the people of the state is to

ensure that liquor licensees conduct their business in a lawful manner, and that the presence of a licensee's alcohol sales does not unreasonably disturb the health, peace, and safety of the surrounding community.

(c) The purpose of these rules concerning alcohol impact areas and neighborhood livability is to provide a framework under which the board, in partnership with local government subdivisions, can take action to mitigate negative impacts on a community's livability that result from the presence of chronic public inebriation or illegal activity associated with alcohol sales and consumption.

(d) For the purposes of these rules, chronic public inebriation exists when the effects of the public consumption of alcohol and/or public intoxication occur in concentrations that endanger the welfare, health, peace and safety of a neighborhood or community.

(e) These rules:

(i) establish an expanded local review process for liquor license applications and renewals inside an alcohol impact area (AIA);

(ii) create additional standards under which the board may refuse to issue or renew a liquor license, may place conditions upon the issuance or renewal of a license, or may place conditions upon an existing liquor license; and

(iii) allow the board, in specific circumstances, to restrict the off-premises sale of certain alcohol products.

## NEW SECTION

**WAC 314-12-215 Alcohol impact areas—Definition—Guidelines (1) What is an alcohol impact area (AIA)?** An alcohol impact area is a geographic area within a city, town, or county that has been designated by ordinance by the government subdivision and recognized by the board as being adversely affected by chronic public inebriation or illegal activity associated with alcohol sales and/or consumption.

(a) Once the board recognizes an AIA:

(i) it will immediately set a unique local license review process for liquor license applications and renewals inside that area, and

(ii) it may place conditions upon the liquor licenses of establishments within the AIA that are reasonably related to reducing chronic public inebriation or illegal activity associated with alcohol sales and/or consumption, including, but not limited to, restrictions on the hours of operation for alcohol sales and the off-premises sale of certain alcohol products, if the board finds that there is reason to believe that the availability of these products is linked with the occurrence of chronic public inebriation.

(2) **Under what guidelines will the board recognize an alcohol impact area?** The board, by resolution, may recognize an alcohol impact area adopted by any city, town, or county, and subsequently referred to the board for action by the government subdivision, subject to all of the following conditions:

(a) The AIA comprises a geographic area that does not include the entire territory of the local jurisdiction;

(b) The government subdivision has given a rationale, expressed in the ordinance, for the establishment of the proposed boundaries of the AIA;

(c) The government subdivision has described the boundaries of the AIA in the ordinance in such a way that:

(i) the board can determine which liquor licenses are in the proposed area, and

(ii) the boundaries are understandable to the public at large; and

(d) The geographic area included in the AIA is designated by enactment of an ordinance of the government subdivision's controlling legislative authority that includes findings of fact which establish:

(i) chronic public inebriation or illegal activity associated with alcohol sales and/or consumption within the proposed AIA is contributing to the deterioration of the general quality of life within the area or threatens the welfare, health, peace, or safety of the area's visitors and occupants;

(ii) there is a pervasive pattern of public intoxication and/or public consumption of alcohol as documented in crime statistics, police reports, emergency medical response data, detoxification reports, sanitation reports, or other similar records; and

(iii) a good faith effort has been made by the government subdivision to control the problem through voluntary efforts, including the notification of licensees within the proposed AIA of public intoxication problems and of such voluntary efforts available to them.

(e) The AIA will take effect on the date of the board's resolution extending recognition to the AIA.

**(3) Under what circumstances can the board restrict alcohol products that may be sold by liquor licensees for off-premises consumption in an AIA?**

(a) The board can restrict categories of alcohol products that are sold by liquor licensees for off-premises consumption in an AIA, subject to all of the following conditions:

(i) product restrictions must be requested by the government subdivision's local law enforcement agency or public health authority;

(ii) the board finds that the sale of such products are reasonably linked to the problems associated with chronic public inebriation; and

(iii) the government subdivision has shown that voluntary efforts have failed to significantly reduce the impact of chronic public inebriation, or that voluntary efforts need augmentation by product restrictions.

**(4) What type of voluntary efforts must the government subdivision attempt before the board will implement mandatory product restrictions?**

(a) The government subdivision must provide documentation to the board that all licensees in the proposed AIA have been notified that behavior associated with alcohol sales within the proposed AIA is having an impact on chronic public inebriation.

(b) The government subdivision must show that it has made reasonable efforts to implement voluntary agreements with liquor licensees in the proposed AIA to promote business practices that reduce chronic public inebriation and promote public welfare, health, peace, and safety.

(c) These voluntary agreements must have been attempted for at least six months before the government subdivision presents information to the board that voluntary efforts have failed or need augmentation by product restrictions.

(d) The board will notify the appropriate beer and wine distributors when product restrictions are placed on retail licensees in an AIA.

(e) When restrictions on the sale of alcohol products are placed on all licensees within an AIA, no state liquor store or agency located within the AIA may sell the restricted products.

**(5) What is the process for liquor license applications and renewals for premises inside a recognized AIA? Subject to the provisions of RCW 66.24.010(8):**

(a) When the board receives an application for a liquor license within a recognized AIA, the board will establish an extended time period for the government subdivision to comment on the liquor license issuance.

(i) This comment period will be no more than 90 days, unless the government subdivision submits a written request for extension that includes a rationale for the extension of the comment period for the particular application.

(ii) The government subdivision can submit comment at any time prior to the end of the comment period.

(b) The board will establish an extended time period for the government subdivision to comment on the renewals of liquor licenses within an AIA.

(i) The notice of renewal will be mailed to the government subdivision no less than 90 days before the current license expires.

(ii) The government subdivision can submit comment at any time prior to the end of the comment period.

**(6) Can an AIA be repealed?** The board can rescind their recognition of an AIA under the following conditions:

(a) The government subdivision repeals the specific enabling ordinance referred to the board for recognition of an AIA; or

(b) The board repeals its recognition of an AIA as the result of a public hearing, called by the board acting on its own initiative or at the request of a business or resident within the AIA, made after the AIA has been in effect for at least two years.

#### NEW SECTION

**WAC 314-12-220 Neighborhood livability—Guidelines (1) In addition to its normal powers, what actions may the board take if an existing or proposed liquor license affects neighborhood livability?**

(a) Under the provisions of RCW 66.08.150, if the board finds that the issuance, renewal, or unmodified continuation of a liquor license has or will have significant adverse impact on the livability of a neighborhood, the board may, in addition to its normal powers:

(i) refuse to issue or renew a liquor license,

(ii) place conditions on the issuance or renewal of a liquor license, or

(iii) place conditions upon an existing liquor license.

(b) The board's refusal to issue or renew a liquor license, decision to place conditions on the issuance or renewal of a liquor license, or decision to place conditions on an existing liquor license may be based on the following criteria associated with neighborhood livability which the board finds are related to the sale or service of alcohol products:

(i) demands on police services, emergency medical care services, health and sanitation facilities, public and private institutions providing treatment services, or public areas such as parks and sidewalks;

(ii) chronic public inebriation;

(iii) obtrusive or excessive noise;

(iv) unlawful drug sales;

(v) trespassing on private property;

(vi) fights, altercations, or harassment;

(vii) litter;

(viii) public elimination of bodily wastes; and/or

(ix) public sexual activity.

(c) In the case of license renewals, the board will also consider if a licensee has cooperated with local law enforcement and/or board enforcement agents, local governments, and community groups in an effort to control or lessen alcohol related problems through voluntary means and whether or not such voluntary efforts have been or are likely to be successful.

**(2) What type of conditions may the board place upon the issuance or renewal of a liquor license or on an existing license due to impact on neighborhood livability?**

(a) The board may restrict certain alcohol products that may be sold by liquor licensees for off-premises consumption when it finds that such alcohol products are reasonably linked with adverse impacts upon neighborhood livability, subject to the following conditions:

(i) alcohol product restrictions must be recommended by the government subdivision's local law enforcement agency or its public health authority, and found by the board to be a causative factor in the problems associated with neighborhood livability; and

(ii) the government subdivision must show that voluntary efforts have failed to reduce significantly the problems associated with neighborhood livability.

(b) The board may restrict the hours that licensees may sell liquor, if it finds that these hours have a significant adverse impact on the livability of a neighborhood; and

(c) The board may place other restrictions on the licensee, if the board finds that activities relating to the sale of alcohol are reasonably linked to problems associated with neighborhood livability.

(d) The board will notify the appropriate beer and wine distributor when product restrictions are placed on a retail licensee.

the invalid provision or application, and to this end the provisions of these rules are declared to be severable.

**NEW SECTION**

**WAC 314-12-225 Severability.** If any provision of WAC 314-12-210 through WAC 314-12-220 or the application thereof to any person or circumstance shall be held invalid, such invalidity shall not affect the provisions or the applications of these rules which can be given effect without



**NO EXPEDITED ADOPTIONS FILED IN THIS ISSUE**

**EXPEDITED ADOPTION**





**WSR 98-23-089**  
**PERMANENT RULES**  
**NORTHWEST AIR**  
**POLLUTION AUTHORITY**  
 [Filed November 18, 1998, 9:01 a.m.]

Date of Adoption: November 12, 1998.

Purpose: To repeal, add, and amend sections of the NWAPA/Regulation to provide more clarity for users, to modify fee structures for new source review, registration, and asbestos, and to make the registration and new source review programs more consistent with the Department of Ecology.

Citation of Existing Rules Affected by this Order:

**Amendatory Sections:**

- 104.1 Update adoption by reference of current state and federal laws and rules.
- 133.1 Adjust civil penalty to account for inflation.
- 200 Add definitions for clarity.
- 480.3 Change emission performance standards for certified wood stoves.
- 480.6 Change threshold for ambient concentration of fine particles as to when to issue a curtailment period.
- 504 Change the amounts of fees collected for agricultural burning when using mobile field burning equipment.
- 580.3 Streamline and coordinate NWAPA requirement for petroleum liquid storage tanks. New language brings rule in line with federal New Source Performance Standards and Maximum Achievable Control Technology.
- 580.6 Lowers throughput threshold from 360,000 gallons per year to 200,000 gallons per year for Stage I requirements at gasoline stations.

**New Sections:**

- 300 Complete rewrite of new source review program for clarity and consistency with other local and state new source review programs.
- 301 Rewrites rules for issuance of a "Notice of Construction" approval order.
- 302 Notice of Completion requirements are clarified.
- 303 Identifies penalties for establishing an air contaminant source without a "Notice of Construction Order of Approval."
- 320 Complete rewrite of registration program for clarity and consistency with other state and local registration programs.
- 321 Establishes source exemptions from the registration program.
- 322 Rewrite air operating permit rule. Retains current fee calculation method.
- 324 Establishes new registration fees and new source review fees.
- 570 Rewrite asbestos programs rules and requirements for clarity and consistency with other local asbestos programs.

**Repealed Sections:**

- 300 Notice of Construction When Required.

- 301 Information Required for Notice of Construction.
- 302 Issuance of Approval or Order.
- 303 Notice of Completion-Notice of Violation.
- 320 Registration Required.
- 321 General Requirements for Registration.
- 322 Exemptions from Registration.
- 323 Classes of Registration.
- 324 Fees.
- 325 Transfer.
- 326 Operating Permits.
- 570 Asbestos Control Standards.

Statutory Authority for Adoption: Chapter 70.94 RCW.  
 Adopted under notice filed as WSR 98-19-033 on September 10, 1998.

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 6, Repealed 12.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 9, Amended 6, Repealed 12.

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.

November 17, 1998

James B. Randles  
 Assistant Control Officer

**AMENDATORY SECTION**

**SECTION 104 - ADOPTION OF STATE AND FEDERAL LAWS AND RULES**

- 104.1 All provisions of State Law as it now exists or may be hereafter amended, which is pertinent to the operation of the Authority is hereby adopted by reference and made part of the Regulation of the Authority as of May 14, 1998. Specifically, there is adopted by reference the Washington State Clean Air Act (RCW 70.94), the Administrative Procedures Act (RCW 34.04) and RCW 43.21A and 43.21B and the following state rules: WAC 173-400, WAC 173-401, WAC-405, WAC 173-410, WAC 173-415, WAC-420, WAC-421, WAC-422, WAC 173-425, WAC 173-430, WAC 173-433, WAC 173-434, WAC-435, WAC-450, WAC 173-460, WAC 173-470, WAC 173-474, WAC 173-475, WAC 173-480, WAC 173-481, WAC 173-490, WAC 173-491, WAC-492, WAC-495, and WAC 173-802.
- 104.2 All provisions of the following federal rules are hereby adopted by reference and made part of the Regulation of the Authority as of May 14, 1998: 40 CFR Part 60 (Standards of Performance For New

Stationary Sources) subparts A, B, C, Ca, Cb, Cc, Cd, ~~Ce~~, D, Da, Db, Dc, E, Ea, Eb, ~~Ec~~, F, G, H, I, J, K, Ka, Kb, L, M, N, Na, O, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AAa, BB, CC, DD, EE, GG, HH, KK, LL, MM, NN, PP, QQ, RR, SS, TT, UU, VV, WW, XX, AAA, BBB, DDD, FFF, GGG, HHH, III, JJJ, KKK, LLL, NNN, OOO, PPP, QQQ, RRR, SSS, TTT, UUU, VVV, WWW; and 40 CFR Part 61 (National Emission Standards For Hazardous Air Pollutants) Subparts A, B, C, D, E, F, H, I, J, K, L, M, N, O, P, Q, R, T, V, W, Y, BB, FF and 40 CFR Part 63 (National Emission Standards for Hazardous Air Pollutants for Source Categories) Subparts A, B, C, D, F, G, H, I, L, M, N, O, Q, R, ~~S~~, T, U, W, X, Y, CC, DD, EE, GG, II, JJ, KK, ~~LL~~, OO, PP, QQ, RR, VV, and JJJ.

Amended: April 14, 1993, September 8, 1993, December 8, 1993, October 13, 1994, May 11, 1995, February 8, 1996, May 9, 1996, March 13, 1997, May 14, 1998, November 12, 1998

**AMENDATORY SECTION**

**SECTION 133 - CIVIL PENALTY**

133.1 In addition to or as an alternate to any other penalty provided by law, any person who violates any of the provisions of Chapter 70.94 RCW, chapter 70.120 RCW, any of the rules in force under such chapters, including the Regulation of the Northwest Air Pollution Authority shall be liable for a civil penalty in an amount of not more than twelve thousand dollars (\$12,000) ~~eleven thousand two hundred twenty five dollars (\$11,225)~~ per day per violation. Each violation shall be a separate and distinct offense, and in the case of a continuing violation, each day's continuance shall be a separate and distinct violation. Any person who fails to take action as specified by an order shall be liable for a civil penalty of not more than twelve thousand dollars (\$12,000) ~~eleven thousand two hundred twenty five dollars (\$11,225)~~ for each day of continued noncompliance.

AMENDED: November 14, 1984, April 14, 1993, September 8, 1993, October 13, 1994, February 8, 1996, November 12, 1998

Reviser's note: The typographical errors in the above material occurred in the copy filed by the Northwest Air Pollution Authority and appear in the Register pursuant to the requirements of RCW 34.08.040.

**AMENDATORY SECTION**

**SECTION 200 - DEFINITIONS**

SIGNIFICANT - means, in reference to a net emission increase or the potential of a source to emit any of the following pollutants, a rate of emission equal to or greater than any of the following rates:

POLLUTANT	TONS/YR
Carbon monoxide	100
Nitrogen oxides	40
Sulfur dioxide	40
Particulate matter (PM)	25
Fine particulate matter (PM-10)	15
Volatile organic compounds (VOC's)	40
Lead	0.6
Fluorides	3
Sulfuric acid mist	7
Hydrogen sulfide (H2S)	10
Total reduced sulfur (including H2S)	10
Municipal waste combustor organics (measured as total tetra-through octa-chlorinated dibenzo-p-dioxins and dibenzofurans)	0.0000035
Municipal waste combustor metals (measured as PM)	15
Municipal waste combustor acid gases (measured as SO2 and hydrogen chloride)	40

ODOR SOURCE - Any source that incurs two verified odor nuisance complaints within a twelve month time period. Odor nuisance complaints are verified by a NWAPA representative according to the criteria of the NWAPA Regulation Sections 530.1 and 535.3.

COMMERCIAL COMPOSTING FACILITY - a facility that is operated for the purpose of selling or off-site distribution of compost produced via the controlled biological degradation of organic material.

AMENDED: October 13, 1982, November 14, 1984, April 14, 1993, October 13, 1994, February 8, 1996, May 9, 1996, March 13, 1997, November 12, 1998

**REPEALER**

**SECTION 300 - NOTICE OF CONSTRUCTION WHEN REQUIRED**

**NEW SECTION**

**SECTION 300 - NEW SOURCE REVIEW**

- 300.1 It shall be unlawful for any person to cause or allow the construction, installation, establishment, or modification of an air contaminant source or emission unit, except those sources that are excluded in Section 300.2, unless a "Notice of Construction and Application for Approval" has been filed with and approved by the Authority.
- 300.2 Except when part of a new major source or major modification in a nonattainment area, the following air contaminant sources do not need to submit a "Notice of Construction and Application for Approval" approved by the Authority prior to construction, installation, establishment, or modification:

PERMANENT

- a) Ventilating systems, including fume hoods, not designed to prevent or reduce air contaminant emissions.
- b) A project with combined aggregate heat inputs of combustion units, less than or equal to all of the following:
  - (1) 500,000 Btu/hr using coal with  $\leq 0.5\%$  sulfur or other fuels with  $\leq 0.5\%$  sulfur;
  - (2) 500,000 Btu/hr used oil, per the requirements of RCW 70.94.610;
  - (3) 400,000 Btu/hr wood waste or paper;
  - (4) 1,000,000 Btu/hr using kerosene, #1, or #2 fuel oil and with  $\leq 0.05\%$  sulfur;
  - (5) 4,000,000 Btu/hr using natural gas, propane, or LPG.
- c) Insecticide, pesticide, or fertilizer spray equipment.
- d) Internal combustion engines less than the size thresholds of the proposed or final United States Environmental Protection Agency (EPA) New Source Performance Standards (NSPS) 40 CFR Part 60 Subpart FF (Stationary Internal Combustion Engines, 44 FR 43152 7/23/79), or the promulgated EPA NSPS 40 CFR Part 60 Subpart GG (Stationary Gas Turbines).
- e) Laboratory equipment used exclusively for chemical or physical analyses.
- f) Laundry dryers without control equipment.
- g) Dryers or ovens used solely to accelerate evaporation.
- h) Routing, turning, carving, cutting, and drilling equipment used for metal, wood, plastics, rubber, leather, or ceramics which does not release air contaminants to the ambient air.
- i) Storage tanks:
  - 1) that do not store substances capable of emitting air contaminants; or
  - 2) that store volatile organic liquids having at true vapor pressure less than 1.5 psia; or
  - 3) with a rated capacity equal to or less than 6,000 gallons storing volatile organic liquids; or
  - 4) with a rated capacity equal to or less than 20,000 gallons storing petroleum liquids.
- j) Sanitary or storm drainage systems.
- k) Welding, brazing, or soldering equipment.
- l) Asphalt roofing and laying equipment (not including manufacturing or storage).
- m) Restaurants and other retail food-preparing establishments.
- n) Gasoline stations without Stage II vapor recovery.
- o) Cold solvent cleaners using a solvent with a true vapor pressure less than or equal to 4.2 kPa (0.6 psia).
- p) Retail printing operations (not including web presses).
- q) Spray painting or blasting equipment used at a temporary location to clean or paint bridges, water towers, buildings, or similar structures.
- r) Sources or emission units not listed above that have the potential to emit (uncontrolled) less than the following air pollutants:

POLLUTANT		THRESHOLD LEVEL (tons per year)
(a)	Total Suspended Particulates	1.25
(b)	PM <sub>10</sub>	0.75
(c)	Sulfur Oxides	2.0
(d)	Nitrogen Oxides	2.0
(e)	Volatile Organic Compounds, total	2.0
(f)	Carbon Monoxide	5.0
(g)	Lead	0.005
(h)	Ozone Depleting Substances in Aggregate (the sum of Class I and/or Class II substances as defined in FCAA Title VI and 40 CFR Part 82)	1.0

- s) Sources of toxic air pollutants listed as exempt from new source review in Chapter 173-460-040 WAC.
  - t) Any source that has been determined through review by the Control Officer not to warrant a "Notice of Construction and Application for Approval", due to the minimal amount and nature of air contaminants produced, the type of air pollution control device, and potential to contribute to air pollution, with special reference to effects on health, economic and social factors, and physical effects on property. The owner or operator shall submit to the Control Officer, the information necessary to make this determination. The Control Officer shall notify the owner or operator in writing whether a "Notice of Construction and Application for Approval" is required for the source.
- 300.3 Each "Notice of Construction and Application for Approval" shall be submitted on forms provided by the Authority and shall be accompanied by a set of plans that fully describes the proposed source, the means for prevention or control of the emissions of air contaminants, the appropriate fee as required by Section 324.2, and any additional information required by the Board or Control Officer to demonstrate that the proposed source will meet the requirements of Section 301.
- 300.4 A "Notice of Construction and Application for Approval" is incomplete until the Authority has received a fee as shown in Section 324.2.
- 300.5 Within 30 days of receipt of a "Notice of Construction and Application for Approval", the Authority shall notify the applicant in writing if any additional information is necessary to complete the application.
- 300.6 The Authority shall provide public notice prior to approval or denial of a Notice of Construction if a new or modified source will result in a significant emissions increase. The public notice shall provide for a thirty-day period to receive written comments. No final decision will be made on any "Notice of Construction and Application for Approval" until the comment period has ended and all comments have been considered.

PERMANENT

- 300.7 The applicant, any interested governmental entity, any group, or any person may request a public hearing within the 30-day public notice period published as provided above. Any such request shall indicate the interest of the entity filing it and why a hearing is warranted. The Authority may, at its discretion, hold a public hearing if it determines significant public interest exists. Any such hearing shall be held upon such notice and at a time and place as the Authority deems reasonable. The Authority shall provide at least 30 days prior notice of any hearing.
- 300.8 Control technology determinations issued pursuant to Title 40 Code of Federal Regulations part 63 subpart B shall be administered in accordance with procedures specified therein.
- 300.9 A completed State Environmental Policy Act Guidelines "Environmental Checklist" shall be submitted on forms provided by the Authority in accordance with Chapter 197-10-365 WAC and Section 312 of this regulation, as part of the required "Notice of Construction and Application for Approval".
- c) best available control technology is employed for the installation of new sources and emission units and the modification of existing sources and emission units; and
- d) reasonably available control technology is employed for the replacement of existing control equipment.
- e) the source complies with all applicable federally mandated air pollution control programs.
- 301.4 No Order of Approval shall be issued for a new or modified source of toxic air contaminants unless the "Notice of Construction and Application for Approval" demonstrates to the Board or Control Officer that:
- a) the increased toxic air pollutant emissions from the source are sufficiently low to protect human health and safety from carcinogenic and/or other toxic effects pursuant to Chapter 173-460-070 WAC; or
- b) the emissions from the source will not cause air pollution that exceeds the criteria identified in Chapter 173-460-090 WAC or Chapter 173-460-100 WAC and receives approval from the Department of Ecology.

PASSED: November 12, 1998

#### REPEALER

SECTION 301 - INFORMATION REQUIRED FOR NOTICE OF CONSTRUCTION AND APPLICATION FOR APPROVAL, PUBLIC NOTICE, PUBLIC HEARING

#### NEW SECTION

SECTION 301 - ORDER OF APPROVAL - ORDER TO PREVENT CONSTRUCTION

- 301.1 Within 60 days of receipt of a complete "Notice of Construction and Application for Approval", or as promptly as possible after the close of the public comment period if subject to the public notice requirements of Section 300 of this Regulation, the Board or Control Officer shall issue an Order of Approval or an Order to Prevent Construction. A person seeking approval to construct or modify a source that requires an operating permit may elect to integrate review of the operating permit application or amendment required by Section 322 of this Regulation provided that any such application shall be processed in accordance with the operating permit program procedures and deadlines.
- 301.2 An Order of Approval may provide such conditions of operation as are reasonably necessary to assure compliance with all applicable emission standards and regulations.
- 301.3 No Order of Approval shall be issued unless the "Notice of Construction and Application for Approval" demonstrates to the Board or Control Officer that:
- a) the operation of the source at the location proposed will not cause or contribute to a violation of an ambient air quality standard;
- b) the source will meet the requirements of all applicable emission standards;
- 301.5 An Order of Approval to Construct shall expire if the owner or operator has failed to commence construction of the source within 12 months of the date of its issuance or if construction is discontinued for a period of more than 12 months. The Control Officer may extend the time limit if it is determined that the project still employs BACT.
- 301.6 An Order to Prevent Construction shall set forth the objections in detail with references to the provisions of this Regulation that would not be met. Such Order shall become final unless, no later than 15 days after the date the Order is served, the applicant petitions for a reconsideration of the Order, with reasons for the reconsideration. The Control Officer shall consider the petition, and shall, within 30 days, give written Order of Approval or final disapproval of the Notice of Construction setting forth the reasons for disapproval.
- 301.7 It shall be unlawful for an owner or operator of a source or emission unit to not abide by the operating and reporting conditions in the Order of Approval.
- 301.8 Portable Sources. For portable sources which locate temporarily at particular sites, the owner(s) or operator(s) shall be allowed to operate at the temporary location without filing a notice of construction application, providing that the owners(s) or operator(s) notifies the Authority of intent to operate at the new location at least 30 days prior to starting the operation, and supplies sufficient information to enable the Authority to determine that the operation will comply with the emission standards for a new source, and will not cause a violation of applicable ambient air quality standards and, if in a nonattainment area, will not interfere with the scheduled attainment of ambient standards. The permission to operate shall be for a limited period of time (90 days or less) and the Authority may set specific conditions for operation during that period. A temporary

source shall be required to comply with all applicable emission standards.

PASSED: November 12, 1998

REPEALER

SECTION 302 - ISSUANCE OF APPROVAL OR ORDER

NEW SECTION

SECTION 302 - NOTICE OF COMPLETION

Within 30 days of completion of the installation or modification of an air contaminant source subject to the provisions of Section 300 of this Regulation, the owner, operator or applicant shall file a Notice of Completion in writing with the Authority. Each Notice of Completion shall specify the date upon which operation of the source has commenced or will commence.

PASSED: November 12, 1998

REPEALER

SECTION 303 - NOTICE OF COMPLETION - NOTICE OF VIOLATION

NEW SECTION

SECTION 303 - WORK DONE WITHOUT AN APPROVAL

Where work for which a "Notice of Construction and Application for Approval" 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 324.2, shall be assessed in an amount equal to 3 times the fees of Section 324.2. Payment of the fees does not relieve any person from the requirement to comply with any air regulation nor from any penalties for failure to comply.

PASSED: November 12, 1998

REPEALER

SECTION 320 - REGISTRATION REQUIRED

NEW SECTION

SECTION 320 - REGISTRATION PROGRAM

320.1 Program Authority, Applicability and Purpose. As authorized by RCW 70.94.151, the Board, by this Regulation, classifies air contaminant sources which may cause or contribute to air pollution. This classification is made according to levels and types of emissions and other characteristics that cause or contribute to air pollution. The Board requires both registration and reporting for these classes of air contaminant sources. The classifications are made

for the entire area of jurisdiction of the Authority and are made with special reference to effects on health, economic and social factors, and physical effects on property. Information collected through the registration program is used to evaluate the effectiveness of air pollution control strategies and to verify source compliance with applicable air pollution requirements.

320.2 Registration and Reporting. Any person operating or responsible for the operation of an air contaminant source for which registration and reporting are required, shall register the source with the Authority. The owner or operator shall make reports to the Authority containing information as may be required by the Authority concerning location, size, and height of contaminant outlets, processes employed, nature of the air contaminant emission, and such other information as is relevant to air pollution and available or reasonably capable of being assembled.

320.3 Annual Registration Fees. The Board requires that a fee accompany registration and has determined the amount of this fee for each class of air contaminant source to be as shown in Section 324.1. The amount of fees collected shall not exceed the costs of administering this registration program, which shall be defined as:

- a) initial registration and annual or other periodic reports from the source owner or operator providing the information directly related to air pollution registration;
- b) on-site inspections necessary to verify compliance with registration requirements;
- c) data storage and retrieval systems necessary for support of the registration program;
- d) emission inventory reports and emission reduction credits computed from information provided by sources pursuant to the requirements of the registration program;
- e) staff review, including engineering analysis for accuracy and currentness, of information provided by sources pursuant to the requirements of the registration program;
- f) clerical and other office support provided in direct furtherance of the registration program; and
- g) administrative support provided in directly carrying out the registration program.

320.4 Any registered source which ceases to operate any air contaminant source for one (1) year or more or said source leaves the jurisdiction of the Authority and does not pay the annual registration fees, the source shall be considered a new source and shall submit a "Notice of Construction and Application for Approval" and receive approval from the Board prior to resumption of operation or re-entry into the jurisdiction of the Authority.

320.5 Registration Required

320.5.1 Source classification list. The following source categories shall register with the Authority:

- a) abrasive blasting operations;
- b) aerosol can-filling facilities;

PERMANENT

- c) agricultural chemical facilities engaged in the manufacturing of liquid or dry fertilizers or pesticides;
- d) agricultural drying and dehydrating operations;
- e) alumina processing;
- f) ammonium sulfate manufacturing plants;
- g) any source category subject to a federal standard of performance (NSPS) under 40 CFR Part 60, other than Subpart S (Primary Aluminum Reduction Plants), Subpart BB (Kraft Pulp Mills), or Subpart AAA (Standards of Performance for New Residential Wood Heaters);
- h) any source category subject to a federal standard under Section 112 of the Federal Clean Air Act (FCAA) other than 40 CFR Part 61 Subpart M;
- i) any source that has elected to opt-out of the operating permit program by limiting its potential-to-emit (synthetic minor) or is required to report periodically to demonstrate nonapplicability to EPA requirements under Sections 111 or 112 of the FCAA;
- j) any source that has equipment or control equipment, with an approved Notice of Construction from the NWAPA;
- k) any source, stationary source or emission unit with significant emissions;
- l) any source or emission unit from which emissions exceed the threshold levels for toxic air pollutants as specified in Chapter 173-401-531 WAC;
- m) asphalt and asphalt products production facilities, not including asphalt laying equipment;
- n) automobile and light-duty truck surface coating operations;
- o) baker's yeast manufacturing;
- p) brick and clay manufacturing plants, including tiles and ceramics;
- q) casting facilities and foundries, ferrous and nonferrous;
- r) cattle feedlots with operational facilities which have an inventory of one thousand or more cattle in operation between June 1 and October 1, where vegetation forage growth is not sustained over the majority of the lot during the normal growth season;
- s) chemical manufacturing plants;
- t) coal preparation plants;
- u) coffee roasting facilities;
- v) composting operations, including commercial, industrial and municipal, but exempting residential and agricultural composting activities;
- w) concrete product manufacturers and ready mix and premix concrete plants;
- x) crematoria or animal carcass incinerators;
- y) dry cleaning plants;
- z) ethylene dichloride, polyvinyl chloride, or vinyl chloride plants;
- aa) explosives production;
- bb) flexible polyurethane foam production;
- cc) flexible vinyl and urethane coating and printing operations;
- dd) gasoline stations (>200,000 gallons per year) and bulk gasoline plants (>200,000 gallons per year);
- ee) gelcoat, polyester, resin, or vinyl ester coating manufacturing operations at commercial or industrial facilities;
- ff) glass manufacturing plants;
- gg) grain, seed, animal feed, legume, and flour processing operations and handling facilities;
- hh) graphic art systems;
- ii) hay cubers and pelletizers;
- jj) hazardous waste treatment and disposal facilities;
- kk) hospitals, specialty and general medical surgical;
- ll) ink manufacturers;
- mm) insulation fiber manufacturers;
- nn) lead-acid battery manufacturing plants;
- oo) lime manufacturing plants;
- pp) materials handling and transfer facilities that generate fine particulate, which may include pneumatic conveying, cyclones, baghouses, and industrial housekeeping vacuuming systems that exhaust to the atmosphere;
- qq) meat packing plants;
- rr) metal plating and anodizing operations;
- ss) metallic and nonmetallic mineral processing plants, including rock crushing plants, and sand and gravel operations;
- tt) mills: such as lumber, plywood, shingle, woodchip, veneer operations, dry kilns, pulpwood insulating board, or any combination thereof;
- uu) mills: wood products (cabinet works, casket works, furniture, wood byproducts);
- vv) mineral wool production;
- ww) mineralogical processing plants;
- xx) municipal waste combustors;
- yy) natural gas transmission and distribution (SIC 4953);
- zz) nitric acid plants;
- aaa) odor sources;
- bbb) other metallurgical processing plants;
- ccc) paper manufacturers;
- ddd) petroleum refineries;
- eee) pharmaceuticals production;
- fff) plastics and fiberglass product fabrication facilities;
- ggg) pneumatic materials conveying operations and industrial housekeeping vacuuming systems that exhaust more than 1000 acfm to the atmosphere;
- hhh) portland cement plants;
- iii) primary copper smelters, lead smelters, magnesium refining and zinc smelters, but excluding primary aluminum plants;
- jjj) refuse systems including: incinerators, dumps and landfills (active and inactive, including covers, gas collection systems or flares);
- kkk) rendering plants;
- lll) salvage operations (scrap metal, junk);
- mmm) semiconductor manufacturing;
- nnn) shipbuilding and ship repair (surface coating);
- ooo) soil and groundwater remediation projects;
- ppp) soil vapor extraction (active), thermal soil desorption, or groundwater air stripping remediation projects;
- qqq) sulfuric acid plants;
- rrr) surface coating manufacturers;

- sss) surface coating operations including: metal, cans, pressure sensitive tape, labels, coils, wood, plastic, rubber, glass, paper and other substrates, excluding surface coating by use of aqueous solution or suspension;
- ttt) synthetic fiber production facilities;
- uuu) tire recapping facilities;
- vvv) utilities (combination of electrical and gas, and other utility services (SIC 4931, 4932, 4939));
- www) vegetable oil production;
- xxx) wastewater treatment plants;
- yyy) wood treatment; and
- zzz) any source, including any listed above, that has been determined through review by the Control Officer to warrant registration, due to the amount and nature of air contaminants produced, or the potential to contribute to air pollution, with special reference to effects on health, economic and social factors, and physical effects on property.

- 320.5.2 Equipment classification list. The owner or operator of the following equipment shall register with the Authority:
- a) all natural gas only fired boilers above 10 million Btu per hour input;
  - b) chemical concentration evaporators;
  - c) degreasers of the cold or vapor type in which more than five percent of the solvent is comprised of halogens or such aromatic hydrocarbons as benzene, ethylbenzene, toluene or xylene;
  - d) flares utilized to combust any gaseous material;
  - e) fuel burning equipment with a heat input of more than one million Btu per hour, except heating, air conditioning systems, or ventilating systems not designed to remove contaminants generated by or released from equipment;
  - f) ovens, burn-out or heat-treat;
  - g) stationary internal combustion engines and turbines rated at five hundred horsepower or more;
  - h) storage tanks, reservoirs, or containers:
    - 1) with a rated capacity greater than 6,000 gallons storing volatile organic liquids, other than petroleum liquids, having a true vapor pressure equal to or greater than 1.5 psia.
    - 2) With a rated capacity greater than 40,000 gallons storing petroleum liquids having a true vapor pressure equal to or greater than 1.5 psia.
  - i) vapor collection systems within commercial or industrial facilities;
  - j) waste oil burners above 0.5 million Btu heat output; and
  - k) woodwaste incinerators.

PASSED: November 12, 1998

#### REPEALER

#### SECTION 321 - GENERAL REQUIREMENTS FOR REGISTRATION

#### NEW SECTION

#### SECTION 321 - EXEMPTIONS FROM REGISTRATION

Exclusion from registration does not absolve the owner, lessee, or his registered agent from all other requirements of the Regulation of this Authority. Exemption from registration does not apply to any control facility or device required to be installed in order to meet the emission and/or ambient standards of this Regulation.

The following sources of air pollution are exempt from registration:

- 321.1 Motor vehicles.
- 321.2 Non-road engines (as defined in Section 216 of the FCAA).
- 321.3 Non-road vehicles (as defined in Section 216 of the FCAA).
- 321.4 Sources that require an air operating permit per Chapter 173-401 WAC.
- 321.5 The Control Officer may exempt sources having the potential to emit (uncontrolled) criteria air pollutants under the following thresholds:
  - a) 5 tons per year of carbon monoxide (CO);
  - b) 2 tons per year of nitrogen oxides (NO<sub>x</sub>);
  - c) 2 tons per year of sulfur dioxide (SO<sub>2</sub>);
  - d) 1.25 tons per year of particulate matter (PM);
  - e) 0.75 tons per year of fine particulate matter (PM<sub>10</sub>);
  - f) 2 tons per year of volatile organic compounds (VOC's);
  - g) 0.005 tons per year of lead.
- 321.6 The Control Officer may exempt sources that do not emit measurable amounts of Class A or Class B toxic air pollutants specified in Chapter 173-460-150 WAC and Chapter 173-460-160 WAC.

PASSED: November 12, 1998

#### REPEALER

#### SECTION 322 - EXEMPTIONS FROM REGISTRATION

#### NEW SECTION

#### SECTION 322 - AIR OPERATING PERMIT PROGRAM (AOP)

- 322.1 Purpose. The purpose of this section is to provide for a comprehensive operating permit program consistent with the requirements of Title V of the Federal Clean Air Act (FCAA) Amendments of 1990 and its implementing regulation 40 CFR Part 70, and RCW 70.94.161 and its implementing regulation Chapter 173-401 of the Washington Administrative Code (WAC).
- 322.2 Applicability. The provisions of this section shall apply to all sources within the NWAPA jurisdiction excluding those regulated by the Washington State Department of Ecology Industrial Section subject to the requirements of Section 7661(a) of the FCAA or Chapter 173-401-300 WAC.
- 322.3 Compliance. It shall be unlawful for any person to cause or allow the operation of any source subject to

the requirements of Chapter 173-401 WAC without complying with the provisions of Chapter 173-401 WAC and any permit issued under its authority.

322.4 Air Operating Permit Fees.

- a) The Authority shall levy annual operating permit program fees as set forth in this section to cover the cost of administering its operating permit program.
- b) Commencing with the effective date of the operating permit program, the Authority shall assess and collect annual air operating permit fees in its jurisdiction for any source specified in Section 7661(a) of Title V of the FCAA or Chapter 173-401-300 WAC (excluding sources regulated by the Washington State Department of Ecology Industrial Section). The total fees required by the NWAPA to administer the program shall be determined by a workload analysis conducted by the staff and approved annually by a resolution by the Board of Directors. Allocation of the fees to individual affected sources shall be based on the following:
  - 1) Twenty percent (20%) of the total fees shall be allocated equally among all affected sources.
  - 2) Eighty percent (80%) of the total fees shall be allocated based on actual emissions of regulated pollutants identified in the most recent annual emission inventory or potential emissions if actual data are unavailable. A regulated pollutant for fee calculation shall include:
    - Nitrogen oxides (NO<sub>x</sub>);
    - Volatile organic compounds (VOC's);
    - Particulate matter with an aerodynamic particle diameter less than or equal to 10μ (PM<sub>10</sub>);
    - Sulfur dioxide (SO<sub>2</sub>);
    - Lead; and
 Any pollutant subject to the requirements under Section 112(b) of the FCAA not included in any of the above categories.
- c) Upon assessment by the Authority, fees are due and payable and shall be deemed delinquent if not fully

paid within 90 days. Any source that fails to pay a fee imposed under this section within 90 days of the due date shall be assessed a late penalty in the amount of 50 percent of the fee. This late penalty shall be in addition to the fee assessed under this section.

- d) The Authority shall collect and transfer to the Washington State Department of Ecology a surcharge established by the Department of Ecology to cover the Department of Ecology's program development and oversight costs attributable to subject sources within the NWAPA jurisdiction. Fees for the Department of Ecology shall be allocated to affected sources in the same manner specified in this section.
- e) An affected source subject to the operating permit program that is required to pay an annual operating permit program fee shall not be required to pay a registration fee as specified in Section 324.

PASSED: November 12, 1998

REPEALER

SECTION 323 - CLASSES OF REGISTRATION

REPEALER

SECTION 324 - FEES

NEW SECTION

SECTION 324 - FEES

324.1 Annual Registration Fees

- a) The Authority shall levy fees as set forth in Section 324.1(b) below for services provided in administering the registration program. Fees received under the registration program shall not exceed the cost of administering the program.
- b) Fees

REGISTERED SOURCES	1999	2000	2001	2002	2003
Wastewater treatment plants w/sludge incinerators	\$500	\$515	\$535	\$555	\$575
Portable asphalt and soil desorption plants	\$300	\$310	\$320	\$330	\$340
Permanent asphalt and soil desorption units	\$600	\$620	\$640	\$660	\$680
Odor source	\$600	\$620	\$640	\$660	\$680
Petroleum coke handling facility	\$1,200	\$1,240	\$1,280	\$1,320	\$1,360
Perchloroethylene dry cleaners	\$150	\$155	\$160	\$165	\$170
Gasoline stations and Bulk plants	\$150	\$155	\$160	\$165	\$170
Chrome plating	\$150	\$155	\$160	\$165	\$170
Volatile organic compound storage tanks					
> or = 6000 gallons, < 40,000 gallons	\$200	\$210	\$220	\$230	\$240
> or = 40,000 gallons	\$500	\$515	\$535	\$555	\$575
Other sources as determined by the Control Officer	\$150	\$155	\$160	\$165	\$170
FOR SOURCES NOT LISTED ABOVE: ACTUAL EMISSIONS OF TOTAL CRITERIA AND TOXIC AIR POLLUTANTS					
< 10 tons per year	\$150	\$155	\$160	\$165	\$170
> or = 10 tons per year, < 25 tons per year	\$750	\$775	\$800	\$825	\$850

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REGISTERED SOURCES	1999	2000	2001	2002	2003
> or = 25 tons per year, < 50 tons per year	\$1,500	\$1,545	\$1,595	\$1,645	\$1,695
> or = 50 tons per year	\$2,500	\$2,575	\$2,655	\$2,735	\$2,820
ADDITIONAL FEES					
Source test review	\$300	\$310	\$320	\$330	\$340
Operation of a Continuous Emission or Opacity Monitor (per unit)	\$300	\$310	\$320	\$330	\$340
Source subjects to NSPS or NESHAP (per subpart) except dry cleaners & chrome platers	\$500	\$515	\$535	\$555	\$575
Synthetic minor designation	\$500	\$515	\$535	\$555	\$575

## 324.2 New Source Review Fees

## a) Fees

	1999	2000	2001	2002	2003
Filing fee	\$100	\$105	\$110	\$115	\$120
NSR FEES IN ADDITION TO THE FILING FEE:					
General (not classified below) for each piece of equipment or control equipment	\$500	\$515	\$535	\$555	\$575
Fuel Burning Equipment					
> or = 0.5 MM Btu/hr, but < 10 MM Btu/hr	\$250	\$260	\$270	\$280	\$290
> or = 10 MM Btu/hr, but < 100 MM Btu/hr	\$1,000	\$1,030	\$1,065	\$1,100	\$1,135
> or = 100 MM Btu/hr	\$10,000	\$10,300	\$10,610	\$10,930	\$11,260
Minor Notice of Construction change	\$250	\$260	\$270	\$280	\$290
Asphalt plant	\$750	\$775	\$800	\$825	\$850
Coffee roaster	\$250	\$260	\$270	\$280	\$290
Dry cleaner and Chrome plater	\$150	\$155	\$160	\$165	\$170
Gasoline stations and Bulk plants	\$300	\$310	\$320	\$330	\$340
Refuse burning equipment					
< 6 tons per day	\$1,000	\$1,030	\$1,065	\$1,100	\$1,135
> or = 6 tons per day, but < 12 tons per day	\$3,000	\$3,090	\$3,185	\$3,285	\$3,385
> or = 12 tons per day, but < 250 tons per day	\$20,000	\$20,600	\$21,220	\$21,860	\$22,520
> or = 250 tons per day	\$40,000	\$41,200	\$42,440	\$43,715	\$45,030
Paint spray booth	\$150	\$155	\$160	\$165	\$170
Volatile Organic Compounds storage tanks					
< 40,000 gallons	\$300	\$310	\$320	\$330	\$340
> or = 40,000 gallons	\$1,000	\$1,030	\$1,065	\$1,100	\$1,135
Soil thermal desorption unit	\$750	\$775	\$800	\$825	\$850
Relocation of portable plant to new address	\$300	\$310	\$320	\$330	\$340
ADDITIONAL FEES					
Synthetic minor determination (WAC 173-400-091)	\$750	\$775	\$800	\$825	\$850
SEPA threshold determination (NWAPA lead agency)	\$250	\$260	\$270	\$280	\$290
Air toxics review	\$400	\$415	\$430	\$445	\$460
Major source, major modification, PSD thresholds	\$2,000	\$2,060	\$2,125	\$2,190	\$2,260
Emission units subject to NSPS or NESHAP's (except dry cleaners & chrome platers)	\$1,000	\$1,030	\$1,065	\$1,100	\$1,135
Public notice (plus publication fee)	\$200	\$210	\$220	\$230	\$240
Public hearing (plus publication fee)	\$500	\$515	\$535	\$555	\$575
NOC applicability determination	\$200	\$210	\$220	\$230	\$240
Each CEM or alternate monitoring device installed	\$500	\$515	\$535	\$555	\$575

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Each source test required in NOC	\$500	\$515	\$535	\$555	\$575
Bubble application	\$1,000	\$1,030	\$1,065	\$1,100	\$1,135
Netting analysis	\$500	\$515	\$535	\$555	\$575

- 324.3 Variance Fee. \$1,000.00
- 324.4 Issuance of Emission Reduction Credits. \$500.00
- 324.5 Plan and examination, filing, SEPA review, and emission reduction credit fees may be reduced at the discretion of the Control Officer by up to 75 percent for existing sources implementing pollution prevention or undertaking voluntary and enforceable emission reduction projects.

PASSED: November 12, 1998

REPEALER

SECTION 326 - OPERATING PERMITS

AMENDATORY SECTION

SECTION 480.33 - EMISSION PERFORMANCE STANDARDS

480.33 Emission Standards for Solid Fuel Burning Devices defined as an "affected facility" in "40 CFR 60 Subpart AAA - Standards of Performance for Residential Wood Heaters". Stack emissions of certified models shall not exceed:

~~480.331 4.1 grams particulate per hour for catalytic solid fuel burning devices; and  
7.5 grams particulate per hour for non-catalytic solid fuel burning devices effective July 1, 1990 to December 31, 1994.~~

480.332 2.5 grams particulate per hour for catalytic solid fuel burning devices; and  
4.5 grams particulate per hour for non-catalytic solid fuel burning devices; effective January 1, 1995.

Solid fuel burning devices with a 35-to-1 or greater air to fuel ratio are exempt from certification.

Amended: April 14, 1993, November 12, 1998

Reviser's note: The typographical error in the above material occurred in the copy filed by the Northwest Air Pollution Authority and appears in the Register pursuant to the requirements of RCW 34.08.040.

AMENDATORY SECTION

SECTION 480.611 CURTAILMENT

480.611 Whenever the Authority has declared the first stage of impaired air quality for the geographical area unless the solid fuel burning device is one of the following:

- A. A pellet stove that is either certified or exempted from certification by the EPA under ~~WAC 173-433-150 Chapter 173-433-150 WAC~~; or
- B. A wood stove certified under ~~WAC 173-433-100 Chapter 173-433-100 WAC~~, RCW 70.94.457 or

Title 40 Part 60 Subpart AAA of the Code of Federal Regulations; or

- C. A written exemption has been issued for the device under Section 480.8 of this Regulation.

A first stage of impaired air quality is reached when particulates ten microns and smaller in diameter are measured at an ambient level of ~~sixty seventy-five~~ micrograms per cubic meter of air by a method which has been determined, by Ecology or the Authority, to have a reliable correlation to the federal reference method, CFR Title 40 Part 50 Appendix J, or equivalent.

Amended: April 14, 1993, November 12, 1998

Reviser's note: The typographical errors in the above material occurred in the copy filed by the Northwest Air Pollution Authority and appear in the Register pursuant to the requirements of RCW 34.08.040.

AMENDATORY SECTION

SECTION 504 - AGRICULTURAL BURNING

504.52 The fee shall be the greater of:

504.521 A minimum fee of twenty-five dollars per year per farm which shall be used as follows: Twelve dollars and fifty cents of which goes to the agricultural burning research fund, and the remaining twelve dollars and fifty cents will be kept by the Authority to cover the costs of administering and enforcing this regulation; or

504.522 A variable fee based on the acreage or equivalent of agricultural burning, as well as the means of burning, which will be used as follows: Up to one dollar per acre for applied research, twenty-five cents per acre for ecology administration and one dollar and twenty-five cents per acre for local permit program administration. If the agricultural burn is to be accomplished by using a propane or natural gas fired mobile field burning unit, then the local permit program administration fee shall be sixty cents per acre.

504.53 The Authority shall act on a complete permit application within seven days from the date such complete application is filed.

PASSED: February 14, 1973

AMENDED: By Adoption of WAC 18-16 January 24, 1972, August 9, 1978, June 7, 1990, May 9, 1996, May 14, 1998, November 12, 1998

REPEALER

SECTION 570 - ASBESTOS CONTROL STANDARDS

PERMANENT

**NEW SECTION****SECTION 570 - ASBESTOS CONTROL STANDARDS**

570.1 The Board of Directors of the Northwest Air Pollution Authority recognize that asbestos is a serious health hazard. Any asbestos fibers released into the air can be inhaled and can cause lung cancer, pleural mesothelioma, peritoneal mesothelioma or asbestosis. The Board has, therefore, determined that any asbestos emitted to the ambient air is air pollution. Because of the seriousness of the health hazard, the Board of Directors has adopted this regulation to control asbestos emissions from asbestos removal projects in order to protect the public health. In addition, the Board has adopted these regulations to coordinate with the EPA asbestos NESHAP, the OSHA asbestos regulation, the Washington Department of Labor and Industries asbestos regulations, the Washington Department of Ecology Dangerous Waste regulation, and the solid waste regulations of Island, Skagit and Whatcom Counties.

570.2 **DEFINITIONS**

- a) **AHERA BUILDING INSPECTOR** means a person who has successfully completed the training requirements for a building inspector established by EPA Asbestos Model Accreditation Plan; Interim Final Rule (40 CFR Part 763, Appendix C to Subpart E, I.B.3) and whose certification is current.
- b) **AHERA PROJECT DESIGNER** means a person who has successfully completed the training requirements for an abatement project designer established by EPA regulations (40 CFR 763.90(g)) and whose certification is current.
- c) **ASBESTOS** means the asbestiform varieties of actinolite, amosite (cummingtonite-grunerite), tremolite, chrysotile (serpentinite), crocidolite (riebeckite), or anthophyllite.
- d) **ASBESTOS-CONTAINING MATERIAL** means any material containing more than one percent (1%) asbestos as determined using the method specified in EPA regulations Appendix A, Subpart F, 40 CFR Part 763, Section I, Polarized Light Microscopy.
- e) **ASBESTOS-CONTAINING WASTE MATERIAL** means any waste that contains or is contaminated with asbestos-containing material. Asbestos-containing waste material includes asbestos waste from control equipment, materials used to enclose the work area during an asbestos project, asbestos-containing material collected for disposal, asbestos-contaminated waste, debris, containers, bags, protective clothing, or HEPA filters. Asbestos-containing waste material does not include samples of asbestos-containing material taken for testing or enforcement purposes.
- f) **ASBESTOS PROJECT** means any activity involving the abatement, renovation, demolition, removal, salvage, clean up, or disposal of asbestos-containing material, or any other action that disturbs or is likely to disturb any asbestos-containing material. It includes the removal and disposal of stored asbestos-containing material or asbestos-containing waste material. It does not include the application of duct tape, rewettable glass cloth, canvas, cement, paint, or other non-asbestos materials to seal or fill exposed areas where asbestos fibers may be released.
- g) **ASBESTOS SURVEY** means a written report describing an inspection using the procedures contained in EPA regulations (40 CFR 763.86), or an alternate method that has received prior written approval from the Control Officer, to determine whether materials or structures to be worked on, renovated, removed, or demolished (including materials on the outside of structures) contain asbestos.
- h) **COMPETENT PERSON** means a person who is capable of identifying asbestos hazards and selecting the appropriate asbestos control strategy, has the authority to take prompt corrective measures to eliminate them, and has been trained and is currently certified in accordance with the standards established by the Washington State Department of Labor & Industries, the federal Occupational Safety & Health Administration, or the United States Environmental Protection Agency (whichever agency has jurisdiction).
- i) **COMPONENT** means any equipment, pipe, structural member, or other item covered or coated with, or manufactured from, asbestos-containing material.
- j) **DEMOLITION** means wrecking, razing, leveling, dismantling, or burning of a structure, making the structure permanently uninhabitable or unusable.
- k) **FRIABLE ASBESTOS-CONTAINING MATERIAL** means asbestos-containing material that, when dry, can be crumbled, disintegrated, or reduced to powder by hand pressure or by the forces expected to act upon the material in the course of demolition, renovation, or disposal. Such materials include, but are not limited to, thermal system insulation, surfacing material, and cement asbestos products.
- l) **LEAK-TIGHT CONTAINER** means a dust-tight and liquid-tight container, at least 6-mil thick, that encloses asbestos-containing waste material and prevents solids or liquids from escaping or spilling out. Such containers may include sealed plastic bags, metal or fiber drums, and sealed polyethylene plastic.
- m) **NONFRIABLE ASBESTOS-CONTAINING MATERIAL** means asbestos-containing material that, when dry, cannot be crumbled, disintegrated, or reduced to powder by hand pressure or by the forces expected to act on the material in the course of demolition, renovation, or disposal.
- n) **OWNER-OCCUPIED, SINGLE-FAMILY RESIDENCE** means any non-multiple unit building containing space for uses such as living, sleeping, preparation of food, and eating that is currently used by one family who owns the property as their domicile. This term includes houses, mobile homes, trailers, detached garages, houseboats, and houses with a "mother-in-law apartment" or "guest room". This term does not include rental property or multiple-

family units, nor does this term include any mixed-use building, structure, or installation that contains a residential unit.

- o) **PERSON** means any individual, firm, public or private corporation, association, partnership, political subdivision, municipality, or government agency.
- p) **RENOVATION** means altering a facility or a component in any way, except demolition.
- q) **SURFACING MATERIAL** means material that is sprayed-on, troweled-on, or otherwise applied to surfaces including, but not limited to, acoustical plaster on ceilings, paints, fireproofing materials on structural members, or other materials on surfaces for decorative purposes.
- r) **SUSPECT ASBESTOS-CONTAINING MATERIAL** means material that has historically contained asbestos including, but not limited to, surfacing material, thermal system insulation, roofing material, fire barriers, gaskets, flooring material, and siding.
- s) **THERMAL SYSTEM INSULATION** means material applied to pipes, fittings, boilers, tanks, ducts, or other structural components to prevent heat loss or gain.

#### 570.3 ASBESTOS SURVEY REQUIREMENTS

##### a) Requirements for Renovations

It shall be unlawful for any person to cause or allow a renovation unless the property owner or the owner's agent determines whether there are suspect asbestos-containing materials in the work area and obtains an asbestos survey of any suspect asbestos-containing materials by an AHERA building inspector. An AHERA building inspector is not required for asbestos surveys associated with the renovation of an owner-occupied, single-family residence.

- 1) If there are no suspect materials in the work area, this determination shall either be posted at the work site or communicated in writing to all contractors involved in the renovation.
- 2) It is not required that an AHERA building inspector evaluate any material presumed to be asbestos-containing material.
- 3) Except for renovations of an owner-occupied, single-family residence, only an AHERA building inspector may determine that a suspect material does not contain asbestos.
- 4) A summary of the results of the asbestos survey shall either be posted by the property owner or the owner's agent at the work site or communicated in writing to all persons who may come into contact with the material.

##### b) Requirements for Demolitions

It shall be unlawful for any person to cause or allow any demolition unless the property owner or the owner's agent obtains an asbestos survey by an AHERA building inspector of the structure to be demolished.

- 1) It is not required that an AHERA building inspector evaluate any material presumed to be asbestos-containing material.

- 2) Only an AHERA building inspector may determine that a suspect material does not contain asbestos.
- 3) A summary of the results of the asbestos survey shall either be posted by the property owner or the owner's agent at the work site or communicated in writing to all persons who may come into contact with the material.

#### 570.4 NOTIFICATION REQUIREMENTS

##### a) General Requirements

It shall be unlawful for any person to cause or allow any work on an asbestos project or demolition unless a complete notification, including the required fee and any additional information requested by the Control Officer, has been submitted to the Authority on approved forms, in accordance with the advance notification period requirements contained in 570.4(d) of this Regulation.

- 1) The duration of an asbestos project shall be commensurate with the amount of work involved.
- 2) Notification is not required for asbestos projects involving less than 10 linear feet or 48 square feet (per structure, per calendar year) of any asbestos-containing material.
- 3) Notification is not required for removal and disposal of the following nonfriable asbestos-containing materials: caulking, window glazing, or roofing. All other asbestos project and demolition requirements remain in effect except as provided by Section 570.
- 4) Notification is required for all demolitions involving public or commercial structures or multi-family residences with 5 or more units, even if no asbestos-containing material is present. All other demolition requirements remain in effect.
- 5) The written notification shall be accompanied by the appropriate nonrefundable fee as set forth in 570.4(d) of this Regulation unless prior arrangements for payment have been made with the Authority.
- 6) A copy of the notification, all amendments to the notification, the asbestos survey, and any Order of Approval for an alternate means of compliance shall be available for inspection at all times at the asbestos project or demolition site.
- 7) Notification for multiple asbestos projects or demolitions may be filed by a property owner on one form if all the following criteria are met:
  - A) The work will be performed continuously by the same contractor; and
  - B) A work plan is submitted that includes: a map of the structures involved in the project including the site address for each structure; the amount and type of asbestos-containing material in each structure; and the schedule for performing asbestos project and demolition work. For projects where a detailed work schedule cannot be provided the asbestos contractor and/or the demolition contractor shall participate in the Authority's work schedule fax program and will continue to participate in the program throughout the duration of the project.
- 8) Annual Notification

A property owner may file one annual notification for asbestos projects to be conducted on one or more structures, vessels, or buildings during each calendar year if all of the following conditions are met:

- A) The annual notification shall be filed with the Authority before commencing work on any asbestos project included in an annual notification;
  - B) The total amount of asbestos-containing material for all asbestos projects from each structure, vessel, or building in a calendar year under this section is less than 260 linear feet on pipes or less than 160 square feet on other components; and
  - C) The property owner submits quarterly written reports to the Control Officer on Authority-approved forms within 15 days after the end of each calendar quarter.
- b) Amendments
- 1) Mandatory Amendments  
An amendment shall be submitted to the Control Officer for the following changes in a notification and shall be accompanied by the appropriate nonrefundable fee as set forth in 570.4(d) of this Regulation unless prior arrangements for payment have been made with the Authority:
    - A) Increases in the project type or job size category that increase the fee or change the advance notification period;
    - B) Changes in the type of asbestos-containing material that will be removed; or
    - C) Changes in the start date, completion date, or work schedule, including hours of work. Asbestos contractors or property owners participating in the Authority work schedule fax program are not required to submit amendments for work schedule

changes occurring between the start and completion dates.

- 2) Optional Amendments
  - A) An amendment may be submitted to the Control Officer for any other change in a notification and shall be accompanied by the appropriate nonrefundable fee as set forth in 570.4(d) of this Regulation unless prior arrangements for payment have been made with the Authority.
  - B) Contractors and property owners participating in the Authority work schedule fax program may, within 45 days after the last completion date on record, submit an amendment to the Control Officer for the removal of additional asbestos-containing material not identified during the asbestos survey. If more than 45 days have lapsed since the last completion date on record, the requirements of 570.4(a), including notification periods and fees, shall apply.
- c) Emergencies  
The Control Officer may waive the advance notification period, if the property owner submits a written request that demonstrates to the Control Officer that an asbestos project or demolition must be conducted immediately because of any of the following:
  - 1) There was a sudden, unexpected event that resulted in a public health or safety hazard;
  - 2) The project must proceed immediately to protect equipment, ensure continuous vital utilities, or minimize property damage;
  - 3) Asbestos-containing materials were encountered that were not identified during the asbestos survey; or
  - 4) The project must proceed to avoid imposing an unreasonable burden.
- d) Notification Period and Fees

Project	Size or Type	Notification Period	Fee
Owner-Occupied, Single Family Residence (asbestos project and/or demolition)	All	Prior Notice	\$25
All Other Demolitions with no asbestos project	All	10 days	\$0
Asbestos Project*	10-259 linear ft. 48-159 square feet.	3 days	\$150
Asbestos Project	260-999 linear ft. 160-4,999 sq. ft.	10 days	\$300
Asbestos Project	> 1,000 linear ft. > 5,000 sq. ft.	10 days	\$500
Emergency	570.4 (c)	Prior Notice	Add'l fee equal to project fee
Amendment	570.4 (b)	Prior Notice	\$25
Alternate Means of Compliance (demolitions or friable asbestos-containing materials)	570.7 (a) or (c)	10 days	Add'l fee equal to project fee
Alternate Means of Compliance (non-friable asbestos-containing materials)	570.7 (b)	10 days	Add'l fee equal to project fee
Annual	570.4 (a)(8)	Prior Notice	\$500

PERMANENT

\* Demolitions with asbestos projects involving less than 10 linear feet or less than 48 square feet may submit an asbestos project notification under this project category and will be eligible for the 3-day notification period.

The Control Officer may waive the asbestos project fee and notification period, by written authorization, for disposal of unused and intact or abandoned (without the knowledge or consent of the property owner) asbestos-containing materials. All other asbestos project and demolition requirements remain in effect.

#### 570.5 ASBESTOS REMOVAL REQUIREMENTS PRIOR TO RENOVATION OR DEMOLITION

##### a) Removal of Asbestos Prior to Renovation or Demolition

Except as provided in 570.7(c) of this Regulation, it shall be unlawful for any person to cause or allow any demolition or renovation that may disturb asbestos-containing material or damage a structure so as to preclude access to asbestos-containing material for future removal, without first removing all asbestos-containing material in accordance with the requirements of this regulation. Asbestos-containing material need not be removed from a component if the component can be removed, stored, or transported for reuse without disturbing or damaging the asbestos.

##### b) Exception for Hazardous Conditions

Asbestos-containing material need not be removed prior to a demolition, if the property owner demonstrates to the Control Officer that it is not accessible because of hazardous conditions such as: structures or buildings that are structurally unsound and in danger of imminent collapse, or other conditions that are immediately dangerous to life and health. The property owner must submit the written determination of the hazard by an authorized government official or a licensed structural engineer, and must submit the procedures that will be followed for controlling asbestos emissions during the demolition or renovation and disposal of the asbestos-containing waste material.

#### 570.6 PROCEDURES FOR ASBESTOS PROJECTS

##### a) Training Requirements

It shall be unlawful for any person to cause or allow any work on an asbestos project unless it is performed by persons trained and certified in accordance with the standards established by the Washington State Department of Labor and Industries, the federal Occupational Safety and Health Administration, or the United States Environmental Protection Agency (whichever agency has jurisdiction) and whose certification is current. This certification requirement does not apply to asbestos projects conducted as part of a renovation in an owner-occupied, single-family residence performed by the resident owner of the dwelling.

##### b) Asbestos Removal Work Practices

Except as provided in 570.7(c) of this Regulation, it shall be unlawful for any person to cause or allow

the removal of asbestos-containing material unless all the following requirements are met:

- 1) The asbestos project shall be conducted in a controlled area, clearly marked by barriers and asbestos warning signs. Access to the controlled area shall be restricted to authorized personnel only.
- 2) If a negative pressure enclosure is employed it shall be equipped with transparent viewing ports, if feasible, and shall be maintained in good working order.
- 3) Absorbent, asbestos-containing materials, such as surfacing material and thermal system insulation, shall be saturated with a liquid wetting agent prior to removal. Any unsaturated, absorbent, asbestos-containing materials exposed during removal shall be immediately saturated with a liquid wetting agent.
- 4) Nonabsorbent, asbestos-containing materials, such as cement asbestos board or vinyl asbestos tile, shall be continuously coated with a liquid wetting agent on any exposed surface prior to and during removal. Any dry surfaces of nonabsorbent, asbestos-containing materials exposed during removal shall be immediately coated with a liquid wetting agent.
- 5) Metal components (such as valves, fire doors, and reactor vessels) that have internal asbestos-containing material are exempt from the requirements of 570.6 (b)(3) and 570.6 (b)(4) if all access to the asbestos-containing material is welded shut or the component has mechanical seals, which cannot be removed by hand, that separate the asbestos-containing material from the environment.
- 6) Except for surfacing materials being removed inside a negative pressure enclosure, asbestos-containing materials that are being removed, have been removed, or may have fallen off components during an asbestos project shall be carefully lowered to the ground or a lower floor, not dropped, thrown, slid, or otherwise damaged.
- 7) All asbestos-containing waste material shall be sealed in leak-tight containers as soon as possible after removal but no later than the end of each work shift.
- 8) All absorbent, asbestos-containing waste material shall be kept saturated with a liquid wetting agent until sealed in leak-tight containers while saturated with a liquid wetting agent. All nonabsorbent, asbestos-containing waste material shall be kept coated with a liquid wetting agent until sealed in leak-tight containers while coated with a liquid wetting agent.
- 9) The exterior of each leak-tight container shall be free of all asbestos residue and shall be permanently labeled with an asbestos warning sign as specified by the Washington State Department of Labor and Industries or the federal Occupational Safety and Health Administration.
- 10) Immediately after sealing, each leak-tight container shall be permanently marked with the date the material was collected for disposal, the name of the waste generator, and the address at which the waste was generated. This marking must be readable without opening the container.

- 11) Leak-tight containers shall not be dropped, thrown, slid, or otherwise damaged.
- 12) The asbestos-containing waste material shall be stored in a controlled area until transported to an approved waste disposal site.

c) **Method of Removal for Nonfriable Asbestos-Containing Roofing Material**

The following asbestos removal method shall be employed for asbestos-containing roofing material that has been determined to be nonfriable by a Competent Person or an AHERA Project Designer:

- 1) The nonfriable asbestos-containing roofing material shall be removed using methods such as spud bar and knife. Removal methods such as sawing or grinding shall not be employed;
- 2) Dust control methods shall be used as necessary to assure no fugitive dust is generated from the removal of nonfriable asbestos-containing roofing material;
- 3) Nonfriable asbestos-containing roofing material shall be carefully lowered to the ground to prevent fugitive dust;
- 4) After being lowered to the ground, the nonfriable asbestos-containing roofing material shall be immediately transferred to a disposal container; and
- 5) Each disposal container shall have a sign identifying the material as nonfriable asbestos-containing roofing material.

570.7 **ALTERNATE MEANS OF COMPLIANCE**

a) **Friable Asbestos-Containing Material Removal Alternative**

An alternate asbestos removal method may be employed for friable asbestos-containing material if an AHERA Project Designer (who is also qualified as a Certified Hazardous Materials Manager, Certified Industrial Hygienist, Registered Architect, or Professional Engineer) has evaluated the work area, the type of asbestos-containing material, the projected work practices, and the engineering controls, and demonstrates to the Control Officer that the planned control method will be equally as effective as the work practices contained in Section 570.6(b) of this Regulation in controlling asbestos emissions. The property owner or the owner's agent shall document through air monitoring at the exhaust from the controlled area that the asbestos fiber concentrations outside the controlled area do not exceed 0.01 fibers/cc, 8 hour average.

The Control Officer may require conditions in the Order of Approval that are reasonably necessary to assure the planned control method is as effective as that required by 570.6(b), and may revoke the Order of Approval for cause.

b) **Nonfriable Asbestos-Containing Material Removal Alternative**

An alternate asbestos removal method may be employed for nonfriable asbestos-containing material if a Competent Person or AHERA Project Designer has evaluated the work area, the type of asbestos-containing material, the projected work practices, and the engineering controls, and demon-

strates to the Control Officer that the planned control method will be equally as effective as the work practices contained in 570.6(b) of this Regulation in controlling asbestos emissions.

The Control Officer may require conditions in the Order of Approval that are reasonably necessary to assure the planned control method is as effective as that required by 570.6(b), and may revoke the Order of Approval for cause.

c) **Leaving Nonfriable Asbestos-Containing Material in Place During Demolition**

Nonfriable asbestos-containing material may be left in place during a demolition, if an AHERA Project Designer (who is also qualified as a Certified Hazardous Materials Manager, Certified Industrial Hygienist, Registered Architect, or Professional Engineer) has evaluated the work area, the type of asbestos-containing materials involved, the projected work practices, and the engineering controls, and demonstrates to the Control Officer that the asbestos-containing material will remain nonfriable during all demolition activities and the subsequent disposal of the debris.

The Control Officer may require conditions in the Order of Approval that are reasonably necessary to assure the asbestos-containing material remains nonfriable, and may revoke the Order of Approval for cause.

570.8 **DISPOSAL OF ASBESTOS-CONTAINING WASTE MATERIAL**

- a) Except as provided in 570.8(c) of this Regulation, it shall be unlawful for any person to cause or allow the disposal of asbestos-containing waste material unless it is deposited within 10 days of removal at a waste disposal site authorized to accept such waste.
- b) **Waste Tracking Requirements**  
It shall be unlawful for any person to cause or allow the disposal of asbestos-containing waste material unless the following requirements are met:
  - 1) Maintain waste shipment records, beginning prior to transport, using a form that includes the following information:
    - A) The name, address, and telephone number of the waste generator;
    - B) The approximate quantity in cubic meters or cubic yards;
    - C) The name and telephone number of the disposal site operator;
    - D) The name and physical site location of the disposal site;
    - E) The date transported;
    - F) The name, address, and telephone number of the transporter; and
    - G) A certification that the contents of the consignment are fully and accurately described by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition to transport by highway according to applicable international and government regulations.

- 2) Provide a copy of the waste shipment record to the disposal site at the same time the asbestos-containing waste material is delivered.
- 3) If a copy of the waste shipment record, signed by the owner or operator of the disposal site, is not received by the waste generator within 35 calendar days of the date the waste was accepted by the initial transporter, contact the transporter and/or the owner or operator of the disposal site to determine the status of the waste shipment.
- 4) If a copy of the waste shipment record, signed by the owner or operator of the disposal site, is not received by the waste generator within 45 days of the date the waste was accepted by the initial transporter, report in writing to the Control Officer. Include in the report, a copy of the waste shipment record and a cover letter signed by the waste generator explaining the efforts taken to locate the asbestos waste shipment and the results of those efforts.
- 5) Retain a copy of all waste shipment records, including a copy of the waste shipment record signed by the owner or operator of the designated waste disposal site, for at least 2 years.
- c) Temporary Storage Site  
A person may establish a facility for the purpose of collecting and temporarily storing asbestos-containing waste material if the facility is approved by the Control Officer and all the following conditions are met:
- 1) Accumulated asbestos-containing waste material shall be kept in a controlled storage area posted with asbestos warning signs and accessible only to authorized persons;
- 2) All asbestos-containing waste material shall be stored in leak-tight containers and the leak-tight containers shall be maintained in good condition;
- 3) The storage area must be locked except during transfer of asbestos-containing waste material; and
- 4) Storage, transportation, disposal, and return of the waste shipment record to the waste generator shall not exceed 90 days.
- d) Disposal of Asbestos Cement Pipe  
Asbestos cement pipe used on public right-of-ways, public easements, or other places receiving the prior written approval of the Control Officer may be buried in place if the pipe is covered with at least 3 feet or more of non-asbestos fill material. All asbestos cement pipe fragments that are 1 linear foot or less and other asbestos-containing waste material shall be disposed of at a waste disposal site authorized to accept such waste.

PASSED: November 12, 1998

#### AMENDATORY SECTION

- 580.3 High Vapor Pressure Volatile Organic Compound Storage Tanks
- 580.31 Subsections 580.32 through 580.37 This section shall apply to all tanks, ~~except as noted in Section 580.35 and 580.36 of this section~~ which store vola-

tile organic compounds with a true vapor pressure as stored greater than 10.5 kilopascals (kPa) 1.5 pounds per square inch (psia), but less than 77.7 kPa (11.1 psia) at ~~actual~~ calendar-monthly average storage temperatures and have a capacity greater than one hundred fifty thousand liters (40,000 gallons).

- 580.32 It shall be unlawful for any person to cause or allow storage of volatile organic compounds as specified in Section 580.31 unless each storage tank or container:
- 580.321 Meets the equipment specifications and maintenance requirements of the Federal Standards of Performance for New Stationary Sources - Storage Vessels for Petroleum Liquids (40 CFR 60, subpart Kb); or
- 580.322 Is retrofitted with a floating roof or internal floating cover using a metallic seal or a nonmetallic resilient seal at least meeting the equipment specifications of the Federal standards referred to in 580.321 of this subsection, or its equivalent; or
- 580.323 Is fitted with a floating roof or internal floating cover meeting ~~be the~~ the manufacturer's equipment specifications in effect when it was installed.
- 580.33 All seals used with equipment subject to this section are to be maintained in good operating condition and the seal fabric shall contain no visible holes, tears or other openings.
- 580.34 All openings not related to safety are to be sealed with suitable closures.
- 580.35 Tanks used for the storage of gasoline in bulk gasoline plants and equipped with vapor balance systems as required in 580.52 shall be exempt from the requirements of this section.
- 580.36 All tanks not exempted by subsection 580.26 shall meet the monitoring, recordkeeping and reporting requirements of 40 CFR 60 Subpart Kb, with the exception of the monitoring report submittal requirements of 60.115b(b)(2). Compliance with subsection 580.36 shall be no later than December 31, 1999.
- 580.37 All tanks exempt by subsection 580.26 and all tanks subject to Section 580.3 or 580.9 shall be exempt from Section 560 of this Regulation.
- 580.368 All tanks storing volatile organic compounds with a true vapor pressure greater than 77.7 kPa (11.1 psia) shall be equipped with a vapor recovery system.

PASSED: December 13, 1989 Amended: May 14, 1998, November 12, 1998

Reviser's note: The typographical errors in the above material occurred in the copy filed by the Northwest Air Pollution Authority and appear in the Register pursuant to the requirements of RCW 34.08.040.

#### AMENDATORY SECTION

##### SECTION 580.6 - Gasoline Stations

- 580.61 Section 580.62 shall apply to:
- 580.611 All gasoline stations with a total annual gasoline throughput greater than seven hundred and fifty-seven thousand liters (200,000 gallons)



~~one million three hundred sixty four thousand liters (360,000 gallons) and~~

- 580.612 All gasoline stations installed or reconstructed after January 1, 1990 with a nominal total gasoline storage capacity greater than thirty-eight thousand liters (10,000).
- 580.62 It shall be unlawful for any person to cause or allow the transfer of gasoline from any transport tank into any stationary storage tank except as provided in 580.63 of this section unless the following conditions are met:
- 580.621 Such stationary storage tank is equipped with a permanent submerged fill pipe and approved vapor recovery system, and
- 580.622 Such transport tank is equipped to balance vapors and is maintained in a vapor-tight condition in accordance with Section 580.10 and
- 580.623 All vapor return lines are connected between the transport tank and the stationary storage tank and the vapor recovery system is operating.
- 580.63 Notwithstanding the requirements of 580.61 of this regulation, the following stationary gasoline storage tanks are exempt from the requirements of 580.62:
- 580.631 All tanks with a capacity less than seven thousand five hundred liters (2,000 gallons) installed before January 1, 1990.
- 580.632 All tanks with offset fill lines installed before January 1, 1990.
- 580.633 All tanks with a capacity less than one thousand liters (260 gallons).
- 580.64 It shall be unlawful for any person to cause or allow the transfer of gasoline from a stationary tank into a motor vehicle fuel tank except as provided in WAC 173-491.

PASSED: February 14, 1990

Amended: April 14, 1993, October 13, 1994, March 13, 1997, May 14, 1998, November 12, 1998

**Reviser's note:** The typographical error in the above material occurred in the copy filed by the Northwest Air Pollution Authority and appears in the Register pursuant to the requirements of RCW 34.08.040.

**WSR 98-24-010**  
**PERMANENT RULES**  
**PUBLIC WORKS BOARD**  
 [Filed November 19, 1998, 3:38 p.m.]

Date of Adoption: November 3, 1998.

Purpose: Change language from passive to active; make gender corrections; improve readability; put policy statements into rule; and clarify use of biomaterial salvage.

Citation of Existing Rules Affected by this Order: Amending chapters 399-10, 399-20, and 399-30 WAC.

Statutory Authority for Adoption: RCW 43.155.040 (4) and (5).

Adopted under notice filed as WSR 98-18-019 on August 24, 1998.

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 23, Repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, Amended 23, 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.

November 19, 1998

Pete A. Butkus

Rules Coordinator

AMENDATORY SECTION (Amending WSR 95-11-093, filed 5/19/95, effective 6/19/95)

**WAC 399-10-010 Organization and operation of the public works board.** (1) The public works board (~~(, hereinafter referred to as the board,)~~) is a thirteen-member board appointed by the governor (~~(and created pursuant to)~~) under RCW 43.155.030.

(2) The governor (~~(shall)~~) appoints one of the general public members (~~(of the board)~~) as chair. The board may elect (~~(such)~~) other officers for (~~(such)~~) terms (~~(as it may from time to time deem)~~) deemed necessary (~~(in accordance with the board's bylaws)~~).

(3) (~~The board's staff support and office space is provided by the Department of Community, Trade, and Economic Development, P.O. Box 48319, Olympia, Washington 98504-8319; phone (360) 753-2200.~~) The department of community, trade, and economic development provides staff support and office space to the board at P.O. Box 48319, Olympia, Washington 98504-8319; phone (360) 753-2200.

The board's Internet site is: WWW.CRAB.WA.GOV/PWTF

AMENDATORY SECTION (Amending WSR 93-22-014, filed 10/26/93, effective 11/26/93)

**WAC 399-10-020 Board meetings.** (1) The board holds regular meetings on the first Tuesday of each month. In the month of August meetings are held on the first and third Tuesdays.

(2) Notice of the times and places of the regular meetings will be published annually in a January edition of the Washington State Register. A copy of the schedule of regular meetings may also be obtained upon request from the board.

(~~(2)~~) (3) Special meetings of the board may be called at any time by the chair of the board or by a majority of the board members. Notice of such meetings will be as provided by law.

AMENDATORY SECTION (Amending WSR 93-22-014, filed 10/26/93, effective 11/26/93)

**WAC 399-10-030 Communications with the board.** Any and all written communications with the board, including but not limited to requests for information or copies of agency records, or submittals of any nature, ~~((shall))~~ must be addressed to the public works board, in care of the chair, ~~((at the address which appears))~~ as stated in WAC 399-10-010(3). ~~((Telephonic communications may be initiated by calling the phone number also listed in WAC 399-10-010(3).))~~ The board's telephone number and Internet address are listed in the same section.

AMENDATORY SECTION (Amending Order 85-17, filed 12/4/85)

**WAC 399-20-010 Purpose.** ~~((The purpose of this chapter shall be to ensure the compliance by the public works board with the provisions of chapter 1, Laws of 1973, Initiative Measure No. 276, and in particular sections 25 through 32 of that act, and RCW 42.17.250 through 42.17.320 concerning disclosure of public records.))~~ This chapter is intended to ensure that the board complies with chapter 42.17 RCW, the Public Disclosure Act, especially RCW 42.17.250 through 42.17.348, which address disclosure of public records.

AMENDATORY SECTION (Amending WSR 95-11-093, filed 5/19/95, effective 6/19/95)

**WAC 399-20-020 Definitions.** The following definitions shall apply to this chapter:

(1) "Public record" includes any writing containing information relating to the conduct of government or the performance of any governmental or proprietary function prepared, owned, used, or retained by the board regardless of physical form or characteristics.

(2) "Writing" means handwriting, typewriting, printing, photostating and every other means of recording any form of communication or representation, including letters, words, pictures, sounds, symbols, or combinations thereof, and all paper, maps, magnetic or paper tapes, photographic films and prints, magnetic or punched cards, discs, drums and other documents.

(3) "Board" means the public works board, created ~~((pursuant to chapter 446, Laws of 1985))~~ in chapter 43.155 RCW, and ~~((shall))~~ also refers to the board's officers and staff, where appropriate.

(4) "Department" means the department of community, trade, and economic development, and shall ~~((also))~~ refers to the department's staff, where appropriate.

AMENDATORY SECTION (Amending Order 85-17, filed 12/4/85)

**WAC 399-20-030 Public records available.** All public records of the board are deemed to be available for public inspection and copying, except as otherwise provided by RCW 42.17.260 and 42.17.310 as now or ~~((may))~~ hereafter ~~((be))~~ amended, and by WAC 399-20-090.

AMENDATORY SECTION (Amending Order 85-17, filed 12/4/85)

**WAC 399-20-040 Public records officer.** ~~((The department's public records officer shall be the public records officer for the board.))~~ The board shall designate a staff member to be the public records officer. The public records officer shall be responsible for implementation of the board's rules and regulations regarding inspection and copying of public records, and for ensuring compliance by the staff with the public records disclosure requirements of chapter 42.17 RCW.

AMENDATORY SECTION (Amending Order 85-17, filed 12/4/85)

**WAC 399-20-060 Office hours.** Public records ~~((shall be))~~ are available for inspection and copying during the department's normal office hours ~~((For purposes of this chapter, normal office hours shall be from 9:00)),~~ which are 8:00 a.m. to noon and from 1:00 p.m. to 5:00 p.m., Monday through Friday, excluding legal holidays, or closure due to natural disaster, inclement weather, or local emergency.

AMENDATORY SECTION (Amending Order 85-17, filed 12/4/85)

**WAC 399-20-070 Requests for public records.** ~~((In accordance with the requirements of chapter 42.17 RCW that))~~ The Public Disclosure Act, chapter 42.17 RCW, requires agencies to prevent unreasonable invasions of privacy, ~~((and))~~ to protect public records from damage or disorganization, and to prevent excessive interference with essential functions of the board ~~((public records may be inspected or copied, or copies of such records may be obtained by members of the public, upon compliance)).~~ Therefore, members of the public may inspect, copy, or obtain copies of public records if they comply with the following procedures:

(1) A request ~~((shall))~~ must be made in writing ~~((upon a))~~ on the form ~~((prescribed))~~ adopted by the board which shall be in WAC 399-20-120. The form is available at the board's offices, or by writing or calling the board.

(2) The form ~~((shall be))~~ must be completed in full and presented or mailed to the public records officer ~~((or to any member of the board's staff, if the public records officer is not available.))~~ at the board's offices during normal office hours. ~~((The request shall include the following information:~~

(a) ~~The name, address, and organization represented, if any, of the person requesting the record;~~

(b) ~~The calendar date on which the request was made, and, when presented in person, the time of day;~~

(c) ~~The nature of the request;~~

(d) ~~If the matter requested is referred to within the current index maintained by the records officer, a reference to the requested record as it is described in such current index.~~

~~((In all cases in which a member of the public is making a request, it shall be the obligation of))~~ (3) The public records officer ~~((or staff member to))~~ will assist the member of the public in appropriately identifying the public record requested.

AMENDATORY SECTION (Amending Order 85-17, filed 12/4/85)

**WAC 399-20-080 Copying.** No fee (~~shall be~~) is charged for the inspection of public records. The board may charge a fee of (~~ten~~) fifteen cents per page for providing copies of public records, when copies of more than ten pages are provided, and for use of the department's copy equipment. (~~This charge is the amount necessary to reimburse the department for its actual cost incident to such copying.~~)

AMENDATORY SECTION (Amending Order 85-17, filed 12/4/85)

**WAC 399-20-090 Exemptions.** (~~(1) The board reserves the right to determine that a public record requested in accordance with the procedures outlined in WAC 399-20-070 is exempt from disclosure under the provisions of RCW 42.17.260 and 42.17.310.~~)

(2) Pursuant to RCW 42.17.260, the board reserves the right to delete identifying details when it makes available or publishes any public record, in any case where there is reason to believe that disclosure of such details would be an invasion of personal privacy protected by chapter 42.17 RCW. The public records officer will fully justify such deletion in writing.

(3) All denials of requests for public records shall be accompanied by a written statement specifying the reason for the denial. (1) The public records officer will determine whether a requested record is exempt from disclosure under chapter 42.17 RCW.

(2) If a requested record is determined to be exempt in part, the public records officer will delete the exempt portions of the record before making it available for inspection or copying. The public records officer will fully justify any deletion in writing.

(3) Whenever the public records officer denies a public records request, a written statement specifying the reason for the denial shall be provided.

(4) The Public Disclosure Act requires agencies to respond promptly to requests for public records. Within five business days after receiving a public records request, the public records officer must respond by either:

- (a) Providing the record;
- (b) Acknowledging the request and stating a reasonable estimate of the time the board will need to respond; or
- (c) Denying the request.

The board may require additional time to respond for reasons consistent with RCW 42.17.320.

AMENDATORY SECTION (Amending Order 85-17, filed 12/4/85)

**WAC 399-20-100 Review of denials of public records requests.** (~~(1) Any person who objects to the denial of a request for public records may petition for prompt review of such decision by submitting a written request for review. The written request shall specifically refer to the written statement by the public records officer or other staff member which constituted or accompanied the denial.~~)

(2) Following receipt of a written request for review of a decision denying a request from public records, the public records officer or other authorized staff member denying the request shall refer it to the chairman of the board or his designee. The chairman or his designee shall immediately consider the matter and either affirm or reverse such denial. The request shall be returned with the final decision, within two business days following receipt of the request for review.

(3) Administrative remedies shall not be considered exhausted until the request has been returned with a decision or until the close of the second business day following the denial of inspection, whichever occurs first. Agencies are required to establish a mechanism for the prompt review of decisions denying the inspection or copying of public records. In any case where a public record is denied in whole or in part the chair, or designee, shall immediately review the matter and either affirm or reverse the denial. The review is deemed complete at the end of the second business day following the denial of inspection or copying and constitutes final agency action for purposes of judicial review.

AMENDATORY SECTION (Amending Order 85-17, filed 12/4/85)

**WAC 399-20-110 Protection of public records.** (In order to properly protect the public records in the custody of the board, the following guidelines shall be adhered to by any person inspecting such public records:

(1) No public records shall be removed from the offices of the board;

(2) Inspection of any public records shall be conducted in the presence of a designated board or department employee;

(3) No public records may be marked or defaced in any manner during inspection;

(4) Public records which are maintained in a file jacket, or in a chronological order, may not be dismantled except for purposes of copying and then only by a designated employee of the board or department; and

(5) Access to file cabinets, shelves, vaults, etc., is restricted to board or department personnel. To protect the board's public records any person inspecting or copying the records must comply with the following requirements:

(1) Public records may not be removed from the board's offices;

(2) Persons inspecting public records must do so in the presence of a designated board or department employee;

(3) Persons inspecting or copying public records must not mark or deface them in any manner;

(4) Public records maintained in a file jacket, or in chronological order must not be dismantled except for the purposes of copying and then only by a designated board or department employee;

(5) Only board or department employees will have access to file cabinets, shelves, vaults, or other storage areas.

AMENDATORY SECTION (Amending Order 85-17, filed 12/4/85)

**WAC 399-20-120 Adoption of form.** The board hereby adopts for use by all persons requesting inspection or copying of its records, the form set out below, entitled "request for public records."

In order to request copies of our public records, please complete the attached form and return it with the proper payment to the address below. We will forward to you those requested copies which are not exempt from disclosure when we receive this form. Thank you.

REQUEST FOR  
PUBLIC RECORDS

Public Works Board  
~~((9th and Columbia Building  
Mail Stop GH-51 CAMPUS  
Olympia, Washington 98504 4151))~~  
PO Box 48319  
Olympia, WA 98504-8319(360) 753-2200

NAME OF REQUESTOR: \_\_\_\_\_ PHONE: \_\_\_\_\_

STREET ADDRESS: \_\_\_\_\_

CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_

DATE OF REQUEST (M/D/Y): \_\_\_\_\_ TIME: \_\_\_\_\_ A.M.  
P.M.

PUBLIC RECORDS OR INFORMATION REQUESTED: \_\_\_\_\_

Completed by Public Works  
Board Staff

NUMBER OF COPIES, IF REQUESTED: \_\_\_\_\_ NUMBER OF COPIES PROVIDED: \_\_\_\_\_

APPOINTMENT TO VIEW RECORDS: \_\_\_\_\_ AMOUNT RECEIVED FOR COPIES: \$ \_\_\_\_\_

(Preferred Dates)  
(1st) DATE: \_\_\_\_\_ TIME: \_\_\_\_\_ APPOINTMENT CONFIRMED:  
(2nd) DATE: \_\_\_\_\_ TIME: \_\_\_\_\_  
(3rd) DATE: \_\_\_\_\_ TIME: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_ STAFF: \_\_\_\_\_

IF SPECIAL EQUIPMENT REQUIRED FOR VIEWING RECORDS, PLEASE DESCRIBE: \_\_\_\_\_

AGREEMENTS: I have read, understand, and will comply with the rules of the public works board governing the inspection and copying of public records. I also agree that any list of individuals and/or information provided me by the board shall not be used for any commercial purpose by myself or by any organizations I represent. I will protect the list of individuals and/or information from access by anyone who may use it for the purposes of contacting the individuals named therein or otherwise personally affecting them in furtherance of any profit-seeking activity.

SIGNATURE OF REQUESTOR: \_\_\_\_\_ DATE: \_\_\_\_\_

ACKNOWLEDGEMENT OF RECEIPT  
DATE: \_\_\_\_\_ TIME: \_\_\_\_\_ A.M.  
P.M.

SIGNATURE OF STAFF RECIPIENT: \_\_\_\_\_

REASON IF AGENCY IS UNABLE TO COMPLY: \_\_\_\_\_

WAC 399-20-120 (11/85)

(FOR BOARD USE ONLY)  
Number of copies . . . .  
Number of pages . . . .  
Per page charge \$ ~~((10))~~ 15  
for in excess of  
ten pages  
Total charge \$ . . . .

AMENDATORY SECTION (Amending Order 85-17, filed 12/4/85)

**WAC 399-30-010 Purpose.** (1) ~~((Pursuant to authority derived from chapter 446, Laws of 1985,))~~ The public works board ~~((may))~~ makes low-interest or interest-free loans to local governments from the public works assistance account or other ~~((funds and accounts for the purpose of assisting))~~ sources to assist local governments in financing public works projects. The board may also pledge money to the repayment of all or a portion of the principal ~~((of))~~ or interest on obligations issued by local governments to finance public works projects.

(2) The purpose of this chapter is to ~~((prescribe the form and manner in which))~~ describe how local governments may ~~((make application))~~ apply to the board for financial assistance, and to provide for the ~~((consideration and disposition))~~ review of ~~((such))~~ the applications.

AMENDATORY SECTION (Amending Order 89-01, filed 4/28/89)

**WAC 399-30-020 Definitions.** Unless the context clearly requires otherwise, the definitions in this section apply throughout this chapter.

(1) "Board" means the public works board.

(2) "Department" means the department of community, trade, and economic development.

(3) "Financing guarantees" means the pledge of money in the public works assistance account, or money to be received by the public works assistance account, to the repayment of all or a portion of the principal of or interest on obligations issued by local governments to finance public works projects.

(4) "Local governments" means cities, towns, counties, special purpose districts, and any other municipal corporations or quasi-municipal corporations in the state excluding school districts and port districts.

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(5) "Public works project" means a project of a local government for the planning, acquisition, construction, repair, reconstruction, replacement, rehabilitation, or improvement of ~~((streets and roads, bridges, water systems, or storm and sanitary sewage))~~ bridges, roads, domestic water systems, sanitary sewer systems, storm sewer systems, and solid waste/recycling systems.

(6) "Emergency public works project" means a public works project made necessary by a natural disaster, or an immediate and emergent threat to the public health and safety due to unforeseen or unavoidable circumstances.

**AMENDATORY SECTION** (Amending WSR 92-03-052, filed 1/13/92, effective 2/13/92)

**WAC 399-30-030 Loan and financing guarantee applications.** (1) ~~((Applications for loans and/or financing guarantees to assist in the financing of critical public works projects may be made by))~~ Any local government in the state of Washington may apply for a loan or financing guarantee to assist in financing critical public works projects.

(2) All applicants must meet the following conditions:

(a) Applicant cities and counties must be imposing a real estate excise tax under RCW 82.46.010(2) at a rate of at least one-quarter of one percent;

(b) Applicant local governments must have developed a long-term plan for financing public works needs as further described in the loan application package ~~((; and~~

~~((e) Applicant local governments must be using all local revenue sources that are reasonably available for funding public works, taking into consideration local employment and economic factors:))~~ under "capital facilities planning."

(3) Direct costs eligible for public works loans are those costs ~~((which are))~~ directly attributable to a specific project and ~~((shall))~~ include:

(a) ~~((Direct labor (engineering and/or construction) including related employee benefits:))~~ Work done by employees of the applicant, or by other government employees under an inter-local agreement or contract limited to: Engineering, environmental review, design activities, acquisition of rights of way or property, construction inspection activities, roadway seal coating (if bids from private sector contractors have been solicited and compared with the inter-local agreement proposal), and the cleaning, sterilization, or bacteriological testing of water system components prior to public use.

(i) Salaries and wages (at actual or average rates) covering productive labor hours of the local government employees (excluding the administrative organization of the operating unit involved) ~~((for periods of time, actively or incidentally engaged in (A) engineering, (B) acquisition of rights of way, (C) construction inspection activities))~~. The cost of services rendered by employees generally classified as administrative are considered a direct cost only when such employees are assigned for short periods of time to perform on a full-time basis the types of services described above and when similar procedures are followed;

(ii) Employee benefits relating to direct labor are considered a direct cost of construction projects. The following items may be included as employee benefits:

- (A) F.I.C.A. (Social Security) - employer's share;
- (B) Retirement benefits;
- (C) Hospital, health, dental, and other welfare insurance;
- (D) Life insurance;
- (E) Industrial and medical insurance;
- (F) Vacation;
- (G) Holiday;
- (H) Sick leave; and
- (I) Military leave and jury duty.

Employee benefits ~~((shall))~~ must be calculated as a percentage of direct labor dollars. The computation of predetermined percentage rates to be applied to current labor costs ~~((shall))~~ must be based ~~((upon))~~ on the average of total employee benefits and total labor costs for the prior fiscal year and adjusted by known current year variations.

(b) Contract engineering ~~((and)),~~ planning, legal, and financial planning services. The board reserves the right to declare ineligible legal costs that are unreasonable and disproportionate to the project.

(c) Right-of-way acquisition costs including:

- (i) Purchase of land and easements acquired for and devoted to the project;
- (ii) Purchase of improvements;
- (iii) Adjustment or reestablishment of improvements;
- (iv) Salaries, expenses or fees of appraisers, negotiators or attorneys;
- (v) Removal or demolition of improvement;
- (vi) Other direct costs in connection with the acquisition.

Amounts received from the sale of excess real property or improvements and from any rentals ~~((shall))~~ will be ~~((a reduction of))~~ reduced from the direct cost.

(d) Contract construction work.

(e) Direct vehicle and equipment charges at the actual rental cost paid for the equipment or, in the case of city or county-owned equipment, at the rental rates established by the local government's "equipment rental and revolving fund" following the methods prescribed by the division of municipal corporations ~~((; Provided, That))~~. However, such costs ((shall)) must be charged on a uniform basis to equipment used for all projects regardless of the source of funding. Cities with a population of eight thousand or less ((which may not use this)) not using type of fund ((shall be)) are allowed the same rates as used by the department of transportation.

(f) Direct materials and supplies. ~~((The cost of materials used in projects shall be based upon methods prescribed for the "equipment rental and revolving fund" by the division of municipal corporations:))~~

(i) An overhead rate or "loading factor" ~~((shall))~~ is not ~~((be))~~ considered an appropriate additive to the actual cost of materials and supplies used on construction projects unless the factor is readily and properly supportable by the governmental unit's accounting records.

(ii) The cost, or reasonable estimate thereof, of materials paid for as contract estimate items, but not used, ~~((shall))~~ will be considered a reduction of direct costs. Any material ~~((which may be))~~ that is salvaged in connection with a project ~~((shall))~~ will be assigned a reasonable value and considered a reduction of direct costs.

(iii) Wetland plants and other materials used for wetland planting, wildlife habitat, or fish habitat may be provided to a

public or nonprofit organization without a reduction of direct costs.

(g) Interdepartmental charges for work performed by the local government for the benefit of specific construction projects ~~((shall be))~~ is limited to direct costs plus an allocation of indirect costs based ~~((upon))~~ on ten percent of direct labor dollars, excluding employee benefits.

(h) Other direct costs incurred for materials or services acquired for a specific project ~~((shall be))~~ are eligible for participation by public works loan funds and may include, but ~~((shall))~~ are not ~~((be))~~ limited to such items as:

- (i) Telephone charges;
- (ii) Reproduction and photogrammetry costs;
- (iii) Video and photography for project documentation;
- (iv) Computer usage; and
- (v) Printing and advertising.

(4) Other than work identified in subsection (3)(a) of this section, no government employee labor related costs, including force account work, are eligible for financing assistance or to be considered as local match under this chapter.

(5) Applications ((shall)) must be submitted ((to the board)) in writing, on ((such)) forms ((as may be prescribed by and obtained from)) provided by the board for the current funding cycle.

~~((5) Any application for financial assistance submitted to the board shall be signed and verified by a responsible official of the applicant jurisdiction. Such official shall also provide the board with any additional materials or information in support of the application which the board or its staff may request.))~~ (6) A responsible official of the applicant jurisdiction must sign and verify each application for financial assistance. The official must also provide the board with additional materials or information in support of the application when requested by the board or its staff.

**AMENDATORY SECTION** (Amending WSR 95-11-093, filed 5/19/95, effective 6/19/95)

**WAC 399-30-040 Application evaluation procedure and board deliberations.** (1) The board will consider and prioritize, or disapprove, all applications for loans or financing guarantees at regular or special meetings of the board. The applicant will be notified of meetings at which its application will be considered.

(2) Applications will be evaluated and prioritized in accordance with the following procedures:

(a) Staff will log in all applications as received.

(b) Staff will review all applications for compliance with the minimum qualification requirements of WAC 399-30-030(2). Jurisdictions whose applications do not meet the minimum qualification requirements will be notified in writing of the disqualification.

(c) Staff will perform ~~((a preliminary))~~ an evaluation of all applications which meet the requirements of WAC 399-30-030(2). Applications will be scored according to the number of points awarded for responses provided in the statements of local management efforts and project need.

(i) Not less than sixty points, of a one hundred point total, ~~((shall))~~ will be assigned to responses to questions iden-

tified in the application as relating to local management effort.

(ii) The remaining forty points ~~((shall))~~ will be assigned to responses to questions identified in the application as relating to project need.

(d) Staff will provide the board with ~~((preliminary))~~ evaluation and scoring of the applications. All application materials will be available to the board for their deliberations. The board will ~~((develop))~~ approve a ranked list of projects based on the information provided to them by the staff and the applications.

(e) The board may adjust the ranked list in consideration of the following factors:

- (i) Geographical balance;
- (ii) Economic distress;
- (iii) Type of projects;
- (iv) Type of jurisdiction;
- (v) Other criteria that the board considers advisable.

(f) Staff will verify critical information on each project as required by the board.

(g) In order to ensure fairness to all jurisdictions with applications pending before the board, the board will not accept oral or written testimony from any applicant while deliberating loan priorities, other than specific responses to information requests initiated by the board as provided in (h) of this subsection.

(h) The board may consult with officials of jurisdictions having projects submitted for funding on any issue it wishes to address.

(3) Applicants will be notified in writing of board decisions.

**AMENDATORY SECTION** (Amending WSR 92-03-052, filed 1/13/92, effective 2/13/92)

**WAC 399-30-042 Application evaluation procedure and board deliberations—Capital planning support.** (1) The board will consider and approve, or disapprove, all applications for capital planning support loans at regular or special meetings of the board. The applicant will be notified of meetings at which its application will be considered.

(2) All applications will be evaluated in accordance with the following procedures:

(a) Staff will log in all applications as received.

(b) Staff will review all applications for compliance with the minimum qualification requirements of WAC 399-30-030(2). Jurisdictions whose applications do not meet the minimum requirements will be notified in writing of the disqualification.

(c) Staff will perform ~~((a preliminary))~~ an evaluation of applications which meet the requirements of WAC 399-30-030(2) to determine if the application is consistent with the policies contained in the capital planning support loan application.

(d) Those applications found to be consistent with board policies may be recommended to the board for funding. All application materials will be available to the board for its deliberations. The board will ~~((develop))~~ approve a list of projects based on the information provided to it by the staff and the applications.

(e) The board may then adjust the list in consideration of the following factors:

- (i) Geographical balance;
- (ii) Economic distress;
- (iii) Other criteria that the board considers advisable.

(f) Staff will verify critical information on each project as required by the board.

(g) The board may consult on any issue it wishes to address, with officials of jurisdictions having projects submitted for funding.

(3) Applicants will be notified in writing of board decisions.

**AMENDATORY SECTION** (Amending WSR 92-03-052, filed 1/13/92, effective 2/13/92)

**WAC 399-30-045 Emergency loan program.** This section implements RCW ~~((43.155.060 as amended in 1988 to provide that:))~~ 43.155.060 and 43.155.065. The board may make low-interest or interest free loans to local governments for emergency public works projects. The emergency loan program is to financially assist eligible communities experiencing the loss of critical public works services or facilities due to an emergency, and that can demonstrate a substantial fiscal need.

(1) Eligible local governments. Applicants must meet the conditions as identified under WAC 399-30-030(2).

(2) Eligible uses of funds. Financial assistance received shall be used for the purpose of restoring the services and/or repair of the public works facilities involved in the emergency. Assistance provided may be used to help fund all or part of an emergency public works project less any reimbursement from any of the following:

- (a) Federal disaster or emergency funds, including funds from the Federal Emergency Management Agency;
- (b) State disaster or emergency funds;
- (c) Insurance settlements; or
- (d) Litigation.

~~((Reimbursement from the sources listed above shall be made to the department and shall remain an obligation of the assisted local government up to four years after the date of formal project closeout with the department. Local governments receiving funds shall undertake efforts to be reimbursed in a timely manner. Further, that assistance will be offered only for those eligible costs identified in WAC 399-30-030(3).))~~ Assisted local governments must reimburse the department any moneys received from the sources listed above. The local government is obligated to make reimbursement for four years after formal project closeout. Local governments eligible to receive moneys must use their best efforts to seek reimbursement in a timely manner.

(3) Availability of funds. Funding will be made available on a first-come first-served basis. Only those funds specifically appropriated by the legislature from the public works assistance account shall be used to make emergency loans. That amount shall not exceed five percent of the total amount appropriated from this account in any biennium.

(4) Application process. ~~((The application process shall be in writing on such forms or format as may be prescribed and obtained from the board. The date and time of receipt of~~

~~the application by the board designated representative shall determine the sequence for application processing.))~~ Local governments must apply on the form provided by the board. Applications will be processed in the order received.

(5) Board deliberations—Emergency loan applications.

(a) The board will consider and approve or disapprove all eligible applications for emergency financial assistance at regular or special meetings of the board. The applicant will be notified of meetings at which its application will be considered.

(b) All applications will be accepted, evaluated, and prioritized in accordance with the following procedures:

(i) Applications will be accepted only when emergency funding is available.

(ii) Staff will review applications and verify that the applicant is eligible for assistance as set forth in RCW 43.155.070(1).

(iii) Staff will provide the board an evaluation of whether an emergency loan is needed based upon the information documented by the applicant and staff.

(iv) Site visits to the location of the emergency public works project will be carried out at the discretion of the board or staff.

(6) Loan terms. The board shall determine the term and interest rate(s) of emergency loans annually.

(7) Exceptions to public works trust fund policies and procedures. Except as provided in this chapter or specified in annual program guidelines, the emergency program shall follow all general administrative program policies as set for the public works trust fund.

**AMENDATORY SECTION** (Amending WSR 92-03-052, filed 1/13/92, effective 2/13/92)

**WAC 399-30-050 Recommendations to the legislature.** (1) Prior to November 1, 1986, and in each subsequent year, the board ~~((shall))~~ will develop and submit to the ~~((ways and means))~~ appropriate fiscal committees of the senate and house of representatives a prioritized list of projects which the board recommends for funding by the legislature.

(2) In addition to the requirements of RCW 43.155.070(4), the list will include such supporting material as the board considers necessary to meet the purposes of this chapter.

(3) Before November 1 of each year, the board ~~((shall))~~ will develop and submit to the chairs of the ~~((ways and means))~~ appropriate fiscal committees of the senate and house of representatives a description of the emergency loans made under this program ~~((as provided in RCW 43.155.070(4), as amended in 1988, and identified in RCW 43.155.065)).~~

**AMENDATORY SECTION** (Amending WSR 92-03-052, filed 1/13/92, effective 2/13/92)

**WAC 399-30-060 Loan and financing guarantee contracts.** (1) The board ~~((shall not sign))~~ will only execute loan agreements or otherwise financially obligate funds from the public works assistance account ~~((until))~~ after the legislature



approves the list and accompanying appropriation ((are approved by the legislature)).

(2) After the legislature has appropriated funds from the public works assistance account for a specific list of public works projects, the loan funds will be disbursed to the applicant local government ((pursuant to)) through a contract ((therefor, which will be offered to the local government with such reasonable terms and conditions as the board may determine: *Provided*, That the amount loaned to a local government shall not exceed ninety percent of eligible proposed project cost: *Provided further*, That the funds provided by a local government which are considered local financial participation shall consist of locally generated revenues and/or federal and/or state shared revenues subject to discretionary allocation by the recipient unit of local government: *Provided further*, That the interest rate and local share requirements for loans shall be determined annually by the board: *Provided further*, That loans shall not exceed twenty years in duration, or the useful life of the improvements, whichever is shorter.

(3) Public works project loan and/or financing guarantee agreements offered to local governments shall be formally executed by the local government and the department of community development prior to the disbursement of any funds thereunder.

(4) Public works project loan and/or financing guarantee scope of work forms shall be completed and returned to the department of community development by the local government within ninety days of the date a scope of work form request is initiated.

(5) Public works project loan and/or financing guarantee contracts offered to local governments shall be executed by the local government within ninety days of the date a loan agreement is initiated.

(6) Work on public works projects financed through loans or financing guarantees offered to local governments must commence prior to October 1 of the year in which the loan or financing guarantee is offered.

(7) Work on public works projects financed through loans or financing guarantees offered to local governments must be completed within thirty months of the date of loan execution)). The contract will offer terms and conditions as the board determines are reasonable, based on the following standards:

(a) The amount loaned to a local government must not exceed ninety percent of eligible proposed project costs.

(b) The local government's financial participation funds must be from locally generated revenues or federal or state shared revenues that can be allocated at the discretion of the local government.

(c) The interest rate and local share requirements for loans will be determined annually by the board.

(d) Loans must not exceed twenty years, or the useful life of the improvements, whichever is shorter.

(3) The local government and the department must execute a final contract before any funds are disbursed.

(4) The local government must complete a scope of work form for a loan or financing guarantee and return it to the department within ninety days after the department offers a loan or financing guarantee.

(5) The local government must execute any loan or financing guarantee contracts offered within ninety days after the department offers the contract.

(6) The local government must begin work on a public works project prior to October 1 of the year in which the loan or financing guarantee is offered.

(7) The local government must complete work on the public works project within the time specified in the loan agreement, unless a written request for extension is approved by the board.

(8) ~~((Funds expended by local governments on projects financed through loans or financing guarantees by the public works assistance account before an agreement has been formally executed by the local government and the department of community development may not be reimbursed with funds from the public works assistance account. Such funds may be used by the local government as an element in its required local participation in a project financed by the public works assistance account provided they are used for activities eligible))~~ The board or department will not reimburse local governments for any funds spent on public works projects financed through the public works assistance account before a contract agreement has been formally executed. Funds spent before the contract is executed may be used toward local participation requirements if they are for eligible activities under WAC 399-30-030 and are consistent with the executed loan agreement.

**AMENDATORY SECTION** (Amending WSR 92-03-052, filed 1/13/92, effective 2/13/92)

**WAC 399-30-065 Emergency loan and financing guarantee contracts.** (1) After the legislature has appropriated funds from the public works assistance account for emergency loans, the loan funds will be disbursed to the applicant local government pursuant to a contract ((therefor, which will be offered to the local government with such reasonable terms and conditions as the board may determine, if any: *Provided*, That the funds provided by a local government which are considered local financial participation shall consist of locally generated revenues and/or federal and/or state shared revenues subject to discretionary allocation by the recipient unit of local government: *Provided further*, That loans shall not exceed twenty years in duration, or the useful life of the improvements, whichever is shorter.

(2) Public works project loan and/or financing guarantee agreements offered to local governments shall be formally executed by the local government and the department of community development prior to the disbursement of any funds thereunder.

(3) Public works project loan and/or financing guarantee scope of work forms shall be completed and returned to the department of community development by the local government within ninety days of the date a scope of work form request is initiated.

(4) Public works project loan and/or financing guarantee contracts offered to local governments shall be executed by the local government within ninety days of the date a loan agreement is initiated.



## WSR 98-24-011

## PERMANENT RULES

## DEPARTMENT OF LICENSING

[Filed November 19, 1998, 4:19 p.m., effective January 1, 1999]

Date of Adoption: November 4, 1998.

Purpose: To establish administrative rules to administer and clarify the provisions of SHB 2659 regarding the administration and collection of state motor vehicle fuel and special fuel taxes. To repeal or amend existing administrative rules which conflict with the provisions of the bill.

Citation of Existing Rules Affected by this Order: Amending chapters 308-72 and 308-77 WAC.

Statutory Authority for Adoption: RCW 82.36.435 and 82.38.260.

Adopted under notice filed as WSR 98-18-059 on August 31, 1998.

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 10, Amended 28, Repealed 16.

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 10, Amended 28, Repealed 16; Pilot Rule Making: New 0, Amended 0, Repealed 0; or Other Alternative Rule Making: New 0, Amended 0, Repealed 0.

Effective Date of Rule: January 1, 1999.

November 16, 1998

Evelyn P. Yenson

Director

PERMANENT

~~(5) Work on emergency public works projects financed through loans or financing guarantees offered to local governments must commence within ninety days of the date of loan execution.~~

~~(6) Work on public works projects financed through loans or financing guarantees offered to local governments must be completed within twelve months of the date of loan execution, unless a written request for extension is approved by the board.~~

~~(7) Funds expended by local governments on projects financed through loans or financing guarantees by the public works assistance account before an agreement has been formally executed by the local government and the department of community development may not be reimbursed with funds from the public works assistance account. *Provided*, That if the local government has made a formal declaration of an emergency, eligible costs for correction of the emergency incurred from the effective date of such declaration, and approved by the public works board, will be eligible for reimbursement. Such eligible costs not reimbursed but incurred before a loan agreement is approved may be used by the local government as an element of its required local participation, if any, for the emergency public works project)). The contract will offer terms and conditions the board determines are reasonable, based on the following standards:~~

~~(a) The local government's financial participation funds must be from locally generated revenues or federal or state shared revenues that can be allocated at the discretion of the local government.~~

~~(b) Loans must not exceed twenty years, or the useful life of the improvements, whichever is shorter.~~

~~(2) The local government and the department must execute a final contract before any funds are disbursed.~~

~~(3) The local government must complete a scope of work form for a loan or financing guarantee and return it to the department within ninety days after the department offers a loan or a financing guarantee contract.~~

~~(4) The local government must execute any loan or financing guarantee contracts offered within ninety days after the department offers the contract.~~

~~(5) The local government must begin work on an emergency public works project within ninety days after the contract is executed.~~

~~(6) The local government must complete work on an emergency public works project within twelve months after the contract is executed, unless a written request for extension is approved by the board.~~

~~(7) The board or department will not reimburse local governments for any funds spent on emergency public works projects financed through the public works assistance account before a contract agreement has been formally executed. However, if the local government has formally declared an emergency, the board may approve reimbursement of eligible costs of correcting the emergency incurred after an emergency was declared.~~

~~Any unreimbursed eligible costs for the project may be used toward local participation requirements, if any.~~

~~(8) All public works projects ((shall)) must comply with the competitive bid requirement of RCW 43.155.060 to the extent feasible and practicable.~~

NEW SECTION

**WAC 308-72-501 Exports.** "Export" means to obtain motor vehicle fuel in this state for sale or distribution outside this state. To be considered an "export" and qualify for exemption from the motor vehicle fuel tax, motor vehicle fuel obtained outside the bulk transfer terminal system must be physically off-loaded in the destination state, province, or foreign country and the exporter must be licensed or registered, if required, in the state, province, or country of destination.

NEW SECTION

**WAC 308-72-503 Motor vehicle fuel supplier.** "Motor vehicle fuel supplier" means a person who is licensed, and:

(1) Owns and stores motor vehicle fuel within the bulk transfer/terminal system, including motor vehicle fuel in a terminal facility; or

(2) Refines and stores motor vehicle fuel at a refinery.

**NEW SECTION**

**WAC 308-72-505 Electronic fund transfers.** If you are paying your motor vehicle fuel tax by electronic funds transfer, and the due date for payment of the motor vehicle fuel tax falls on a Saturday, Sunday, or legal holiday, you must transfer the funds by the last state business day immediately preceding the due date. (For example, if the payment is due on Saturday, April 10, 1999, you must transfer the funds by April 9, 1999.)

**AMENDATORY SECTION** (Amending Order PFT 90-03, filed 6/14/90, effective 7/15/90)

**WAC 308-72-509 Bonding requirements.** The bond may be in the form of a corporate surety bond pursuant to RCW 82.36.060, or in the form of lawful money of the United States in the amount so fixed by the department.

The department may also accept certificates of deposit of lawful money of the United States in any of the following forms:

(1) Automatically renewable certificate(s) of deposit, not exceeding the federally insured amount, issued by a bank doing business in the state of Washington and insured by the Federal Deposit Insurance Corporation, made in the name of the licensee or applicant for the license, payable to or assigned to the Washington state treasurer; or

(2) Certificate(s) of deposit or share account, not exceeding the federally insured amount, issued by a savings and loan association doing business in the state of Washington and insured by the Federal Savings and Loan Insurance Corporation. Evidence of the insured account, in the form of either a certificate of deposit or passbook, must be filed with the department along with a properly executed assignment form whereby the fund on deposit is assigned to the Washington state treasurer.

(3) Certificate(s) of deposit or share account, issued by a credit union doing business in the state of Washington and insured by the Washington Credit Union Share Guaranty Association, not exceeding the amount insured by the guaranty association. Evidence of the insured account, in the form of either a certificate of deposit or passbook, must be filed with the department along with a properly executed assignment form whereby the fund on deposit is assigned to the Washington state treasurer.

The certificate and/or the assignment forms shall contain the provision that interest earned shall be payable to the depositor, and that the assignment may only be ~~(cancelled)~~ **canceled** upon written authorization of the director of licensing or the director's designee.

**AMENDATORY SECTION** (Amending Order PFT 88-003, filed 3/22/88)

**WAC 308-72-512 Cancellation of ~~((distributor's))~~ license.** A ~~((distributor))~~ license may be ~~((cancelled))~~ **canceled** by the director under the following circumstances.

(1) Upon written request of the ~~((distributor))~~ licensee, such cancellation to become effective sixty days from the

date of receipt of the written request of such ~~((distributor))~~ licensee for cancellation thereof.

(2) Upon investigation and sixty days notice if the director ascertains and finds that the person to whom the license is issued is no longer engaged in the ~~((business of a distributor))~~ **sale or distribution of motor vehicle fuel** and has not been so engaged for the period of six months prior to such cancellation. A licensee whose sales or distributions of motor vehicle fuel at wholesale constitutes less than a substantial part of ~~((his/her))~~ **the** total volume of sales during a consecutive six month period ~~((, as disclosed by the licensee's monthly fuel tax reports,))~~ is considered no longer engaged in the business of a ~~((distributor))~~ licensee, and the ~~((distributor))~~ license must be ~~((cancelled))~~ **canceled** as provided in RCW 82.36.190.

(3) Upon failure to file a new bond or to make deposits (cash) in accordance with RCW 82.36.060, when surety requests to be released or discharged.

(4) Upon failure to file new or additional surety bond or to deposit additional securities within thirty days after being requested to do so by the department.

**AMENDATORY SECTION** (Amending Order PFT 90-03, filed 6/14/90, effective 7/15/90)

**WAC 308-72-540 Tax exempt transactions.** (1) Exports. Exemption from the motor vehicle fuel tax may be claimed when a ~~((licensed distributor))~~ licensee delivers motor vehicle fuel:

(a) To a customer at a point outside the state by means of equipment owned and operated or completely controlled by the ~~((licensed distributor))~~ licensee.

(b) To a common or contract "carrier" for transportation to a destination outside the state under a bill of lading or a shipping contract that definitely establishes that the ~~((Washington licensed distributor))~~ licensee claiming the export actually and, in fact, retains title to and control over said fuel until actual delivery to its destination out of the state of Washington.

(c) To another ~~((Washington licensed distributor))~~ licensee at a destination outside the state. The delivering ~~((distributor))~~ licensee shall claim exemption by reason of export and shall report such transactions in the same manner as an export to any other customer.

(d) To another ~~((Washington licensed distributor))~~ licensee at a destination outside this state following a receipt from another ~~((licensed distributor))~~ licensee in this state. The ~~((licensed distributor))~~ licensee receiving the fuel in this state shall be deemed the exporter.

~~((e) Into the transportation equipment of a buyer or a common or contract carrier employed by the buyer if the buyer transports the fuel to a location in a foreign nation.))~~

(2) United States armed forces and National Guard. Exemption from the motor vehicle fuel tax may be claimed when a ~~((licensed distributor))~~ licensee delivers motor vehicle fuel:

(a) To the United States armed forces or National Guard under a government bill of lading for the express purpose of exportation from the state by the armed forces or National Guard.

(b) Into the fuel tanks of ships operated by the United States armed forces or National Guard and bearing armed forces or National Guard identification names or numbers.

(c) Into the storage facilities of the United States armed forces or National Guard maintained exclusively for the purpose of fueling ships.

(d) Within the state in accordance with a credit or courtesy card issued to the United States armed forces or National Guard by a ~~((licensed distributor))~~ licensee provided that a delivery is made into the fuel tanks of ships operated by the United States armed forces or National Guard.

~~((e) No exemptions shall be granted for motor vehicle fuel sold to contractors acting as agents of the United States armed forces or National Guard for use in the performance of contracts with the United States armed forces or National Guard.~~

~~(3) Sales or distributions to other licensed distributors. Exemption from the motor vehicle fuel tax may be claimed when a licensed distributor delivers motor vehicle fuel to another Washington licensed distributor in this state except no sale or distribution of motor vehicle fuel from one licensed distributor to another licensed distributor may be made free of motor vehicle fuel tax where the sale or distribution is a withdrawal of motor vehicle fuel for delivery to a retail service station or to unlicensed bulk storage. No exemption from motor vehicle fuel tax may be claimed where a sale or distribution is a withdrawal of motor vehicle fuel for delivery to a retail service station or to unlicensed bulk storage.~~

~~(4) Sales for immediate export out of the state by purchaser.~~

~~(a) Exemption from the motor vehicle fuel tax may be claimed when a licensed distributor sells motor vehicle fuel in this state to a purchaser other than another licensed distributor, and the fuel is delivered into the transportation equipment of the purchaser or a common or contract carrier employed by the purchaser, and the purchaser transports the fuel and unloads it at a location outside the state.~~

~~(b) The selling distributor must issue to the purchaser an invoice which shall contain at least the following details:~~

- ~~(i) Name and address of seller;~~
- ~~(ii) Name and address of purchaser;~~
- ~~(iii) The date of delivery (month, day, and year);~~
- ~~(iv) The location of the point of shipment, in words;~~
- ~~(v) The place of delivery, in words, if different from shipping point;~~
- ~~(vi) Purchaser's method of transporting fuel (either customer equipment, common carrier, or pipeline, if by common carrier, common carrier's name);~~
- ~~(vii) State or foreign jurisdiction of destination;~~
- ~~(viii) Name of product sold;~~
- ~~(ix) The quantity, in gallons, of product sold;~~
- ~~(x) The price per gallon and total amount charged; and~~
- ~~(xi) The statement: "Ex Washington State Fuel Tax."~~

~~(e) The original copy of the invoice must be furnished the purchaser; a copy of the invoice must be kept by the selling distributor as required by RCW 82.36.160 and WAC 307-72-560.~~

~~(d)) For a licensee who is required to report, these sales shall be supported by Schedule 10, Uniform Motor Vehicle Fuel Tax Multiple Schedule of Disbursements (Form FT 441-~~

841), a separate schedule for each state of destination. The department shall furnish the government agency of the state or foreign jurisdiction of destination a copy of this Schedule 10 to give information on the movement of untaxed fuel across state lines. In the case of a delivery onto a federally recognized Indian reservation or onto Indian country, the schedule must identify the state within the contiguous United States, Hawaii, Alaska, District of Columbia, U.S. possession, or Canadian Province in which the delivery took place.

AMENDATORY SECTION (Amending Order PFT 90-03, filed 6/14/90, effective 7/15/90)

**WAC 308-72-542 Tax exempt sales to qualified personnel of foreign governments.** (1) Tax exempt sales of motor vehicle fuel may be made by a ~~((licensed motor vehicle fuel distributor))~~ licensee, other than an exporter, to qualified foreign diplomatic and consular missions and their qualified personnel ~~((by means of))~~ if the diplomatic, consular missions, and qualified personnel maintain tax exempt credit card accounts. The Office of Foreign Missions, United States Department of State, will determine who are qualified under existing federal treaties or agreements with foreign governments.

(2) Motor vehicle fuel purchased by cash is not tax exempt.

(3) The tax exempt credit card accounts may be obtained by foreign government personnel from oil companies through the Office of Foreign Missions of the United States Department of State, 3005 Massachusetts Avenue N.W., Washington, D.C. 20008, Attention: Gasoline Tax Exemption Program.

(4) ~~((Distributors))~~ Licensees issuing credit cards for the purchase of motor vehicle fuel, shall not accept credit card applications for diplomatic motor vehicle fuel tax exemption, unless the application is accompanied by Form DSP-99A, issued by the Office of Foreign Missions, United States Department of State, and approved by that office.

(5) Such sales shall be reported on the licensee's monthly tax return under "Sales to Qualified Foreign Government Personnel" and supported by an accompanying schedule showing the month of sale, the name of the foreign government personnel, and the quantity in gallons of motor vehicle fuel sold. Licensees, who are not required to submit monthly tax returns, may apply for a refund of the motor vehicle fuel tax previously paid on motor vehicle fuel sold tax exempt under this section.

AMENDATORY SECTION (Amending Order 107MV, filed 9/10/71)

**WAC 308-72-550 Tax exempt losses.** (1) Motor vehicle fuel lost or destroyed in this state while being transported in the equipment of a ~~((licensed distributor))~~ licensee or in the equipment of a common or contract carrier for a ~~((Washington licensed distributor))~~ licensee shall be ~~((reported))~~ considered as a taxable distribution. Credit for ~~((the tax))~~ or a refund of the motor vehicle fuel tax paid may be taken when the ~~((licensed distributor))~~ licensee or the common or contract carrier furnishes acceptable proof of the exact quantity

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of fuel lost provided the documents in support of the loss are submitted to the director for approval. Acceptable proof of loss shall ordinarily be understood to consist of:

(a) An affidavit by a person having actual knowledge of the loss, setting forth the origin and destination of the shipment, the circumstances surrounding the loss, the exact quantity of fuel lost, the exact quantity of fuel salvaged, the disposition of the salvaged fuel, and the procedure used in the determination of the quantity of fuel lost;

(b) A signed statement by a state patrol officer or official witness to the loss;

(c) A bill of lading or other shipping document;

(d) A statement by the ~~((licensed distributor))~~ licensee establishing his ownership of the fuel at time of loss;

(2) Loss of ~~((ex-tax))~~ motor vehicle fuel which has been proven lost or destroyed prior to distribution from a ~~((licensed distributor's))~~ licensee's bulk storage plant is allowable. Affidavits or other documentary evidence substantiating losses shall be retained by the ~~((license distributor))~~ licensee. ~~((Unproven))~~ Unproved losses shall be considered as distribution subject to tax.

(3) ~~((Exemption from the tax shall not be allowed on losses of tax-paid fuel, losses from unlicensed bulk storage plants, or losses from storage tanks which are connected to retail outlets. A refund of the tax may be allowed for tax-paid fuel lost or destroyed as provided in RCW 82.36.370.))~~

(4)) Charges for losses made to employees or agents of the ~~((licensed distributor))~~ licensee or to other persons who fail to satisfactorily account for fuel shall be invoiced inclusive of tax.

((5)) (4) Other losses shall be accounted for and supported by proof which clearly established their validity.

#### NEW SECTION

**WAC 308-72-555 Delinquent account notification process.** In this section, "distributor" means motor vehicle fuel distributor; and "supplier" means motor vehicle fuel supplier.

(1) When a distributor does not pay a supplier the motor vehicle fuel taxes which are due, the supplier must notify the department. The supplier must notify the department of the fuel tax delinquency no later than twenty calendar days from the date the fuel tax was due to the supplier. If that twentieth day falls on a Saturday, Sunday, or holiday, the supplier must notify the department on the next business day. The supplier must completely fill out the form that has been developed by the department for this purpose.

(2) The department's receipt of the completed notification form constitutes satisfactory evidence that the distributor has failed to pay the motor vehicle fuel taxes owed.

(3) When the distributor's license has been suspended for nonpayment of the motor vehicle fuel taxes due a supplier, the department will notify all suppliers of the suspension in one or more of the following ways:

(a) Posting notification of the suspension on the department's web site;

(b) Transmission of the notification via electronic mail or facsimile;

(c) Mailing of the notification via U.S. mail.

#### NEW SECTION

**WAC 308-72-557 Refund for bad debt loss (other than a motor fuel supplier).** (1) You may request a refund for tax paid on a worthless accounts receivable if you:

(a) Are a motor vehicle fuel importer, motor vehicle fuel blender, or motor vehicle fuel distributor; and

(b) Paid tax on an account found to be a worthless accounts receivable; and

(c) Charged off the amount for federal income tax purposes.

(2) The right to the tax refund arises during the month the account is reported as a bad debt on your federal income tax return. You may request the tax refund during any month within three years of the month in which you reported the bad debt. (For example, if you reported the bad debt in June 1999, you can request the tax refund in any month up to June 2002.)

(3) You must supply the department with a copy of the federal income tax return and a supporting schedule listing the bad debt as charged off. This is sufficient proof for the department to establish the validity of the tax refund.

(4) You cannot claim a tax refund for any portion of a debt which has been recovered, but is retained by or paid to a person as compensation in collecting the account. (For example, a collection agency.)

(5) If the purchaser of the motor vehicle fuel is indebted to you for other items, payments made by the purchaser must first be credited to the amount owed for the motor vehicle fuel and motor vehicle fuel tax, unless instructed otherwise by the purchaser. You must apply the amount collected ratably to the charges for the fuel and the tax.

(6) If you are a motor vehicle fuel importer or motor vehicle fuel blender, and you collect any motor vehicle fuel tax previously taken as a tax refund on a worthless accounts receivable, you must include that motor vehicle fuel tax in the tax return for the reporting period that motor vehicle fuel tax was collected in.

(7) If you are a motor vehicle fuel distributor, you must remit the motor vehicle fuel tax collected to the department no later than the last state business day of the month immediately following the month of collection. (For example, if you collected the tax in June 1999, you must remit the amount collected to the department by July 30, 1999.)

#### AMENDATORY SECTION (Amending Order 107MV, filed 9/10/71)

**WAC 308-72-560 Records**~~((Distributors—Dealers—Brokers))~~. (1) Every ~~((licensed distributor))~~ licensee and every dealer ~~((and every broker))~~ shall maintain a complete stock summary of the gallons of motor vehicle fuel handled each month which reflects inventories, receipts, sales, use, other distribution, and loss or gain. The stock summary shall be supported by:

(a) Physical inventories of bulk storage plants taken at the close of each calendar month;

(b) Meter readings for pumps through which fuel is dispensed taken at the close of each calendar month;

(c) A record of fuel receipts together with invoices, bills of lading, transfer documents, yield reports, and other documents relative to the acquisition of fuel;

(d) A record of fuel disbursements together with invoices, bills of lading and other documents relative to the disbursements of fuel.

(2) All receipts into storage and withdrawals from storage shall be recorded at the storage facility at which made.

**AMENDATORY SECTION** (Amending Order PFT 90-03, filed 6/14/90, effective 7/15/90)

**WAC 308-72-570 Invoices.** (1) Every ~~((licensed distributor and every broker))~~ licensee shall issue an invoice at the time of each sale, distribution or use. An invoice is defined as: Any document, paper or electronic, evidencing the transfer of title to motor vehicle fuel ~~((and which))~~. If an electronic invoice is issued, a paper copy of the invoice must be produced if required by the department or if submitted in support of a refund claim. Each invoice must include the following information:

- (a) The name and motor vehicle fuel tax license number of the ~~((distributor or broker))~~ licensee;
- (b) The name ~~((and))~~, address, and motor vehicle fuel tax number, if applicable, of the purchaser;
- (c) The date of delivery; (month, day and year)
- (d) The location of the point of shipment, in words;
- (e) The place of delivery, including the name of the state or Canadian Province, in words, if different from shipping point;
- (f) Customer's truck or common carrier when delivered thereto;
- (g) Name of product sold;
- (h) The quantity, in gallons, of product sold;
- (i) The price per gallon and total amount charged;
- (j) The statement "Ex Washington motor vehicle fuel tax" if exemption is claimed; ~~((and))~~

(k) In the case of border or interstate sales where place of delivery may be different than purchaser's address, indicate, "state" where delivered, i.e., Washington delivery, Idaho delivery, Oregon delivery; and

(l) In the case of a delivery onto a federally recognized Indian reservation or onto Indian country, the invoice must identify the state within the contiguous United States, Hawaii, Alaska, District of Columbia, U.S. possession, or Canadian Province in which the delivery took place.

(2) Returns. When motor vehicle fuel is physically returned for credit or refund from a customer other than a dealer (service station) the ~~((licensed distributor))~~ licensee may claim credit or request a refund for the tax previously paid if the original invoice is obtained from the customer and retained by the ~~((licensed distributor))~~ licensee. When the number of gallons returned is less than the quantity sold and when the customer desires to file claim for refund of tax on the unreturned portion, the ~~((licensed distributor))~~ licensee shall obtain the refund copy of the delivery invoice and retain it in the tax files. In such cases, a new invoice may be issued for the unreturned portion, making reference to the original date of delivery and invoice number. If the ~~((licensed distributor))~~ licensee is unable to obtain the customer's ~~((original))~~

invoice when motor vehicle fuel is physically returned, the ~~((licensed distributor))~~ licensee receiving the fuel may obtain permission from the director to claim credit or refund for the tax without obtaining the ~~((original))~~ invoice after furnishing the name and address of the customer, name or location of the ~~((licensed distributor's))~~ licensee's station making the sale, date and number of the delivery invoice, gallons delivered and gallons returned.

An invoice used to record a returned sale or billing adjustment resulting in a credit, must be clearly identified as a credit invoice by means other than circling of figures.

When circumstances require an invoice prepared at the time of delivery to be replaced by another, the new document must include all of the pertinent information shown on the first document including the date of transaction and any unique transaction codes or numbers identifying the first document.

(3) Own use, taxable. Fuel used in motor vehicles or for other taxable purposes by a ~~((licensed distributor))~~ licensee or ~~((his))~~ an agent of the licensee shall be supported by an invoice or usage report covering the total fuel used at a particular plant during the month. If motor vehicle fuel is acquired from another ~~((licensed distributor))~~ licensee or a dealer, the invoice shall be retained in the ~~((licensed distributor's))~~ licensee's files and the purchase noted on the usage report.

(4) Own use, tax refundable. If motor vehicle fuel is used for a purpose subject to tax refund, the ~~((licensed distributor))~~ licensee may claim credit or request a refund for such use ~~((on the statement))~~. In such case, the supporting invoices or ~~((usage report))~~ tax return shall clearly indicate the use as well as the equipment in which used.

**AMENDATORY SECTION** (Amending Order 470-DOL, filed 12/30/77)

**WAC 308-72-610 Refund ~~((permit))~~ claim number.** Any person desiring to claim a refund of the motor vehicle fuel tax shall make application for a refund ~~((permit))~~ claim number. The refund ~~((permit may))~~ claim number must be obtained before ~~((or at the time of))~~ filing a claim for refund and will be used for identifying subsequent refund claims.

#### **NEW SECTION**

**WAC 308-72-615 Interest assessment on refund claims.** Within thirty business days after receipt of a motor vehicle fuel tax refund claim, the department must issue a refund. If the department does not issue the refund within thirty business days, interest is due. The first day of the thirty-day period begins on the date the properly filed and completed refund claim is received by the department. The postmark date on the envelope is not considered the received date for this purpose.

**AMENDATORY SECTION** (Amending Order 107MV, filed 9/10/71)

**WAC 308-72-620 Filing of claim.** (1) A refund claim may be filed monthly, quarterly, annually or for whatever

period of time the applicant desires except that such claim must be filed not later than the close of the last business day of a period thirteen months from the date of purchase of the motor vehicle fuel. The postmark date will be recognized as the date claim was filed for purposes of establishing the last business day of the period.

~~(2) ((In all cases a claim shall be accompanied by the original (top copy) invoice or invoices issued to the claimant by the seller of the fuel. (For exception see subsection (5) of WAC 308-72-630.) All invoices of fuel purchased during the claim period including fuel purchased for licensed motor vehicles must be submitted with each claim))~~ If your motor vehicle fuel tax refund claim is one hundred dollars or less, you do not have to send your purchase invoices with your refund claim. The department may require you to submit copies of your purchase invoices to establish the validity of your refund claim.

(3) If electronic invoices were issued to the claimant, paper copies of the invoices must be submitted with the refund claim.

(4) Individuals must sign their own claims. A partnership claim may be signed by any one of the partners. Claims of business firms or corporations must be signed by an authorized agent. Accountants and other persons assisting in preparation of claims must also sign in the space provided. Claims should be made out in the same name as that shown on the invoices. If it is desired to have a claim paid in a name differing from that shown on the purchase invoice, attach a letter of authorization signed by the person to whom the invoice was issued.

#### AMENDATORY SECTION (Amending Order 107MV, filed 9/10/71)

**WAC 308-72-630 Invoice requirements, seller responsibility.** (1) The seller of motor vehicle fuel is required to issue to each purchaser who claims to be entitled to a refund separate invoices for each purchase of fuel ~~((on invoice forms approved by the director)).~~ Each invoice must be ~~((the original))~~ issued at the time of purchase. ~~((An original invoice for the purpose of supporting a claim for refund of the motor vehicle fuel tax is the top copy of a set of invoices prepared simultaneously by hand or machine.))~~ Each invoice in support of a claim for refund must show:

- (a) Name and address of the seller;
- ~~(b) ((Purchaser's name and address (invoices showing cash, boat number, equipment name or number, etc. will not qualify). Address not necessary on credit card invoices;~~
- ~~(e))~~ Kind or type of fuel and number of gallons delivered;
- ~~((d))~~ (c) Complete date of sale (month, day and year).

(2) A single invoice covering multiple deliveries made during a period of time not to exceed one calendar month may constitute a separate invoice as required by subsection (1): *Provided*, each delivery is individually listed on the invoice or on an accompanying statement in accordance with the requirements of said subsection (1) for single deliveries. If the multiple delivery invoice includes deliveries on which refund of the tax is not claimed and deliveries on which refund is claimed, the invoice shall contain or be accompa-

nied by a statement showing separately the deliveries and gallons on which tax is claimed as refundable and the nonrefundable deliveries and gallons.

(3) Invoices which indicate alterations, corrections or erasures shall be void and will not be accepted. Any person who alters any part of an invoice that will tend to give the claimant an illegal gain may have the entire claim invalidated and the director may suspend any further claims for refund for a period of one year.

(4) A "corrected invoice" used to support a claim must be accompanied by the original invoice. If an electronic invoice was issued, then a paper copy of the electronic invoice must be submitted.

~~(5) ((Credit card invoice forms shall be issued only when a purchaser holds a valid credit card. Such forms shall not be used to invoice cash sales. The original (top copy) credit card invoice is the only one acceptable for refund except as provided in subsection (6)).~~

~~(6) In extenuating circumstances, copy invoices will be accepted. Each copy must bear a statement signed by the dealer that it is a certified or true copy of the original. In all cases the reason for use of copy invoices must be given. Payment of refund based upon such duplicate or copy invoices will not be made until after expiration of the thirteen month period specified in RCW 82.36.330.~~

~~(7))~~ If an ~~((original))~~ invoice is lost or destroyed, the ~~((dealer or distributor))~~ seller may issue a duplicate copy entering thereon the invoice number, date of sale, gallonage, price and amount, and any information that appeared on the ~~((original))~~ first invoice. The copies shall be certified by the seller as being true and correct according to his records and shall be plainly marked "copy" or "duplicate." The claimant may then submit the certified copy for validation. The validated copy will be returned to the claimant who, when the thirteen month time limit has elapsed for the copy, may submit it with a separate claim for refund showing the refundable and nonrefundable usage of the fuel.

~~((8))~~ (6) Sellers of fuel shall not issue two ~~((original))~~ invoices, one each on a different form for the same delivery of fuel. Only one ~~((original))~~ invoice shall be issued for any one delivery.

#### AMENDATORY SECTION (Amending Order 107MV, filed 9/10/71)

**WAC 308-72-640 Records.** Each claimant shall maintain records which are sufficient to substantiate the accuracy of the claim. Such records shall reflect all motor vehicle fuel receipts, the gallons of fuel used in each type of equipment (both refundable and nonrefundable), other uses, loss and gain, and inventory on hand. The records must indicate the date of receipt or disbursements and identify the equipment into which the fuel is delivered or the purpose for which the fuel is used. Failure of the claimant to maintain the required records or to accede to a demand for examination of them constitutes a waiver of all rights to the refund. If the claimant maintains electronic invoices, paper copies of these invoices must be produced, upon demand of the department.

The following rules shall govern records maintained to support claims for refund:

(1) Use of fuel from common storage. Fuel purchased and delivered into bulk storage for use in vehicles required to be registered and licensed to operate on the public roads and for nonhighway use, must be fully accounted for by detail withdrawal records to accurately show the manner in which used. This record must be available for inspection upon request. Any fuel on hand (by actual measurement) should be indicated on the claim as closing storage inventory and should be reported as an opening storage inventory on the next claim. Credit for the inventory will be allowed on the next claim if it is filed within thirteen months from the filing date of the claim which established the inventory. All invoices for the total fuel purchased must be submitted with each claim unless the amount of the claim is one hundred dollars or less. (For exception see subsection (5) of this section.) ~~((A BULK STORAGE RECEIPT AND DISBURSEMENT RECORD))~~ A bulk storage receipt and disbursement record form designated for recording purchases and withdrawals of fuel from bulk storage will be furnished free upon request.

(2) Use of fuel from separate storage. Where separate bulk storage tanks are maintained for nonhighway use and for public road use, seller should mark the invoices at the time of delivery identifying the storage into which the fuel was delivered. No further detailed record will be required. Inventories must be reported and all invoices must be submitted. ~~((FUEL MAY NOT BE USED))~~ Fuel may not be used from the nonhighway tank in motor vehicles required to be registered and licensed. To do so will invalidate this method of determining refundable gallonage.

(3) Use of fuel from restricted use storage. Special storage facilities in the woods or farm fields or for other uses for certain periods should be identified and explained. If such storage is used entirely for nonhighway purposes and not used in motor vehicles required to be registered and licensed, no other record will be required. Purchase invoices showing delivery into such storage must be submitted and inventory at end of claim period should be reported.

(4) Fuel purchased for other than bulk storage. Fuel purchased in small containers for nonhighway use (boats, tractors, power saws, etc.) should be identified on the purchase invoice and no further record will be required.

(5) Proof of public road use. When no ~~((NONREFUNDABLE))~~ nonrefundable use deduction is made from invoices attached to the claim, claimant shall retain taxable invoices in ~~((his))~~ files and be prepared to substantiate fuel used in motor vehicles required to be registered and licensed upon request.

(6) Where a claim covering the operation of an unregistered or unlicensed motor vehicle is entirely over private roads or property subject to refund, no record will be required other than that necessary to show the source and number of gallons of fuel used.

AMENDATORY SECTION (Amending Order 107MV, filed 9/10/71)

**WAC 308-72-650 Refunds to dealer delivering fuel exclusively for marine use.** (1) Marine dealers may file claim for refund when motor vehicle fuel is delivered directly into the fuel tanks connected to the engine of any marine vessel owned or operated by the purchaser of the fuel, but only if

the person to whom the fuel is sold is a holder of a valid motor vehicle fuel tax refund ~~((permit))~~ claim number at the time of sale. The dealer should request purchaser to exhibit ~~((his))~~ the refund ~~((permit))~~ claim number at the time of delivery. A claim for refund shall be supported by:

(a) ~~((Original (top copy)))~~ Invoices covering fuel deliveries into the dealer's storage facilities. ~~((Licensed distributors who are also marine dealers will not be required to submit purchase invoices.))~~

(b) ~~((Original (top copy)))~~ Invoices covering tax exempt sales of motor vehicle fuel. These invoices shall, in addition to the applicable invoice requirements of WAC 308-72-630, contain:

- (i) The vessel or boat name;
- (ii) The Coast Guard or official number;
- (iii) The applicable sales tax;
- (iv) Purchaser's motor vehicle fuel tax refund permit number;
- (v) The statement "Ex Washington motor vehicle fuel tax."

(2) The dealer shall also file an exemption certificate containing a certificate signed by the purchaser that the fuel will be used solely for marine use. In lieu of a separate certificate, the dealer may imprint an exemption certification on his original sales invoices provided such form has been approved by the director.

~~((3) Chapter 183, Laws of 1971 ex. sess., provides that one cent per gallon shall be deducted from each marine use refund claim to be deposited in the coastal protection fund.))~~

AMENDATORY SECTION (Amending WSR 94-11-055, filed 5/10/94, effective 6/10/94)

**WAC 308-72-660 Power take-off use.** (1) Tax refund may be claimed for fuel used in a motor vehicle which is equipped with a power take-off unit to operate auxiliary equipment provided that the fuel used for power take-off operation is supplied from a tank which is not connected with a tank supplying fuel to propel the vehicle on the highway or if the fuel used to operate the auxiliary equipment by the power take-off is accurately measured by a metering device that has been specifically approved by the director, and, in certain motor vehicles, when established by the following formula:

(a) For gasoline used in pumping fuel oil or heating oil by means of a power take-off unit on a delivery truck at the rate of three-fourths of one gallon for each one thousand gallons of fuel or heating oil delivered. ~~((Pumping of gasoline or other refined petroleum products does not apply and claimant shall make a deduction for those products, other than fuel oil, pumped through the meter, pumping out of tanks, testing of meters or other uses. FUEL OIL DELIVER TRUCK OPERATORS))~~ Fuel oil delivery truck operators must maintain records which show the total gallons of fuel oil or heating oil pumped by each vehicle for which refund is claimed together with supporting meter readings.

(b) For gasoline used in operating a power take-off unit on a cement mixer truck or for gasoline used in operating a power take-off unit which operates a load compactor on a garbage truck at the rate of twenty-five percent of the total



gallons of gasoline used in each truck. Garbage trucks with power take-off units which operate only a dump box, hoist or other type of lift shall not apply. (~~CEMENT MIXER TRUCK AND GARBAGE TRUCK OPERATORS~~) Cement mixer truck and garbage truck operators must maintain records which show the total gallons of fuel used and the total miles operated for each vehicle.

(c) For gasoline used in operating a power take-off unit on any of the vehicles listed herein when direct measurement is not feasible, at the rate specified as a percentage of the total taxable fuel used by the vehicles:

Fire trucks (private)	25%
Mobile cranes	25%
Sanitation trucks	25%
Sewer cleaning truck/jet vactor	25%
Super suckers	25%
Line truck with digger/derrick or aerial lift	20%
Log truck with self loader	20%
Refrigeration trucks	20%
Sweeper trucks (must be motor vehicle)	20%
Boom truck/block boom	15%
Bulk feed truck	15%
Dump trailers	15%
Dump trucks	15%
Hot asphalt distribution truck	15%
Leaf truck	15%
Lime spreader	15%
Pneumatic tank truck	15%
Salt spreader on dump truck	15%
Seeder truck	15%
Semi-wrecker	15%
Service truck with jack hammer/drill	15%
Snow plow	15%
Spray truck	15%
Tank transport	15%
Tank trucks	15%
Truck with PTO hydraulic winch	15%
Wrecker	15%
Car carrier with hydraulic winch	10%
Carpet cleaning van	10%
Others	7.5%

If a claimant can provide satisfactory documentation and records to show that the fuel consumed by the power take-off is greater than the percentages indicated, the department may grant the higher percentage on a case by case basis.

(2) All claims must be accompanied by valid purchase invoices to cover the total gallons of gasoline purchased, except that invoices for gasoline used in fuel oil delivery trucks or when measured by a metering device need only be equal to or greater than the gallons claimed as refundable.

(3) If fuel is used from bulk storage, claimant shall maintain a detailed record of all receipts, withdrawals, and beginning and ending inventories to substantiate fuel used in motor vehicles.

(4) A schedule of vehicle operations shall support each claim for refund.

AMENDATORY SECTION (Amending Order 107MV, filed 9/10/71)

**WAC 308-72-670 Auxiliary engines.** Tax refund may be claimed for fuel used in auxiliary engines mounted on a licensed motor vehicle (ready mix concrete, refrigeration or air conditioning units, etc.) if the fuel for the auxiliary engine is supplied from a fuel tank other than the fuel tank which supplies the engine propelling the vehicle, or is accurately measured by a metering device that has been specifically approved by the director. Estimates for refundable use will not qualify for refund. When separate tanks are used, claimant shall maintain a detailed record of the gallons of fuel used and purchase invoices covering the total gallons of fuel used in both tanks must accompany the claim if the claim amount is greater than one hundred dollars. The department may require you to submit copies of your invoices to establish the validity of your refund claim.

REPEALER

The following sections of the Washington Administrative Code are repealed:

WAC 308-72-502	Sale or distribution at wholesale.
WAC 308-72-504	Bona fide wholesale merchant.
WAC 308-72-508	Requirements to qualify for a motor vehicle fuel distributor license.
WAC 308-72-520	Reports.
WAC 308-72-530	Import deliveries.
WAC 308-72-600	Tax refund.

AMENDATORY SECTION (Amending WSR 94-11-029, filed 5/9/94, effective 6/9/94)

**WAC 308-77-010 Definitions.** (1) "Highway" includes a way or place of whatever nature within the exterior boundaries of the state including a way or place within a federal area publicly maintained and open to the use of the public for purposes of vehicular travel notwithstanding private participation in the maintenance of the way or place. It shall be presumed that the way or place is dedicated and accepted as a highway when it is recognized as a part of its maintained highway system by a proper public authority.

A way or place within a national or state forest which is entirely privately constructed or maintained will not be considered a highway, notwithstanding the fact that it may be

PERMANENT



declared by the public authority to be a part of its road system.

A way or place is not a highway during such times as it is closed by the governmental authority to the use of the public regardless of the purpose for which it is closed. A highway is open to the use of the public if vehicular travel is permitted although subject to traffic controls.

Roads maintained exclusively by the United States within a national park are subject to the control of the Secretary of the Interior. When, in the exercise of that control, a permit and payment of a fee are required for the use of such roads, they are not highways open to the use of the public.

(2) "Special fuel" means that definition given in RCW 82.38.020(23) and includes diesel fuel, propane, natural gas and any other combustible liquid or gas by whatever name the liquid or gas may be known or sold for the generation of power to propel a motor vehicle on the highways except fuel that is subject to the tax imposed by the motor vehicle fuel tax law, chapter 82.36 RCW. Four and one-quarter pounds of propane or one hundred cubic feet of natural gas shall be deemed the equivalent of one liquid gallon.

(3) "Publicly owned fire fighting equipment" means fire fighting equipment owned by any agency of the state of Washington, or by any city, town, county, or fire protection district of Washington state, and shall include fire engines, aid cars, ambulances, and vehicles used to transport fire fighting personnel to the fire scenes.

(4) "Farmer" means any person, firm, partnership or corporation engaged in the cultivation and tillage of the soil, dairying, the production, cultivation, growing, and harvesting of any agricultural or horticultural commodities (except forestry or forestry operations), the raising of livestock, bees, fur-bearing animals, or poultry, and any practices performed on a farm as an incident to or in conjunction with such farming operations.

(5) "Logging company" means any person, firm, partnership or corporation engaged in the business of cutting and taking of timber.

(6) "Construction company" means any person, firm, partnership or corporation who or which is engaged in the business of a contractor.

(7) "Contractor" is any person, firm or corporation who or which, in the pursuit of an independent business undertakes to, or offers to undertake, or submits a bid to, construct, alter, repair, add to, subtract from, improve, move, wreck or demolish, for another, any building, highway, road, railroad, excavation or other structure, project, development, or improvement attached to real estate or to do any part thereof including the installation of carpeting or other floor covering, the erection of scaffolding or other structures or works in connection therewith or who installs or repairs roofing or siding.

(8) "Export" means to obtain special fuel in this state for sale or distribution outside this state. To be considered an "export" and qualify for exemption from the special fuel tax, special fuel obtained outside the bulk transfer terminal system must be physically off-loaded in the destination state, province, or foreign country and the exporter must be licensed or registered, if required, in the state, province, or country of destination.

(9) "Special fuel supplier" means a person who is licensed and:

(a) Owns and stores special fuel within the bulk transfer/terminal system, including special fuel in a terminal facility; or

(b) Refines and stores special fuel at a refinery.

AMENDATORY SECTION (Amending Order 548 DOL, filed 8/1/79)

**WAC 308-77-020 Incidental use/exemptions.** An operation is not considered to be on a highway when a vehicle is operated thereon only for the purpose of moving between two pieces of private property when the vehicle is not operated for a distance exceeding fifteen miles on the highway and the moving is incidental to the primary use of the motor vehicle.

If fuel is used in the operation of a motor vehicle in a continuous trip which is partly on and partly off the highway, the tax applies to all the fuel used including the fuel used in the operation off the highway when the total distance traveled off the highway does not exceed one mile.

A continuous trip means a vehicular movement involving the use of a highway for the transportation of persons or property from one place to another or, in the instance of a round trip, from the point of origin of the movement to the point of destination and return to the point of origin.

The user shall maintain adequate accurate records of the operation off the highway including the miles traveled and fuel used to establish to the satisfaction of the department that the user is entitled to exemption for off-highway use of fuel. Claims based on estimates or percentages of miles traveled, hours of operation, fuel used, etc. will not be accepted to support claims for off highway use.

To qualify for a tax exemption for special mobile equipment as defined in RCW 46.04.552:

(1) Miles driven must be within the confines of a contract while actually engaged in work on the project; and

(2) You must provide positive means of measuring or determining the exact mileage between jobs or home base and off-highway and incidental mileage.

You cannot claim a tax exemption for mileage covered when units are moved from one project to another or returned to the base of operations. For these instances, you must be covered by a special fuel tax trip permit.

AMENDATORY SECTION (Amending WSR 92-01-014, filed 12/6/91, effective 1/6/92)

**WAC 308-77-040 Issuance of license.** ~~((A special fuel supplier or dealer who wishes to conduct separate businesses at different locations will be issued a license for each business upon request and filing an application for a license and a bond (if required) for each. The license shall be displayed or kept available for inspection at the place of each business where fuel is sold and delivered to users.~~

~~A special fuel supplier or dealer having more than one place of business holding a single license shall reproduce the license and keep a photocopy on display at each additional place of business, each place of storage from which special~~

~~fuel is sold or delivered, and in each motor vehicle used to transport special fuel owned by him for sale, delivery or use, and in addition, must identify by location and capacity all bulk storage plants of #1 and #2 distillates capable of being used as vehicle fuel as required by the department.~~

A)) An International Fuel Tax Agreement license or dyed special fuel user who wishes to conduct separate businesses at different locations or to operate two or more separate fleets of motor vehicles will be issued a license for each separate business or fleet upon request and filing an application for a license and a bond (if required) for each location or fleet. The license shall be displayed or be kept available for inspection at the owner's principal place of business and a reproduced copy thereof shall be carried in each motor vehicle entering this state from another state or province. A special fuel tax trip permit may be purchased by a special fuel user entering this state in lieu of ((a special fuel)) an International Fuel Tax Agreement license. The user must be the registered owner and/or lessee of the vehicle, or a dealer of motor vehicles. Operators of vehicles having two axles and a gross vehicle weight or registered gross vehicle weight exceeding twenty-six thousand pounds, or having three or more axles regardless of weight, or a combination of vehicles, when the combination exceeds twenty-six thousand pounds gross vehicle weight, will require ((a special fuel)) an International Fuel Tax Agreement license or a special fuel tax trip permit to enter this state.

AMENDATORY SECTION (Amending Order 548 DOL, filed 8/1/79)

**WAC 308-77-050 Cancellation or revocation of license.** When a special fuel ~~((supplier, dealer or user)) licensee~~ ceases operation in Washington, ~~((he)) the licensee~~ shall request cancellation of ~~((his)) the~~ license. The original license issued to ~~((him)) the licensee~~ and a final tax ~~((report)) return, if the licensee was required to file tax returns,~~ shall be forwarded to the department with a remittance of any tax, penalty and interest which may have accrued up to and including the date of cancellation. All copies of the license, special authorizations, and identification cards issued by the department shall be destroyed. ~~((All special fuel authorizations and identification cards issued to the special fuel user shall be returned to the department.))~~

When the license of a ~~((special fuel supplier, dealer or user)) licensee~~ is revoked by the department, the holder shall surrender the original license ~~((and all)) and any special authorizations and identification cards to the department. All copies of the license,~~ special fuel authorizations, and identification cards issued ~~((to him. All copies of the license)) by the department~~ shall be destroyed.

Any attempt to use a license that has been canceled or revoked will be considered a violation of the Special Fuel Tax Act and the ~~((supplier, dealer, or user)) person using the canceled or revoked license~~ shall be subject to the penalty provisions thereof.

## NEW SECTION

**WAC 308-77-091 Electronic fund transfers.** If you are paying your special fuel tax by electronic funds transfer, and the due date for payment of the special fuel tax falls on a Saturday, Sunday, or legal holiday, you must transfer the funds by the last state business day immediately preceding the due date. (For example, if the payment is due on Saturday, April 10, 1999, you must transfer the funds by April 9, 1999.)

AMENDATORY SECTION (Amending WSR 94-11-029, filed 5/9/94, effective 6/9/94)

**WAC 308-77-095 Minimum tax payment.** Each tax return that declares a tax liability of five dollars or less need not make remittance; conversely, each tax return that claims a refund or credit of ~~((five)) ten~~ dollars or less will not be allowed.

A computation error on the tax return which results in additional tax liability in the amount of five dollars or less will be accepted without further collection action. Similarly, a computation error on the tax return which results in a credit of ~~((five)) ten~~ dollars or less will not be refunded nor credited to the licensee.

## NEW SECTION

**WAC 308-77-105 Refund for bad debt loss (other than a special fuel supplier).** (1) You may request a refund for tax paid on a worthless accounts receivable if you:

- (a) Are a special fuel importer, special fuel blender, or special fuel distributor; and
- (b) Paid tax on an account found to be a worthless accounts receivable; and
- (c) Charged off the amount for federal income tax purposes.

(2) The right to the tax refund arises during the month the account is reported as a bad debt on your federal income tax return. You may request the tax refund during any month within three years of the month in which you reported the bad debt. (For example, if you reported the bad debt in June 1999, you can request the tax refund in any month up to June 2002.)

(3) You must supply the department with a copy of the federal income tax return and a supporting schedule listing the bad debt as charged off. This is sufficient proof for the department to establish the validity of the tax refund.

(4) You cannot claim a tax refund for any portion of a debt which has been recovered, but is retained by or paid to a person as compensation in collecting the account. (For example, a collection agency.)

(5) If the purchaser of the special fuel is indebted to you for other items, payments made by the purchaser must first be credited to the amount owed for the special fuel and special fuel tax, unless instructed otherwise by the purchaser. You must apportion the amount collected between the charges for the fuel and the tax.

(6) If you are a special fuel importer or special fuel blender, and you collect any special fuel tax previously taken

as a tax refund on a worthless accounts receivable, you must include the special fuel tax in the tax return for the reporting period the special fuel tax was collected in.

(7) If you are a special fuel distributor, you must remit the special fuel tax collected to the department no later than the last state business day of the month immediately following the month of collection. (For example, if you collected the tax in June 1999, you must remit the amount collected to the department by July 30, 1999.)

**AMENDATORY SECTION** (Amending Order 548 DOL, filed 8/1/79)

**WAC 308-77-110 Allowance of credit or refund of tax paid.** The tax paid either directly to the department or to a special fuel ~~((dealer))~~ licensee in this state may be applied by the ~~((user))~~ special fuel licensee as a credit or refund against the tax due ~~((from him))~~ on all fuel used in this state in the month or reporting period in which the fuel, with respect to which the tax was paid, was used.

The amount of credit or refund allowable is the amount of tax shown on the invoices issued by special fuel ~~((dealers to the user))~~ licensees to the receiving special fuel licensee. To be entitled to the credit or refund, the ~~((user))~~ special fuel licensee shall retain in ~~((his))~~ records for inspection by the department all invoices given by special fuel ~~((dealers))~~ licensees showing the amount of tax paid and evidence of payment. Should the ~~((user))~~ special fuel licensee accumulate surplus credits or refundable amounts which have not been applied to payment of ~~((his))~~ the tax liability or if ~~((he))~~ the special fuel licensee ceases to be a ~~((user))~~ licensee in this state, ~~((he may file))~~ a claim for refund as provided in RCW 82.38.180 and 82.38.190 may be filed. All claims for refund of overpayments shall be accompanied by the invoices obtained by the ~~((user))~~ purchasing special fuel licensee from the selling special fuel ~~((dealer))~~ licensee.

**NEW SECTION**

**WAC 308-77-115 Delinquent account notification process.** (1) When a distributor does not pay a supplier the special fuel taxes which are due, the supplier must notify the department. The supplier must notify the department of the fuel tax delinquency no later than twenty calendar days from the date the fuel tax was due to the supplier. If that twentieth day falls on a Saturday, Sunday, or holiday, the supplier must notify the department on the next state business day. The supplier must completely fill out the form that has been developed by the department for this purpose.

(2) The department's receipt of the completed notification form constitutes satisfactory evidence that the distributor has failed to pay the special fuel taxes owed.

(3) When the distributor's license has been suspended for nonpayment of the special fuel taxes due a supplier, the department will notify all suppliers of the suspension in one or more of the following ways:

(a) Posting notification of the suspension on the department's web site;

(b) Transmission of the notification via electronic mail or facsimile;

(c) Mailing of the notification via U.S. mail.

**AMENDATORY SECTION** (Amending Order 548 DOL, filed 8/1/79)

**WAC 308-77-150 Records, receipts and invoices.** Every ~~((special fuel supplier, dealer and user))~~ licensee and every person importing, manufacturing, refining, dealing in, transporting or storing special fuel shall maintain a complete record of all sales or other dispositions including special fuel used by them, inventories, purchases, receipts, tank gaugings or meter readings of special fuels the use of which is subject to the special fuel tax. Each special fuel user shall obtain from ~~((the))~~ a special fuel ~~((dealer))~~ licensee an invoice for each delivery of special fuel into the fuel supply tank or tanks of each vehicle operated ~~((by him))~~ and for each delivery into ~~((his))~~ bulk storage tank or tanks. The invoices shall include the information specified for sales invoices and shall be filed and identified in a systematic manner so that they may be readily traced into ~~((his))~~ purchase or expense records and into ~~((his))~~ reports to the department. Such records, receipts and invoices shall be made available for inspection by the department or its authorized representatives and shall be maintained for a period of not less than ~~((three))~~ five years. If electronic invoices are maintained, then a paper copy of the invoice must be produced upon demand of the department. A lessor of a vehicle who is a special fuel user shall also maintain records of each trip and the mileages ~~((his))~~ the lessor's vehicle is operated by the lessee within and without the state of Washington. A lessor who is a special fuel user must obtain from the lessee, and retain in ~~((his))~~ the lessor files, the original copy of all invoices substantiating claims by the lessor for purchases of fuel upon which the special fuel tax was paid.

The recordkeeping requirements of this section also apply to dyed special fuel which is:

(1) Purchased and used by licensed dyed special fuel users; and

(2) Authorized for use on the highway.

**AMENDATORY SECTION** (Amending Order 548 DOL, filed 8/1/79)

**WAC 308-77-160 Sales invoices.** Special fuel ~~((suppliers and dealers))~~ licensees shall prepare a serially numbered invoice for each sale of fuel whether the fuel is sold for use in motor vehicles or for other uses. A single invoice covering multiple deliveries of fuel made during a period of time not to exceed a calendar month may constitute an invoice of sale. ~~((When repeated sales are made of small quantities of special fuel exempt from the tax under RCW 82.38.080, such as heating oil in hand-carried containers, and the customer does not want an invoice, a ledger may be kept with a separate line entry for each sale indicating date, number of gallons, amount of sale, and purpose for which the special fuel is to be used.))~~ If the multiple delivery invoice includes tax exempt deliveries ~~((either))~~ into a bulk storage facility ~~((or into fuel supply tanks of motor vehicles with respect to which the special fuel dealer is excused from collecting the tax as provided in rule WAC 308-77-060.))~~ of an authorized International

Fuel Tax Agreement licensee and deliveries into the fuel supply tanks of motor vehicles upon which the tax is required to be collected, the invoice shall contain or be accompanied by a statement showing separately the deliveries and gallonage upon which the tax is collected and the tax ((~~exempt~~) ~~deferred~~ deliveries and gallonage. ((The)) An original or electronic invoice shall be delivered to the purchaser and a copy thereof shall be retained by the special fuel ((supplier or dealer)) licensee. If an electronic invoice is issued, then a paper copy of the invoice must be produced upon demand of the department.

A sales invoice shall contain the following information:

(1) The name and ((address of the special fuel supplier or special fuel dealer.)) special fuel tax license number of the licensee;

(2) The name, address, and special fuel tax license number, if applicable, of the purchaser ((with respect to:

(a) ~~A charge or credit sale.~~

(b) ~~A cash sale when the purchaser desires to claim a refund of the special fuel tax.~~

(c) ~~A cash sale when the quantity of fuel delivered into the fuel supply tank of a motor vehicle is 25 gallons or more.~~

(3) ~~The special fuel license number of the purchaser, or other authority, as defined within WAC 308-77-060, if the special fuel tax is not collected on the sale.));~~

((~~(4)~~) (3) The date of ((sale)) delivery (month, day and year)((-));

((~~(5)~~) The number of gallons of fuel sold, the price per gallon and the total amount of the sale.

(~~(6)~~) (4) The location of the point of shipment, in words;

(5) The place of delivery, including state or foreign jurisdiction, in words, if different from shipping point. In the case of a delivery onto a federally recognized Indian reservation or onto Indian country, the invoice must identify the state within the contiguous United States, Hawaii, Alaska, District of Columbia, U.S. possession, or Canadian Province in which the delivery took place;

(6) Purchaser's method of transporting fuel: either customer equipment, common carrier, (if by common carrier, common carrier name), barge, railcar, or pipeline;

(7) Name of product sold;

(8) The quantity of product sold, in gallons;

(9) The price per gallon and total amount charged;

(10) The amount of the special fuel tax collected;

(11) The statement "Ex Washington special fuel tax" if exemption is claimed.

The amount of the tax need not be separately stated if the invoice bears the notation that the price includes the special fuel tax. Billing systems for any type of dispenser of special fuel that uses a magnetic or other form of card identification must be approved by the department to assure that prospective refund claimants are provided with sufficient information to support their claims.

AMENDATORY SECTION (Amending Order PFT 90-04, filed 6/14/90, effective 7/15/90)

WAC 308-77-165 ((Invoices for)) Export sales. ((A sale is considered for export under RCW 82.38.030(2) when a licensed special fuel dealer sells special fuel in this state to

~~a purchaser who is not a licensed special fuel user or special fuel dealer, and the fuel is delivered into the transportation equipment of the purchaser or a common or contract carrier employed by the purchaser, and the purchaser transports the fuel and unloads it at a location outside the state.~~

~~The selling special fuel dealer must issue to the purchaser an invoice which shall contain at least the following details:~~

~~(1) Name and address of seller;~~

~~(2) Name and address of purchaser;~~

~~(3) The date of delivery (month, day, and year);~~

~~(4) The location of the point of shipment, in words;~~

~~(5) The place of delivery, in words, if different from shipping point;~~

~~(6) Purchaser's method of transporting fuel (either customer equipment, common carrier, or pipeline, if by common carrier, common carrier's name);~~

~~(7) State or foreign jurisdiction of destination;~~

~~(8) Name of product sold;~~

~~(9) The quantity, in gallons, of product sold;~~

~~(10) The price per gallon and total amount charged; and~~

~~(11) The statement: "Ex Washington State Fuel Tax."~~

~~The original copy of the invoice must be furnished the purchaser and a copy of the invoice must be kept by the selling special fuel dealer.~~

~~These)) (1) Export sales shall be reported as "export sales, exported by purchaser" and supported by Schedule 10, Uniform Motor Vehicle Fuel Tax Multiple Schedule of Disbursements (Form FT 441-841), a separate schedule for each state or foreign jurisdiction of destination. This Schedule 10 should be submitted with the tax report. The department shall furnish the government agency of the state or foreign jurisdiction of destination a copy of this Schedule 10 to give information on the movement of untaxed fuel across state lines.~~

~~(2) In the case of a delivery onto a federally recognized Indian reservation or onto Indian country, the invoice must identify the state within the contiguous United States, Hawaii, Alaska, District of Columbia, U.S. possession, or Canadian Province in which the delivery took place.~~

AMENDATORY SECTION (Amending Order 548 DOL, filed 8/1/79)

WAC 308-77-190 Audit appeal procedure. Any person having been issued a notice of assessment of additional taxes, delinquent taxes, penalties, or interest and desiring to contest such notice may petition the department of licensing for a reassessment by formal hearing or may petition for a reassessment conference in lieu of proceeding directly to a formal hearing. All petitions for reassessment must be in writing and must be received by the department of licensing within thirty days after the receipt of the original notice of assessment. All petitions filed shall set forth the specific reasons why reassessment is sought and the amount of tax, interest, and penalties which the petitioner believes to be due.

Upon receipt of a petition for a reassessment conference, the department will establish the time and place for the conference and notify the petitioner by mail at least ten days prior to the scheduled date. If the petitioner, for good and compelling reasons, is unable to attend the conference on the

date or time scheduled, he may request the department in writing to reschedule the conference. At the conference the department of licensing will be represented by the administrator of ~~((the))~~ prorate and fuel tax ~~((division))~~ services, the ~~((assistant administrator))~~ licensing services manager for fuel tax, the field audit supervisor, the field auditor who performed the audit if appropriate, an attorney from the office of the attorney general, or either of them. The petitioner may appear in person or may be represented by an attorney, accountant, or any other person competent to present his case.

Following the conference, the administrator will make such determination as may appear to him just and lawful and in accordance with the Revised Code of Washington and rules, principles, and precedents established by the department of licensing, and shall notify the petitioner in writing of his decision. The determination of the administrator shall be deemed to represent the official position of the prorate and fuel tax division of the department of licensing and shall be binding upon the petitioner unless further appealed.

If the petitioner believes that an error has been made in the determination by the administrator, ~~((he))~~ the petitioner may, within ten days after the date of receipt of the determination, appeal in writing and request a formal hearing by a hearing officer. The appeal shall indicate the portions of the determination which the petitioner feels are in error and set forth ~~((his))~~ the reasons for believing that the decision should be amended. The department will establish a time and place for a formal hearing and give the petitioner at least ten days notice of the time and place thereof.

The decision of the department upon a petition for reassessment shall become final, due and payable thirty days after service upon the petitioner of notice thereof.

All petitions and correspondence relating to appeal conferences and hearings will be addressed to Department of Licensing, Administrator, Prorate and Fuel Tax ~~((Division, Highways License Building))~~ Services, P.O. Box 9036, Olympia, Washington 98504.

**AMENDATORY SECTION** (Amending Order 548 DOL, filed 8/1/79)

**WAC 308-77-220 Filing of refund claim.** A claim may be filed monthly, quarterly, annually or for any period of time within thirteen months from the date of purchase or from the last day of the month following the close of the monthly period for which the refundable amount is due. For purposes of this section, the postmark date shall be accepted as the date the claim was filed.

Claims shall be accompanied by invoices issued to the claimant by the seller of the fuel. If your refund claim is one hundred dollars or less, you do not have to send your purchase invoices with your refund claim. The department may require you to submit copies of your purchase invoices to establish the validity of your refund claim. Claims of individuals or proprietors shall be signed by the claimant. A partnership claim must be signed by any one of the partners. Claims of business firms or corporations shall be signed by an authorized agent. Accountants and other persons assisting in preparation of claims must also sign in the space provided

on the form. A claim should be filed in the same name as that shown on invoices. If it is desired to have a claim paid in a name differing from that shown on the purchase invoice, a letter of authorization shall be attached signed by the person to whom the invoice was issued.

The use tax imposed by chapter 82.12 RCW is to be deducted from the amount of refund claimed. The claimant may calculate the tax ~~((himself))~~ or it will be computed by the department.

**NEW SECTION**

**WAC 308-77-225 Interest assessment on refund claims.** Within thirty business days after receipt of a special fuel tax refund claim, the department must issue the refund. If the department does not issue the refund within thirty business days, interest is due. The first day of the thirty-day period begins on the date the properly filed and completed refund claim is received by the department. The postmark date on the envelope is not considered the received date for this purpose.

**AMENDATORY SECTION** (Amending Order 548 DOL, filed 8/1/79)

**WAC 308-77-230 Invoice requirements for refund purposes.** (1) The seller of special fuel is required to issue to each purchaser who claims to be entitled to a refund a separate original or electronic invoice for each purchase of fuel. A single ~~((original))~~ invoice covering multiple deliveries made during a period of time not to exceed one calendar month may constitute a separate invoice as provided in WAC 308-77-160. Each delivery is to be individually listed on the ~~((original))~~ invoice or on an accompanying statement in accordance with the requirements of the rule for single deliveries. If the multiple delivery invoice includes deliveries on which refund of the tax is not claimed and deliveries on which refund is claimed, the ~~((original))~~ invoice shall contain or be accompanied by a statement showing separately the deliveries and gallons on which a refund of the tax is claimed and is not claimed. You may submit copies in lieu of the original invoice in support of a claim for refund. If an electronic invoice is issued, then a paper copy of the invoice must be produced if required by the department.

(2) Each ~~((original))~~ invoice in support of a claim for refund must show:

- (a) Name and address of the seller,
- (b) Purchaser's name (invoices showing "cash," "equipment name or number," "boat number," etc. will not qualify),
- (c) Complete date of sale (month, day and year),
- (d) Kind of fuel delivered,
- (e) Number of gallons delivered,
- (f) Price per gallon,
- (g) Total amount of sale,
- (h) Amount of special fuel tax paid. The amount of the tax paid need not be separately stated if the invoice bears the notation that the price includes the tax.

(3) Invoices with alterations, corrections or erasures affecting gallonage, place, date or separately stated tax shall be void and will not be accepted. A claimant who submits an

invoice that has been altered that may give the claimant an illegal gain may have the entire claim invalidated and the department may suspend any further claims for refund for a period of one year.

(4) A "corrected invoice" used to support a claim must be accompanied by the ((original)) invoice received at time of purchase.

(5) If an ((original)) invoice is lost or destroyed, the ((dealer)) seller may issue a copy or duplicate ((copy)) entering thereon the invoice number, date of sale, gallons, price and amount and any other essential information that appeared on the initial invoice. The copy or duplicate shall be certified by the seller as being true and correct according to ((his)) the seller's records and shall be plainly marked "copy" or "duplicate." The claimant may then submit the certified copy to the department for validation.

(6) Only one invoice shall be issued for any one delivery.

**AMENDATORY SECTION** (Amending WSR 94-11-029, filed 5/9/94, effective 6/9/94)

**WAC 308-77-250 Power take-off use.** (1) Tax refund may be claimed for special fuel purchased inclusive of tax which is used in a motor vehicle equipped with a power take-off unit to operate auxiliary equipment provided the fuel used for the power take-off operation is supplied from a tank which is not connected with a tank supplying fuel to propel the vehicle on the highway, or the fuel used to operate auxiliary equipment by the power take-off is accurately measured by metering device that has been specifically approved by the department, and in certain motor vehicles, when established by the following formula:

(a) For special fuel used in pumping propane, fuel or heating oils, or milk picked up from a farm or dairy storage tank by a power take-off unit on a delivery truck, at the rate of three-fourths of one gallon for each one thousand gallons of fuel delivered or milk picked up. (~~Pumping of gasoline, or other refined petroleum products or any other product, is a taxable use and does not qualify for a refund.~~) Propane and fuel oil delivery truck operators must maintain records which show the total gallons of propane, or fuel or heating oils pumped by each vehicle for which refund or credit is claimed together with supporting meter readings.

(b) For special fuel used in operating a power take-off unit on a cement mixer truck or a load compactor on a garbage truck at the rate of twenty-five percent of the total gallons of fuel used in each truck. Garbage trucks with power take-off units which operate a dump box, hoist or other type of lift do not qualify for a refund. Cement mixer truck and garbage truck operators must maintain records which show the total gallons of fuel used and the total miles traveled for each vehicle.

(c) For special fuel used in operating a power take-off unit when direct measurement is not feasible on the following vehicles at the rates specified as a percentage of the total taxable fuel used by the vehicles:

Fire trucks (private)	25%
Mobile cranes	25%
Sanitation trucks	25%

Sewer cleaning truck/jet vactor	25%
Super suckers	25%
Line truck with digger/derrick or aerial lift	20%
Log truck with self loader	20%
Refrigeration trucks	20%
Sweeper trucks (must be motor vehicle)	20%
Boom truck/block boom	15%
Bulk feed truck	15%
Dump trailers	15%
Dump trucks	15%
Hot asphalt distribution truck	15%
Leaf truck	15%
Lime spreader	15%
Pneumatic tank truck	15%
Salt spreader on dump truck	15%
Seeder truck	15%
Semi-wrecker	15%
Service truck with jack hammer/drill	15%
Snow plow	15%
Spray truck	15%
Tank transport	15%
Tank trucks	15%
Truck with PTO hydraulic winch	15%
Wrecker	15%
Car carrier with hydraulic winch	10%
Carpet cleaning van	10%
Others	7.5%

If any special fuel user can provide satisfactory documentation and records to show that the fuel consumed by the power take-off is greater than the percentages indicated, the department may grant the higher percentage on a case-by-case basis.

(2) Deduction may be claimed on the user's tax report for the gallons of special fuel exempt from tax as provided in subsections (1)(a), (b) and (c) of this section.

(3) All claims in excess of one hundred dollars must be accompanied by purchase invoices to cover the total gallons of special fuel purchased, except that invoices for special fuel used in propane or fuel oil delivery trucks or when measured by a metering device need only be equal to or greater than the gallons claimed as refundable. The department may require you to submit copies of your purchase invoices to establish the validity of your refund claim.

(4) A schedule of vehicle operations shall support each claim for refund.

**AMENDATORY SECTION** (Amending Order 114 MV, filed 11/26/71)

**WAC 308-77-260 Auxiliary engines.** Tax refund may be claimed for special fuel purchased inclusive of tax which is used in auxiliary engines mounted on a licensed motor vehicle (ready-mix concrete, refrigeration or air conditioning

PERMANENT

units, etc.) if the fuel for the auxiliary engine is supplied from a fuel tank other than a fuel tank which supplies the engine propelling the vehicle or is accurately measured by a metering device that has been specifically approved by the department. Estimates for refundable use will not qualify for refund when separate tanks are used. Claimant shall maintain a detailed record of the gallons of fuel used. Invoices covering the total gallons of fuel used in both taxable and nontaxable tanks must accompany the claim if the claim amount is greater than one hundred dollars. The department may require you to submit copies of your invoices to establish the validity of your refund claim.

### REPEALER

The following sections of the Washington Administrative Code are repealed:

WAC 308-77-032	Special fuel dealer's license.
WAC 308-77-034	Special fuel user's license.
WAC 308-77-042	Special fuel user bond.
WAC 308-77-044	Bonding requirements.
WAC 308-77-060	Special fuel dealers' liability for the tax.
WAC 308-77-070	Exemptions.
WAC 308-77-100	Credit for bad debt losses of special fuel dealers.
WAC 308-77-120	Tax reports.
WAC 308-77-125	Tax rate change.
WAC 308-77-130	Ten day reports and payments by special fuel dealer.

**WSR 98-24-012**  
**PERMANENT RULES**  
**PARKS AND RECREATION**  
**COMMISSION**

[Filed November 19, 1998, 4:55 p.m.]

Date of Adoption: November 6, 1998.

Purpose: Identifies the process used to review and approve local boating safety programs. Allows state parks to distribute unallocated vessel registration funds either by survey of out of county boater use, or, by distributing such funds evenly to all counties with an approved boating safety program.

Citation of Existing Rules Affected by this Order: Amending chapter 352-65 WAC.

Statutory Authority for Adoption: RCW 88.12.385, 88.02.040, and 43.51.400.

Adopted under notice filed as WSR 98-19-115 on September 23, 1998.

Changes Other than Editing from Proposed to Adopted Version: During the November 6 public hearing of the Parks and Recreation Commission on chapter 352-65 WAC, Boat-

ing safety program approval, the commission responded to public testimony and made changes to the proposed rule. These changes do not cause the rule to vary in content from the general subject matter of the proposed rule.

The changes made to WAC 352-65-040 are underlined below.

Commission action: Approved with further modification of language in WAC 352-65-040 (5)(a)(i) as follows:

Officers with law enforcement commissions from the criminal justice training commission which authorizes such officers to enforce all boating laws and regulations, or officers who have completed such other training programs as may be approved by the director or designee.

The reason for adopting the change is that representatives of local law enforcement agencies requested the opportunity to use officers to enforce boating laws and regulations who received training in programs approved by the director (state Parks and Recreation Commission) in lieu of officers with law enforcement certificates from the Criminal Justice Training Commission.

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 2, Amended 6, Repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 2, Amended 6, 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.

November 19, 1998

Jim French

Senior Policy Analyst

AMENDATORY SECTION (Amending WSR 94-04-076, filed 1/31/94, effective 3/3/94)

~~WAC 352-65-010 ((Declaration of purpose and authority-))~~ What is the purpose of boating safety program approval? ((This chapter is adopted to implement RCW 88.02.040 wherein the Washington state parks and recreation commission has been directed to establish a process to review and approve local boating safety programs and to make funds available to local jurisdictions to offset out of county boater impacts. These rules pursue the legislature's intention to provide funding to counties and local governments for boater education about safe and responsible boating and to encourage boating safety education in the primary and secondary school system, to increase the level and visibility of the enforcement of boating laws, to purchase equipment including vessel noise measurement equipment, and to stimulate local efforts toward safe boating.



The chapter is promulgated and published pursuant to the authority granted to the parks and recreation commission in RCW 88.12.385. These rules identify the necessary elements of a county boating safety program, specify the approval process, and establish a time frame for approval and distribution of available funds.)) The purpose of boating safety program approval is to establish a process to review and approve local boating safety programs and to make funds available to local governments to support their boating safety education, information, and law enforcement activities and to offset out-of-county boater impacts.

**AMENDATORY SECTION** (Amending WSR 94-04-076, filed 1/31/94, effective 3/3/94)

**WAC 352-65-020** ((~~Program description and assurances.~~)) How are the words and phrases used in this chapter? ((Each county or local jurisdiction requesting approval of its boating safety program must:

(1) Complete a description of its program on the forms provided by state parks identifying each required program element as specified in WAC 352-65-040;

(2) Provide assurance that the boating safety program will be operated throughout its scheduled season in compliance with program requirements and that the funds allocated will be deposited into an account dedicated solely for supporting the jurisdiction's boating safety program activities as specified in WAC 352-65-040.

(3) Agree to submit to state parks a copy of any audit which discloses disallowed or questioned costs pertaining to funds provided through RCW 88.02.040 and this chapter and agree to resolve to the satisfaction of state parks findings pertaining to these funds.

(4) Enforce boating safety equipment, vessel operation, noise level, and registration laws as specified in Title 88 RCW, navigation and harbor improvements, or as specified in local rules or ordinances.)) (1) "Boating safety program approval" means that the county or local jurisdiction has entered into an agreement with state parks to develop and maintain a boating safety program meeting minimum requirements established by state parks.

(2) "Commission" means the seven-member Washington state parks and recreation commission.

(3) "Director" means the director of the Washington state parks and recreation commission or designee.

(4) "State parks" means the operating arm of the Washington state parks and recreation commission, which is responsible for implementation of commission programs established pursuant to statute or policy.

**AMENDATORY SECTION** (Amending WSR 94-04-076, filed 1/31/94, effective 3/3/94)

**WAC 352-65-030** ((~~Equitable local distribution.~~)) Who is eligible to apply for boating safety program approval? ((The legislative authority of each county with an approved boating safety program will be responsible for equitably distributing the funds allocated by the state treasurer to local jurisdictions within the county which comply with the requirements of this chapter. The county shall make

the equitable distribution to all eligible jurisdictions within seventy-five days of the allocation from the state treasurer and shall notify state parks of the amount distributed to each eligible jurisdiction. Local jurisdictions offering boating safety services and desiring to receive a distribution of funds must enter into a cooperative agreement with the county and receive and maintain state parks' approval for their boating safety program.)) Any county or local public agency having jurisdiction over waters used for recreational boating and possessing the authority to enforce the Revised Code of Washington and the Washington Administrative Code is eligible to apply for state parks boating safety program approval.

**AMENDATORY SECTION** (Amending WSR 94-04-076, filed 1/31/94, effective 3/3/94)

**WAC 352-65-040** ((~~Minimum program requirements.~~)) What are the minimum requirements necessary to obtain boating safety program approval? ((A boating safety program must provide the necessary services and support to allow the recreational boater the opportunity to enjoy safe and clean waters. State parks, as the state's boating safety program coordinator, has established the following minimum requirements for approval of boating safety programs:

(1) Boating accident reporting and investigation.

(a) Each county or local jurisdiction must provide an assurance that all serious or fatal accidents will be thoroughly investigated to the maximum extent possible, and that copies of the investigative reports will be submitted to state parks in a timely manner as specified in RCW 88.12.175.

(b) The approved county or local jurisdiction must support the state-wide boating accident reporting system by:

(i) Providing recreational boaters with copies of the state required boating accident report (BAR) form and informing recreational boaters of their responsibility to submit the completed BAR in a timely fashion as specified in RCW 88.12.155; and

(ii) Submitting to state parks a completed boating accident report (BAR) form which includes all available information about the accident or casualty as specified in chapter 352-70 WAC.

(2) Boater assistance. The county or local jurisdiction will have the ability to respond or coordinate response to boating emergencies which occur within its jurisdiction. Such emergencies may include swift water rescue, open water rescue, ice rescue, vessel fire, overdue boater search, or other boating related emergencies or distress calls.

(3) Training. The county or local jurisdiction will be responsible for acquiring the training for its assigned boating safety program personnel. The training will include basic boating safety officer training as provided by the United States Coast Guard, Washington state parks, or any county or local jurisdiction whose training program is approved by Washington state parks.

Such training must be acquired within one year of initiating a new boating safety program, and within one year for each newly assigned boating safety officer.

(4) Rules and regulations. When the county or local jurisdiction adopts ordinances governing recreational boat-



ing, the ordinances must be as restrictive, but may be more restrictive than Washington state boating laws and regulations:

(5) Enforcement. The county or local jurisdiction must provide:

(a) Boating safety officers with law enforcement commissions which empower such officers to enforce all boating laws and regulations;

(b) A patrol schedule which insures the waterways are patrolled during peak recreational periods;

(c) Response to on-water complaints, accidents, or emergencies;

(d) The necessary boating safety patrol equipment, including vessel(s) capable of serving the minimum requirements of this section. The patrol vessel must be properly marked and properly equipped as provided in chapter 88.02 RCW and chapter 352-60 WAC.

(6) Boating education. The county or local jurisdiction must have a boating education and information program satisfactory to state parks:

(a) A satisfactory boating education program may include any of the following: Presentations in primary and secondary schools, to boating organizations, to youth groups or a course of instruction to the boating public using lessons and materials from state parks education curriculum, or other state or nationally recognized curriculum approved by state parks.

(b) The county or local jurisdiction boating education and information program must:

(i) Have an officer trained by state parks as a boating education instructor;

(ii) Have a designated officer to coordinate the activities of state parks trained volunteer boating education instructors and to act as liaison to boating education organizations; and

(iii) Distribute boating safety information and materials, including materials provided by state parks, to boating and outdoor recreation organizations, the boating public, public agencies and the local media.

(7) Waterway marking. The county or local jurisdiction will use only those waterway markers which conform to the Uniform State Waterway Marking System found in chapter 352-66 WAC.

(8) Boating safety inspections:

The county or local jurisdiction will complete written boating safety inspections during enforcement and informational contacts when considered safe and appropriate to document boater compliance with state boating laws. State parks will provide boating safety inspection forms. A copy of the completed inspection will be submitted to state parks for statistical purposes.

(9) Reports. The county or local jurisdiction agrees to submit an annual report of activities performed through the boating safety program and to submit an annual report of all program expenditures. The county or local jurisdiction agrees to participate in state-wide boating surveys coordinated by state parks. Forms will be provided by state parks.

(10) Limitations on use of funds. These funds are intended to increase education and enforcement efforts and to stimulate greater local participation in boating safety and are not to supplant existing local funds used for boating safety

programs. The county or local jurisdiction agrees to deposit boat registration fees allocated by the state treasurer under RCW 88.02.040, into an account dedicated solely for boating safety purposes which include all activities or expenditures identified in this section.) The minimum requirements necessary to obtain boating safety program approval are as follows:

(1) Boating accident reporting and investigation.

(a) Each county or local jurisdiction must provide an assurance that all serious or fatal recreational boating accidents will be thoroughly investigated to the maximum extent possible, and that copies of the investigative reports will be submitted to state parks as specified in RCW 88.12.175.

(b) The approved county or local jurisdiction must support the state-wide boating accident reporting system by:

(i) Providing recreational boaters with copies of the state required boating accident report (BAR) form and informing recreational boaters of their responsibility to submit the completed BAR as specified in RCW 88.12.155; and

(ii) Submitting to state parks a completed BAR form which includes all available information about the accident or casualty as specified in chapter 352-70 WAC.

(2) Boater assistance. The county or local jurisdiction will have the ability to respond or coordinate response to recreational boating emergencies which occur within its jurisdiction. Such emergencies may include swift water response, open water rescue, ice rescue, vessel fire, overdue boater search, or other boating-related emergencies or distress calls.

(3) Training. The county or local jurisdiction will be responsible for acquiring the training for its assigned boating safety program personnel. The training will include basic boating safety officer training as provided by the United States Coast Guard, state parks, or any county or local jurisdiction whose training program is approved by state parks.

Such training must be acquired within one year of initiating a new boating safety program, and within one year for each newly assigned boating safety officer.

(4) Rules and regulations. When the county or local jurisdiction adopts ordinances governing recreational boating, the ordinances must be as restrictive, but may be more restrictive than Washington state boating laws and regulations.

(5) Enforcement. The county or local jurisdiction must:

(a) Provide:

(i) Officers with law enforcement certificates from the criminal justice training commission which authorizes such officers to enforce all boating laws and regulations or officers who have completed such other training program as may be approved by the director or designee;

(ii) A patrol schedule that ensures such officers patrol the waterways during peak recreational boating periods;

(iii) The necessary boating safety patrol equipment, including vessel(s) capable of serving the minimum requirements of this section. The patrol vessel must be properly marked and properly equipped as provided in chapter 88.02 RCW and chapter 352-60 WAC;

(b) Respond to on-water complaints, accidents, and emergencies;

(c) Enforce safety equipment, vessel operation, noise level, navigation and harbor improvements, and registration

laws as specified in Title 88 RCW, and as specified in local codes or ordinances.

(6) Boating safety education and information. The county or local jurisdiction must have a boating safety education and information program as follows: Have a designated officer, trained by state parks, to coordinate the activities of boating safety education instructors, act as liaison to boating safety education organizations, and to coordinate:

(a) Boating safety presentations which may include any of the following: Presentations in primary and secondary schools, to boating organizations, and youth groups.

(b) Boating safety instruction. A public course of instruction using lessons and materials from state parks education curriculum, or other state or nationally recognized curriculum approved by state parks.

(c) Boating safety information. Distribute boating safety information and materials, including materials provided by state parks, to boating and outdoor recreation organizations, the boating public, public agencies, and the local media.

(7) Waterway marking. The county or local jurisdiction will use only those waterway markers which conform to the uniform state waterway marking system found in chapter 352-66 WAC.

(8) Boating safety inspections. The county or local jurisdiction will complete written boating safety inspections during enforcement and informational contacts when considered safe and appropriate to document boater compliance with state boating laws. State parks will provide boating safety inspection forms. A copy of the completed inspection will be submitted to state parks for statistical purposes.

(9) Reports. The county or local jurisdiction agrees to submit an annual report of activities performed through the boating safety program and to submit an annual report of all program expenditures. The county or local jurisdiction agrees to participate in state-wide boating surveys coordinated by state parks.

(10) Limitations on use of funds. These funds are intended to increase education and enforcement efforts and to stimulate greater local participation in boating safety and are not to supplant existing local funds used for boating safety programs. The county or local jurisdiction agrees to deposit boat registration fees allocated by the state treasurer under RCW 88.02.040, into an account dedicated solely for boating safety purposes which include all activities or expenditures identified in this section.

#### NEW SECTION

**WAC 352-65-045** How does a county or city apply for approval of a boating safety program? In order to be considered by state parks for approval of a county or local jurisdiction boating safety program, an applicant must complete and submit an application form provided by state parks.

**AMENDATORY SECTION** (Amending WSR 90-13-008, filed 6/7/90, effective 7/7/90)

**WAC 352-65-050** (~~(Distribution of funds.)~~) What funds are available and how are they distributed to approved boating safety programs? (~~(+)~~) Funds available

under RCW 88.02.040, which are to be distributed by the state treasurer based on the number of registered vessels by county of moorage, shall be released upon notification to the state treasurer:

(a) By state parks that the county has an approved program; and

(b) By the department of licensing of:

(i) The amount of registration fees collected by each county through June 30 of that calendar year; and

(ii) The total vessels registered by each county through June 30 of that calendar year.

(2) State parks will award those remaining funds not distributed in subsection (1) of this section to help offset out-of-county boater law enforcement and boating safety impacts. The following information will be considered when awarding unallocated funds:

(a) State-wide surveys of vessel use;

(b) Estimates of out-of-county use made by county or local officials supported by locally conducted surveys; and

(c) Other available professionally conducted surveys, studies, or research.) Vessel registration fees are available under RCW 88.02.040 and are distributed as follows:

(1) State treasurer distribution to counties:

(a) Vessel registration fees will be distributed to counties upon notification to the state treasurer:

(i) By state parks that the county has an approved program; and

(ii) By the department of licensing of:

(A) The amount of registration fees collected in each county through June 30 of that calendar year; and

(B) The total vessels registered in each county through June 30 of that calendar year.

(b) State parks will award those remaining funds not distributed in this subsection to help offset out-of-county boater law enforcement and boating safety impacts. State parks may consider the following information when awarding unallocated funds:

(i) State-wide surveys of vessel use;

(ii) Estimates of out-of-county use made by county or local officials supported by locally conducted surveys;

(iii) Other available professionally conducted surveys, studies, or research; or

(iv) Subject to and based upon the availability of unallocated funds, counties with an approved program and identified as receiving the least amount of funds may be awarded additional funds to meet a minimum dollar amount set by state parks.

Any remaining funds not distributed as the result of (b)(i) through (iv) of this subsection will be distributed evenly to all counties with an approved boating safety program.

(2) Counties distribution to local jurisdictions with approved boating safety programs:

(a) Local jurisdiction program approval. Local jurisdictions offering boating safety services and desiring to receive a distribution of funds must enter into a cooperative agreement with the county and receive and maintain state parks' approval for their boating safety program.

(b) County distribution of the funds. The legislative authority of each county with an approved local jurisdiction

boating safety program will be responsible for equitably distributing the funds allocated by the state treasurer to local jurisdictions within the county which comply with the requirements of this chapter. The county shall make the equitable distribution to all eligible jurisdictions within seventy-five days of the allocation from the state treasurer and shall notify state parks of the amount distributed to each eligible jurisdiction.

#### NEW SECTION

**WAC 352-65-055** **What conditions apply to approval of a boating safety program?** The following conditions apply to approval of a boating safety program:

(1) Program agreement. For each approved program, an agreement must be executed by the director and by the applicant.

(2) Accountability. Counties and local jurisdictions with state parks approved boating safety programs must maintain accurate annual records of activities and expenditures of their boating safety programs, provide state parks with these records consistent with the agreement or upon request, and permit state parks to audit the use of funds in accordance with generally accepted audit practices and standards.

(3) Reporting requirements. Counties and local jurisdictions with state parks approved boating safety programs shall submit reports required by state parks.

**AMENDATORY SECTION** (Amending WSR 94-04-076, filed 1/31/94, effective 3/3/94)

**WAC 352-65-060** ~~((Annual program assessment and report.))~~ **What criteria will be used to evaluate continuation of approval of a boating safety program?** ~~((An annual assessment and report of activities of each approved county or local jurisdiction boating safety program will be made by state parks in order to insure the integrity of the program approval.~~

~~(1) The annual assessment will be based on program requirements as specified in this chapter. Counties and local jurisdictions meeting the requirements will maintain approval; those counties or local jurisdictions unable to demonstrate compliance with minimum approval requirements will have forty-five days to submit a plan satisfactory to state parks to remedy the deficiencies. If, after forty-five days, a county or local jurisdiction is unable to demonstrate its ability to meet minimum requirements, state parks may revoke the program approval after the county or local jurisdiction has had an opportunity for a hearing under chapter 34.05 RCW, Administrative Procedure Act.~~

~~(2) When boating safety program approval requirements change or when deemed appropriate to document changes to an approved program, state parks may require a revised program description be submitted to state parks as specified in WAC 352-65-020.~~

~~(3) State parks will publish an annual report of the program activities and the expenditures of state vessel registration fees for all approved boating safety programs.)~~ **The following criteria will be used to evaluate continuation of program approval:**

(1) Assessment. State parks will conduct an assessment of the activities and expenditures of each approved boating safety program. The assessment will be based on approved program requirements as specified in this chapter and in the approved program agreement.

(2) Continuation of approval. Counties and local jurisdictions meeting the minimum program approval requirements will maintain approval.

(3) Revocation of approval. Those counties or local jurisdictions unable to demonstrate compliance with minimum approval requirements will have forty-five days to submit a plan satisfactory to state parks to remedy the deficiencies. If, after forty-five days, a county or local jurisdiction is unable to demonstrate its ability to meet minimum requirements, state parks may revoke the program approval after the county or local jurisdiction has had an opportunity for a hearing under chapter 34.05 RCW, the Administrative Procedure Act.

(4) Program changes. When state parks boating safety program approval requirements change, state parks may require a revised program description be submitted as specified in this chapter.

**WSR 98-24-023**

**PERMANENT RULES**

**DEPARTMENT OF TRANSPORTATION**

[Order 184—Filed November 23, 1998, 9:09 a.m.]

Date of Adoption: November 20, 1998.

Purpose: The scope of the adopt-a-highway program was expanded through legislation in 1995 and resulted in amendments to RCW 47.40.100. The rule change is necessary to make the WAC consistent with the changes as legislated.

Citation of Existing Rules Affected by this Order: Amending WAC 468-72-050.

Statutory Authority for Adoption: RCW 47.01.101.

Adopted under notice filed as WSR 98-20-075 on October 6, 1998.

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 1, 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: Thirty-one days after filing.  
November 20, 1998  
James L. Clemons  
for Gerald E. Smith  
Deputy Secretary, Operations

**AMENDATORY SECTION** (Amending WSR 90-22-003, filed 10/25/90, effective 11/25/90)

**WAC 468-72-050 Eligibility criteria.** (1) ~~((Volunteer))~~ Organizations, businesses, and individuals are eligible to participate in the adopt-a-highway program, either as volunteers or through sponsorship of private contracts, provided there is a section of highway available, in the opinion of the department of transportation, that the ~~((organization))~~ section can be safely assigned.

(2) ~~((A volunteer))~~ An organization, business, or individual is not eligible if its name (a) endorses or opposes a particular candidate for public office, (b) advocates a position on a specific political issue, initiative, referendum, or piece of legislation, (c) includes a reference to a political party, or (d) includes a reference to anything that may be considered or construed to be obscene or offensive to the general public.

(3) Organizations, businesses, individuals, or contractors that have been denied participation due to lack of compliance to a previous adopt-a-highway agreement shall not be eligible to participate for a period of five years following the termination date of the previous agreement.

#### WSR 98-24-024

##### PERMANENT RULES

#### DEPARTMENT OF TRANSPORTATION

[Order 185—Filed November 23, 1998, 9:12 a.m.]

Date of Adoption: November 20, 1998.

Purpose: Describes the days on which permit movements are prohibited. Specifically the holidays of New Years, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day and the afternoon of each day preceding the stated holiday. Adjustments are made for holidays when they fall on a weekend.

Citation of Existing Rules Affected by this Order: Amending WAC 468-38-230.

Statutory Authority for Adoption: RCW 46.44.090.

Adopted under notice filed as WSR 98-20-100 on October 7, 1998.

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 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: Thirty-one days after filing.  
November 20, 1998  
James L. Clemons  
for Gerald E. Smith  
Deputy Secretary, Operations

**AMENDATORY SECTION** (Amending Order 132, filed 11/2/92, effective 12/3/92)

**WAC 468-38-230 Days on which permit movements are prohibited.** ~~((Vehicles operating under an overweight permit, where the vehicle cannot maintain the speed of the surrounding traffic flow, and vehicles operating under a permit authorizing an overdimensional feature are prohibited from movement on Fridays after 3:00 p.m. and after 12:00 noon on Sundays. Permit movements are allowed all day on Saturday.))~~ Overdimensional movements, and overweight vehicles that cannot maintain the speed of the surrounding traffic flow, are prohibited on the holidays of New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day, and during the afternoon of the day preceding said holidays. Should any of the holidays fall on a Saturday or Sunday, the preceding Friday or the following Monday shall be considered such holiday.

~~((All permit movements may be made on holidays that are not commonly observed, provided they do not conflict with the policy for Fridays and Sundays, e.g., President's Day, Martin Luther King's Birthday, Columbus Day, Veterans' Day and General Election Day.))~~

#### WSR 98-24-026

##### PERMANENT RULES

#### NOXIOUS WEED CONTROL BOARD

[Filed November 23, 1998, 9:16 a.m., effective January 2, 1999]

Date of Adoption: November 17, 1998.

Purpose: The State Noxious Weed Control Board has amended the state noxious weed list to add species determined to be noxious, to change areas designated for control of some noxious weeds, and to delete certain noxious weeds from the list. The board also changed its mission statement.

Citation of Existing Rules Affected by this Order: Amending WAC 16-750-005, 16-750-011, 16-750-015, and 16-750-110.

Statutory Authority for Adoption: Chapter 17.10 RCW.

Adopted under notice filed as WSR 98-20-094 on October 7, 1998.

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 0, Repealed 0.

Effective Date of Rule: January 2, 1999.

November 20, 1998

Lisa E. Lantz

Executive Secretary

**AMENDATORY SECTION** (Amending WSR 97-24-051, filed 11/26/97, effective 1/2/98)

**WAC 16-750-005 State noxious weed list—Class A noxious weeds.**

Common Name	Scientific Name
bean-caper, Syrian	<i>Zygophyllum fabago</i>
blueweed, Texas	<i>Helianthus ciliaris</i>
broom, Spanish	<i>Spartium junceum</i>
buffalobur	<i>Solanum rostratum</i>
clary, meadow	<i>Salvia pratensis</i>
cordgrass, salt meadow	<i>Spartina patens</i>
crupina, common	<i>Crupina vulgaris</i>
<u>flax, spurge</u>	<u><i>Thymelaea passerina</i></u>
four o'clock, wild	<i>Mirabilis nyctaginea</i>
<del>((hawkweed, mouseear</del>	<del><i>Hieracium pilosella</i> </del>
hawkweed, yellow devil	<i>Hieracium floribundum</i>
hogweed, giant	<i>Heracleum mantegazzianum</i>
hydrilla	<i>Hydrilla verticillata</i>
johnsongrass	<i>Sorghum halepense</i>
knapweed, bighead	<i>Centaurea macrocephala</i>
knapweed, Vochin	<i>Centaurea nigrescens</i>
lawnweed	<i>Soliva sessilis</i>
<del>((mallow, Venice</del>	<del><i>Hibiscus trionum</i> </del>
nightshade, silverleaf	<i>Solanum elaeagnifolium</i>
peganum	<i>Peganum harmala</i>
sage, clary	<i>Salvia sclarea</i>
sage, Mediterranean	<i>Salvia aethiopsis</i>
<u>saltcedar</u>	<u><i>Tamarix ramosissima</i></u>
<u>spurge, eggleaf</u>	<u><i>Euphorbia oblongata</i></u>
starthistle, purple	<i>Centaurea calcitropa</i>
thistle, Italian	<i>Carduus pycnocephalus</i>
thistle, milk	<i>Silybum marianum</i>
thistle, slenderflower	<i>Carduus tenuiflorus</i>
<del>((unicorn plant</del>	<del><i>Proboscidea louisianica</i> </del>
velvetleaf	<i>Abutilon theophrasti</i>

woad, dyers

*Isatis tinctoria*

**AMENDATORY SECTION** (Amending WSR 97-24-051, filed 11/26/97, effective 1/2/98)

**WAC 16-750-011 State noxious weed list—Class B noxious weeds.**

Name	Will be a "Class B designate" in all lands lying within:
(1) blackgrass <i>Alopecurus myosuroides</i>	(a) regions 1,2,3,5,6,8,9,10 (b) Ferry, Stevens, Pend Oreille counties of region 4 (c) Adams County of region 7.
(2) blueweed <i>Echium vulgare</i>	(a) regions 1,2,3,4,5,6,8,9,10 (b) region 7 except for an area starting at the Stevens County line on SR 291 south to the SR 291 bridge over the Little Spokane River, thence upstream along the Little Spokane River to the first Rutter Parkway Bridge; thence south along the Rutter Parkway to the intersection of Rutter Parkway and Indian Trail Road; thence southerly along Indian Trail Road to a point three miles south (on section line between sections 22 and 27, T-26N, R-42E); thence due west to a point intersecting the line between Ranges 41 and 42; thence north along this line to a point 1/4 mile south of Charles Road; thence northwesterly parallel to Charles Road to a point 1/4 miles south of the intersection of Charles Road and West Shore Road; thence northerly along West Shore Road to the Spokane River (Long Lake); thence southeasterly along the Spokane River to the point of beginning.
(3) broom, Scotch <i>Cytisus scoparius</i>	(a) regions 3,4,6,7,9,10.
(4) bryony, white <i>Bryonia alba</i>	(a) regions 1,2,3,4,5,6,8,9 (b) region 7 except Whitman County (c) Franklin County of region 10.
(5) bugloss, common <i>Anchusa officinalis</i>	(a) regions 1,2,3,5,6,8,9,10 (b) region 4 except Stevens and Spokane counties (c) Lincoln, Adams, and Whitman counties of region 7.
(6) bugloss, annual <i>Anchusa arvensis</i>	(a) regions 1,2,3,4,5,6,8,9 (b) Lincoln and Adams counties (c) Whitman County except ranges 43 through 46 East of Townships 16 through 20 North.
(7) <del>((fan wort</del> <del><i>Cabomba caroliniana</i></del>	<del>(a) regions 1,2,3,4,5,6,7,9,10 (b) region 8 except T8N, R3W of Cowlitz County.</del>

PERMANENT

Name	Will be a "Class B designate" in all lands lying within:
<del>(8))</del> camelthorn <i>Alhagi maurorum</i>	(a) regions 1,2,3,4,5,7,8,9 (b) region 6 except those portions of Sections 23,24,25, and 29 through 36, T16N, R27E, W.M. lying outside Intercounty Weed District No. 52 and except Sections 1 through 12, T15N, R27E, W.M. in Grant County and except the area west of Highway 17 and north of Highway 26 in Adams County (c) Franklin, Columbia, Garfield, and Asotin counties of region 10 (d) an area beginning at the Washington — Oregon border at the southwest portion of section 5, R32E, T6N, then north to the northwest corner of section 3, R32E, T7N, then east to the northeast corner of section 3, R36E, T7N, then south to southeast portion of section 15, R36E, T6N, at the Washington — Oregon border, then west along the Washington — Oregon border to the point of beginning.
(8) <u>carrot, wild</u> <i>Daucus carota</i>	(a) <u>regions 3,7,10 (except where intentionally cultivated)</u> (b) <u>Spokane and Ferry counties of region 4 (except where intentionally cultivated)</u> (c) <u>region 6, except Yakima County (except where intentionally cultivated)</u> (d) <u>region 9, except Yakima County (except where intentionally cultivated)</u> .
(9) catsear, common <i>Hypochaeris radicata</i>	(a) regions 3,4,6,7,10 (b) region 9 except Klickitat County.
(10) <u>Chervil, wild</u> <i>Anthriscus sylvestris</i>	(a) <u>regions 1,2,3,4,6,7,8,9,10</u> (b) <u>region 5 except those portions of Thurston County within T 15, 16, 17N, R2, 3, 4W.</u>
<del>((+10))</del> (11) cinquefoil, sulfur <i>Potentilla recta</i>	(a) regions 1,3,8,10 (b) region 2 except Skagit County (c) region 4 except Stevens, Ferry, and Pend Oreille counties (d) region 5 except Thurston County (e) region 6 except Yakima County (f) region 7 except Spokane County (g) region 8 except Lewis County (h) region 9 except Klickitat County.
<del>((+11))</del> (12) Cordgrass, smooth <i>Spartina alterniflora</i>	(a) regions 1,3,4,5,6,7,9,10 (b) region 2 except Padilla Bay of Skagit County (c) region 8 except bays and estuaries of Pacific County.

Name	Will be a "Class B designate" in all lands lying within:
<del>((+12))</del> (13) cordgrass, common <i>Spartina anglica</i>	(a) regions 1,3,4,5,6,7,8,9,10 (b) region 2 except bays and estuaries of Skagit and Island counties and except bays and estuaries north of Everett in Snohomish County.
<del>((+13))</del> (14) daisy, oxeye <i>Leucanthemum vulgare</i>	(a) regions 7,10 (b) region 9 except those areas lying within Klickitat and Yakima counties west of Range 13 East (c) region 6 except those areas lying within Yakima and Kittitas counties west of Range 13 E.
<del>((+14))</del> deadnettle, hybrid <i>Lamium hybridum</i>	(a) <u>regions 1,3,4,5,6,7,8,9,10</u> (b) <u>region 2 except Skagit County.</u> )
(15) elodea, Brazilian <i>Egeria densa</i>	(a) regions 3,4,6,7,9,10 (b) Lewis County of region 8.
(16) <u>fanwort</u> <i>Cabomba caroliniana</i>	(a) <u>regions 1,2,3,4,5,6,7,9,10</u> (b) <u>region 8 except T8N, R3W of Cowlitz County.</u>
<del>((+16))</del> (17) fieldcress, Austrian <i>Rorippa austriaca</i>	(a) regions 1,2,3,4,5,6,8,9 (b) regions 7 and 10 except within the Palouse River Canyon from Big Palouse Falls to the Snake River.
<del>((+17))</del> (18) gorse <i>Ulex europaeus</i>	(a) regions 3,4,6,7,9,10 (b) Skagit ( <del>County</del> ) and Whatcom counties of region 2 (c) Thurston ( <del>and</del> ), Pierce, and King counties of region 5 (d) Wahkiakum, Cowlitz, and Lewis counties of region 8.
(19) <u>hawkweed, mouseear</u> <i>Hieracium pilosella</i>	(a) <u>regions 1,2,3,4,6,7,8,9,10</u> (b) <u>region 5 except Thurston County</u> (c) <u>Thurston County lying within T17N, R1W, S31; T16N, R2W, S30 W1/2; T16N, R3W, S25, SE1/4; T16N, R3W, S36, N1/2; T16N, R2W, S31, NW1/4.</u>
<del>((+18))</del> (20) hawkweed, orange <i>Hieracium aurantiacum</i>	(a) regions 3,6,9,10 (b) Clallam County of region 1 (c) Skagit County of region 2 (d) Ferry County of region 4 (e) Thurston and King counties of region 5 (f) Lincoln and Adams counties of region 7.
<del>((+19))</del> (21) hawkweed, polar <i>Hieracium atratum</i>	(a) regions 1,2,3,4,6,7,8,9,10 (b) region 5 outside the boundaries of Mt. Rainier National Park.
<del>((+20))</del> (22) hawkweed, smooth <i>Hieracium laevigatum</i>	(a) regions 1,2,3,5,6,7,8,9,10 (b) San Juan and Island counties of region 2.

PERMANENT

Name	Will be a "Class B designate" in all lands lying within:	Name	Will be a "Class B designate" in all lands lying within:
<p>((24))                      (23) hawkweed, yellow  <i>Hieracium caespitosum</i></p>	<p>(a) regions 1,2,3,5,6,7,8,10                      (b) region 4 except north of T32N in Pend Oreille County and east Highway 395 and north of Highway 20 in Stevens County                      (c) region 9 except sections 32, 33 and 34 of T6N, R12E, and sections 4, 5, 6, and 7 of T5N, R12E, and section 12 of T5N, R11E, of Klickitat County.</p>	<p>((27))                      (30) knapweed, diffuse  <i>Centaurea diffusa</i></p>	<p>(a) regions 1,2,5,8                      (b) Grant County lying in Townships 13 through 16 North, Ranges 25 through 27 East; Townships 17 and 18 N., Ranges 25 through 30 East; Townships 19 and 20 North, Ranges 29 and 30 East; T21N, R23E, Sections 1 through 30; T21N, R26E., Sections 5,6,7,8,17, and 18; East 1/2 Township 21N, Range 27E.; T21N, Ranges 28 through 30 E.; those portions of Townships 22 through 28N, Ranges 28 through 30 E.; those portions of Township 22 through 28N., Ranges 23 through 30E. lying in Grant County; all W.M.</p>
<p>((22))                      (24) hedgeparsley  <i>Torilis arvensis</i></p>	<p>(a) regions 1,2,3,4,5,6,7,8,10                      (b) Yakima, Benton, Franklin counties                      (c) Klickitat County except those lands lying within T4N, R10E, R11E, R12E, R13E, R14E; T3N, R10E, R11E, R12E, R13E; T2N, R12E, R13E.</p>	<p>(c) Adams County except those areas within T15N, R36E, Section 36; T15N, R37E, Sections 22,26,27,28,31,32,33 and 34; T15N, R37E, western half of Sections 23, 24 and 25; T15N, R38E, Sections 2,10, 11,14,15,19 and 20; T16N, R38E, Sections 34 and 35; T17N, R37E, Sections 5 and 6                      (d) Franklin County of regions 9 and 10.</p>	
<p>(25) helmet, policeman's  <i>Impatiens glandulifera</i></p>	<p>(a) regions 1,3,4,6,7,8,9,10                      (b) region 2 except Whatcom County                      (c) region 5 except Pierce County.</p>	<p>((28))                      (31) knapweed, meadow  <i>Centaurea jacea x nigra</i></p>	<p>(a) regions 1,2,3,4,5,7,9,10                      (b) region 6 except Kittitas County                      (c) region 8 except Clark County.</p>
<p>((23))                      (26) herb-Robert  <i>Geranium robertianum</i></p>	<p>(a) regions 3,4,6,7,((8,))9,10                      ((b) Clallam County of region 1                      (c) Whatcom, San Juan, and Island counties of region 2                      (d) Grays Harbor, Mason and Kitsap counties of region 5                      (e) portions of King County lying in:                      (i) Issaquah Alps: T24N, R5E, sections 25, 26, 35, and 36; T24N, R6E, sections 30 and 31; T23N, R6E, sections 4, 5, 6 (north 1/2 and west of SR900), 9, and 10 (north 1/2); T23N, R8E, sections 8 (SW 1/4 SW 1/4), 17, 18 (eastern half), 20, 21 (western half), 28, and 29 (eastern half).                      (ii) Tradition Plateau area: T24N, R6E, sections 26 (south of I-90, east of E. Sunset Way), and 35).</p>	<p>((29))                      (32) knapweed, Russian  <i>Acroptilon repens</i></p>	<p>(a) regions 1,2,3,5,6,8,9                      (b) Ferry County of region 4                      (c) Adams and Whitman counties of region 7                      (d) region 10 except Garfield County.</p>
<p>((24))                      (27) indigobush  <i>Amorpha fruticosa</i></p>	<p>(a) regions 1,2,3,4,5,6                      (b) regions 7 and 10 except within 200 feet of the Snake River from Central Ferry downstream                      (c) regions 8, 9, and 10 except within 200 feet of the Columbia River.</p>	<p>((30))                      (33) knapweed, spotted  <i>Centaurea biebersteinii</i></p>	<p>(e) region 10 except Franklin County.                      (a) regions 1,2,3,5,6,8,9                      (b) Ferry County of region 4                      (c) Adams and Whitman counties of region 7</p>
<p>((25))                      (28) knapweed, black  <i>Centaurea nigra</i></p>	<p>(a) regions 1,2,3,4,5,7,9,10                      (b) region 6 except Kittitas County                      (c) region 8 except Clark County.</p>	<p>((31))                      (34) kochia  <i>kochia scoparia</i></p>	<p>(d) region 10 except Garfield County.                      (a) Skagit ((County)) and Whatcom counties of region 2                      (b) Pend Oreille County of region 4                      (c) King County of region 5</p>
<p>((26))                      (29) knapweed, brown  <i>Centaurea jacea</i></p>	<p>(a) regions 1,2,3,4,5,7,9,10                      (b) region 6 except Kittitas County                      (c) region 8 except Clark County.</p>	<p>((32))                      (35) lepyrodiclis  <i>Lepyrodiclis holosteoides</i></p>	<p>((e))                      (d) Kittitas County of region 6.                      (a) regions 1,2,3,4,5,6,8,9,10                      (b) region 7 except an area within Whitman County east of the Pullman — Wawawai Road from Wawawai to Pullman and south of State Highway 270 from Pullman to Moscow, Idaho.</p>

PERMANENT

Name	Will be a "Class B designate" in all lands lying within:
<del>((33))</del>	
(36) loosestrife, garden <i>Lysimachia vulgaris</i>	<ul style="list-style-type: none"> <li>(a) regions 1,2,3,4,6,7,8,9,10</li> <li>(b) region 5 except King County</li> <li>(c) <u>Those portions of King County lying north of I-90 and east of the line extending from SR522 to SR202 to E. Lake Sammamish Parkway; west of I-5 including Vashon Island; south of I-90 and east and south of I-405 to the county line.</u></li> </ul>
<del>((34))</del>	
(37) loosestrife, purple <i>Lythrum salicaria</i>	<ul style="list-style-type: none"> <li>(a) regions 1,4,7,8</li> <li>(b) region 2 except Snohomish County</li> <li>(c) region 3 except within 100 feet of the ordinary highwater mark of the Okanogan River from the Canadian border south to Riverside</li> <li><del>((d) region 5 except the area west of the Urban Growth Line, as defined in the King County Comprehensive Plan, and south of I-90, but not including Vashon Island, of King County))</del></li> <li>(d) <u>Grays Harbor, Mason, Kitsap, and Thurston counties of region 5</u></li> <li>(e) <u>Those portions of King County lying north of I-90 and east of the line extending from SR522 to SR202 to E. Lake Sammamish Parkway; west of I-5 including Vashon Island; south of I-90 and east and south of I-405 to the county line</u></li> <li>(f) <u>Pierce County, except those areas lying within T2D, 21, 22N, R1W and R1E, all sections</u></li> <li><del>((e))</del> region 6 except that portion of             <ul style="list-style-type: none"> <li>(g) Grant County lying northerly of the Frenchmen Hills-O'Sullivan Dam Road, southerly of Highway Interstate 90, easterly of the section line of the location of County Road J SW/NW if constructed and westerly of the section line of the location of County Road H SE/NE if constructed</li> </ul> </li> <li><del>((f))</del> region 9 except Benton County</li> <li><del>((g))</del> region 10 except Walla Walla County</li> <li><del>((h))</del> Intercounty Weed Districts No. 51 and No. 52.</li> </ul>
<del>((35))</del>	
(38) loosestrife, wand <i>Lythrum virgatum</i>	<ul style="list-style-type: none"> <li>(a) regions 1,4,7,8</li> <li>(b) region 2 except Snohomish County</li> </ul>

Name	Will be a "Class B designate" in all lands lying within:
	<ul style="list-style-type: none"> <li>(c) region 3 except within 100 feet of the ordinary highwater mark of the Okanogan River from the Canadian border south to Riverside</li> <li>(d) region 5 except King County</li> <li>(e) <u>Those portions of King County lying north of I-90 and east of the line extending from SR522 to SR202 to E. Lake Sammamish Parkway; west of I-5 including Vashon Island; south of I-90 and east and south of I-405 to the county line</u></li> <li><del>((e))</del> region 6 except that portion of             <ul style="list-style-type: none"> <li>(f) Grant County lying northerly of the Frenchmen Hills-O'Sullivan Dam Road, southerly of Highway Interstate 90, easterly of the section line of the location of County Road J SW/NW if constructed and westerly of the section line of the location of County Road H SE/NE if constructed</li> </ul> </li> <li><del>((f))</del> region 9 except Benton County</li> <li><del>((g))</del> region 10 except Walla Walla County</li> <li><del>((h))</del> Intercounty Weed Districts No. 51 and No. 52.</li> <li>(a) regions 1,2,3,4,5,7,8</li> <li>(b) region 6 except those areas lying between State Highway 26 and State Highway 28, and westerly of Dodson Road in Grant County, and except S 1/2, Sec. 2, T20N, R25E., W.M.</li> <li>(c) region 9 except:             <ul style="list-style-type: none"> <li>(i) except those areas lying within the following boundary description within Yakima County: Beginning at the intersection of Highway 12 and Parker Heights Road and continuing easterly to Konnowac Pass Road follow said road north to the intersection of Konnowac Pass Road and Nightingale Road. The northern boundary shall be the Roza Canal, continuing from the established point at Nightingale Road. The boundaries will follow the Roza Canal easterly to the County Line Road. The east boundaries</li> </ul> </li> </ul>
<del>((36))</del>	
(39) nutsedge, yellow <i>Cyperus esculentus</i>	

PERMANENT



Name	Will be a "Class B designate" in all lands lying within:	Name	Will be a "Class B designate" in all lands lying within:
	will be the Yakima/Benton County Line from a point beginning at the County Line and Highway 22 (near Byron) continuing westerly along Highway 22 (to near the city of Mabton) to the intersection of Highway 22 and the Reservation Boundary (Division Road) and continuing north to the Yakima River. Then it will follow the river northwest to the Wapato-Donald Road continuing north along said road to Highway 12 then Highway 12 to Parker Heights Road.		with State Route 702, then west along State Route 702 to intersection with State Route 507, then southwest along State Route 507 to intersection with the Nisqually River.
	(ii) an area lying southerly of State Route 14 and within T2N, Ranges 13 and 14 E of Klickitat County	(45) <u>rocket, garden</u> <i>Eruca Vesicaria ssp. sativa</i>	(a) <u>regions 1,2,3,4,5,6,7,8,9,10 (except where intentionally cultivated).</u>
	(d) region 10 except Walla Walla County.	((42))	(a) regions 1,2,3,4,5,7,8
((37))	(a) regions 1,2,3,4,5,6,7,9,10	(46) <u>sandbur, longspine</u> <i>Cenchrus longispinus</i>	(b) Adams County of region 6 except for that area lying within Intercounty Weed District No. 52
(40) <u>oxtongue, hawkweed</u> <i>Picris hieracioides</i>	(b) region 8 except Skamania County.	((43))	(c) Intercounty Weed District No. 51.
((38))	(a) regions 1,2,3,4,5,6,7,9,10	(a) regions 1,2,3,5,8,9	(a) regions 1,2,3,5,8,9
(41) <u>parrotfeather</u> <i>Myriophyllum aquaticum</i>	(b) region 8 except Clark, Cowlitz, and Wahkiakum counties.	(47) <u>skeletonweed, rush</u> <i>Chondrilla juncea</i>	(b) Franklin County except T13N, R36E; and T14N, R36E
((39))	(a) regions 1,2,3,4,5,7,8,10		(c) Adams County except those areas lying ((west)) east of a line running north from Franklin County along the western boundary of Range 36 East to State Highway 26 then north on Sage Road until it intersects Lee Road, then due north until intersection with Providence Road, then east to State Highway 261, then north along State Highway 261 to its intersection with Interstate 90, henceforth on a due north line to intersection with Bauman Road, then north along Bauman Road to its terminus, then due north to the Lincoln County line.
(42) <u>pepperweed, perennial</u> <i>Lepidium latifolium</i>	((b) <del>Grant County lying northerly of Township 21, North, W.M.-)</del>		(d) region 6 except that portion lying within Grant County that is southerly of State Highway 28, northerly of Interstate Highway 90 and easterly of Grant County Road E Northwest
	((e)) Intercounty Weed Districts No. 51		(e) Stevens County north of Township 33 North of region 4
	(b) and 52		(f) Ferry and Pend Oreille counties of region 4
	((4)) Kittitas County of region 6		(g) Asotin County of region 10
	(c)		(h) Garfield and Columbia counties south of Highway 12
	((e)) Adams County of region 6 except		(i) Whitman County lying in Ranges 43 through 46 East of Townships 15 through 20 North; T14N, Ranges 44 through 46 East; and T13N, Ranges 45 and 46 East.
	(d) for the area west of Highway 17 and north of Highway 26.	(48) <u>Snapdragon, dwarf</u> <i>Chaenorrhinum minus</i>	(a) <u>regions 1,2,3,5,6,8,9,10</u>
	(a) Skagit County of region 2		(b) <u>region 4 except Spokane County</u>
	(b) Kittitas County of region 6		(c) <u>region 7 except Spokane County.</u>
	(c) Adams County.	((44))	(a) regions 1,2,3,4,7,8,9,10
	(a) regions 3,4,6,7,9,10	(49) <u>sowthistle, perennial</u> <i>Sonchus arvensis ssp. arvensis</i>	(b) Adams County of region 6
	(b) region 5, that portion of Pierce County lying south or east of a boundary beginning at the White River and State Highway 410, then west along State Highway 410 to intersection with State Highway 162 (Orting) to intersection with Orville Road, then south along Orville Road to intersection with Kapowsin Highway (304th Street East), then west following Kapowsin Highway to intersection with State Route 7, then south along State Route 7 to intersection		(c) region 5 except for sections 28, 29, 30, 31, 32, and 33 in T19N, R1E of Thurston and Pierce counties.

PERMANENT

Name	Will be a "Class B designate" in all lands lying within:	Name	Will be a "Class B designate" in all lands lying within:
<del>((45))</del> (50) spurge, leafy <i>Euphorbia esula</i>	(a) regions 1,2,3,4,5,6,8,9,10 (b) region 7 except as follows: (i) T27N, R37E, Sections 34,35,36; T27N, R38E, Sections 31,32,33; T26N, R37E, Sections 1,2,3,10, 11,12,13,14,15,16,26; T26N, R38E, Sections 5, 6,7,8 of Lincoln County (ii) T24N, R43E, Section 12, Qtr. Section 3, Parcel No. 9068 of Spokane County.		(c) an area beginning at the Washington — Oregon border at the southwest portion of Section 15, R32E, T6N, then north to the northwest corner of Section 3, R32E, T7N, then east to the northeast corner of Section 3, R36E, T7N, then south to the southeast portion of Section 15, R36E, T6N, at the Washington — Oregon border, then west along the Washington — Oregon border to the point of beginning
<del>((46))</del> (51) starthistle, yellow <i>Centaurea solstitialis</i>	(a) regions 1,2,3,5,6,8 (b) region 4 except those areas within Stevens County bounded by a line beginning at the intersection of State Highway 20 and State Highway 25, then north to intersection with Pinkston Creek Road, then east along Pinkston Creek Road to intersection with Highland Loop Road, then south along Highland Loop Road to intersection with State Highway 20, then west along State Highway 20 to intersection with State Highway 25 (c) region 7 except those areas within Whitman County lying south of State Highway 26 from the Adams County line to Colfax and south of State Highway 195 from Colfax to Pullman and south of State Highway 270 from Pullman to the Idaho border (d) Franklin County (e) region 9 except Klickitat County (f) in all lands lying within Asotin County, Region 10, except as follows: T11N, R44E, Sections 25, 26, 27, 28, 29, 31, 32, 33, 34, and 35; T11N, R45E, Sections 21, 22, 23, and 25; T11N, R36E, Sections 19, 20, 21, 28, 29, 30, 31, 32, and 33; T10N, R44E, Sections 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 15, and 16; T10N, R45E, Sections 23 and 24; T10N, R46E, Sections 7, 8, 17, 18, 19, 20, 21, 22, 27, 34, and 35; T9N, R46E, Sections 1, 2, 12, 13, 14, 23, 24, 25, 26, 35, and 36; T9N, R47E, Sections 18, 19, 30, and 31; T8N, R46E, Sections 1, 2, 3, 9, 10, 11, 12, 13, 14, 15, 16, 23, and 24; T8N, R47E, Sections 8, 17, 18, 19, 20, 29, 30, 31, and 32.	<del>((48))</del> (53) thistle, musk <i>Carduus nutans</i>	(d) Weed District No. 3 of Grant County (e) Adams County of region 6.
<del>((47))</del> (52) Swainsonpea <i>Sphaerophysa salsula</i>	(a) regions 1,2,3,4,5,7,8 (b) Columbia, Garfield, Asotin, and Franklin counties	<del>((49))</del> (54) thistle, plumeless <i>Carduus acanthoides</i>	(a) regions 1,2,3,5,6,7,8,9,10 (b) Spokane and Pend Oreille counties. (a) regions 1,2,3,5,6,7,8,9,10 (b) region 4 except those areas within Stevens County lying north of State Highway 20.
		<del>((50))</del> (55) thistle, Scotch <i>Onopordum acanthium</i>	(a) regions 1,2,3,4,5,6,8,9 (b) region 7 except for those areas within Whitman County lying south of State Highway 26 from the Adams County line to Colfax and south of State Highway 195 from Colfax to Pullman and south of State Highway 270 from Pullman to the Idaho border (c) Franklin County.
		<del>((54))</del> (56) toadflax, Dalmatian <i>Linaria dalmatica</i> <i>ssp. dalmatica</i>	(a) regions 1,2,5,8,10 (b) Douglas County of region 3 lying south of T25N, west of R25E, and east of R28E (c) <u>Okanogan County lying within T 33, 34, 35N, R19, 20, 21, 22E, except the southwest, southeast, and northeast quarters of the north-east quarter of section 27, T35N, R21E; and the northeast quarter of the southeast quarter of section 27, T35N, R21E</u>
			<del>((e))</del> Kittitas, Chelan, Douglas, and <del>(d)</del> Adams counties of region 6 <del>((d))</del> Intercounty Weed District No. 51 <del>(e)</del> <del>((e))</del> Weed District No. 3 of Grant <del>(f)</del> County <del>((f))</del> Lincoln and Adams counties <del>(g)</del> <del>((g))</del> The western two miles of Spokane <del>(h)</del> County of region 7 <del>((h))</del> region 9 except as follows: <del>(i)</del>

PERMANENT

Name	Will be a "Class B designate" in all lands lying within:
	(i) those areas lying within Yakima County
	(ii) those areas lying west of the Klickitat River and within Klickitat County.
<del>((52))</del>	(a) regions 1,9,10
(57) watermilfoil, Eurasian <i>Myriophyllum spicatum</i>	(b) region 7 except Spokane County
	(c) region 8 except within 200 feet of the Columbia River
	(d) Adams County of region 6
	(e) in all water bodies of public access, except the Pend Oreille River, in Pend Oreille County of region 4.

**AMENDATORY SECTION** (Amending WSR 97-06-108, filed 3/5/97, effective 4/5/97)

**WAC 16-750-015 State noxious weed list—Class C noxious weeds.**

Common Name	Scientific Name
babysbreath	Gypsophila paniculata
bindweed, field	Convolvulus arvensis
canarygrass, reed	Phalaris arundinacea
<del>((carrot, wild</del>	<del>Daucus carota</del>
<del>ehervil, wild</del>	<del>Anthriscus sylvestris))</del>
cockle, white	Silene latifolia ssp. alba
cocklebur, spiny	Xanthium spinosum
cress, hoary	Cardaria draba
odder, smoothseed alfalfa	Cuscuta approximata
goatgrass, jointed	Aegilops cylindrica
henbane, black	Hyoscyamus niger
houndstongue	Cynoglossum officinale
<u>knotweed, giant</u>	<u>Polygonum sachalinense</u>
knotweed, Japanese	Polygonum cuspidatum
mayweed, scentless	Matricaria perforata
<del>((mullein, common</del>	<del>Verbascum thapsus</del>
<del>nightshade, bitter</del>	<del>Solanum dulcamara))</del>
poison-hemlock	Conium maculatum
<del>((rocket, garden</del>	<del>Eruca vesicaria ssp. sativa))</del>
rye, cereal	Secale cereale
<del>((saltoedar</del>	<del>Tamarix species</del>
<del>snapdragon, dwarf</del>	<del>Chaenorhinum minus))</del>
spikeweed	Hemizonia pungens
St. Johnswort, common	Hypericum perforatum
tansy, common	Tanacetum vulgare
toadflax, yellow	Linaria vulgaris
<del>((thistle, bull</del>	<del>Cirsium vulgare))</del>
thistle, Canada	Cirsium arvense
whitetop, hairy	Cardaria pubescens
wormwood, absinth	Artemisia absinthium

**AMENDATORY SECTION** (Amending WSR 93-01-004, filed 12/2/92, effective 1/2/93)

**WAC 16-750-110 State noxious weed control board—Mission.** The mission of the board is to serve as responsible stewards ~~((of the land and resources))~~ of Washington by protecting and preserving the ~~((agricultural))~~ land~~((s))~~ and ~~((natural))~~ resources ~~((of the state))~~ from the degrading impact of ~~((exotic, invasive))~~ noxious weeds.

The board believes that prevention is the best approach and may be achieved through full implementation of the intent of the state noxious weed law. To further that, the board strives for enhanced public awareness through improved educational efforts.

The board does not deal directly in control activities but rather works to achieve this end through others. For that reason, the board seeks to improve communication, gain cooperation, and improve coordination of the efforts for noxious weed control.

The board believes noxious weed control is best carried out by strong, adequately funded programs at the local level. To achieve this, the board strives to build public support for local programs and to empower those programs to be more successful.

**WSR 98-24-036**  
**PERMANENT RULES**  
**DEPARTMENT OF ECOLOGY**  
 [Order 98-10—Filed November 24, 1998, 3:09 p.m.]

Date of Adoption: November 24, 1998.

Purpose: Update and modify rule to reflect changed conditions, provide greater detail, and improve service to local governments and Indian tribes.

Citation of Existing Rules Affected by this Order: Amending WAC 173-98-010, 173-98-020, 173-98-030, 173-98-040, 173-98-050, 173-98-060, 173-98-070, 173-98-080, 173-98-090, 173-98-100, 173-98-110, and 173-98-120.

Statutory Authority for Adoption: Chapter 90.50A RCW, RCW 43.21.080.

Other Authority: Chapter 34.05 RCW.

Adopted under notice filed as WSR 98-19-119 on September 23, 1998.

Changes Other than Editing from Proposed to Adopted Version: Reinstated WAC 173-98-120(3), struck by accident in proposed rule; and made changes related to loan security as follows: Changed definition in WAC 173-98-020(6) and added new definition in WAC 173-98-020(6)28, and changed wording of WAC 173-98-110 (4)(ii) and (iii) to reflect advice of bond counsel and to make the provisions less onerous on local government.

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 0, Amended 12, Repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, Amended 12, 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.

November 24, 1998

Tom Fitzsimmons

Director

**AMENDATORY SECTION** (Amending Order 89-34, filed 8/29/89, effective 9/29/89)

**WAC 173-98-010 What is the purpose(+) of this chapter?** The purpose of this chapter is to set forth limitations on the allocation and uses of moneys administered by the department of ecology from a special fund within the state treasury known as the state water pollution control revolving fund (SRF), as authorized by chapter 90.50A RCW. This fund (~~shall~~) provides financial assistance to applicants throughout the state of Washington (~~which~~) who need such assistance to meet high priority water quality management needs.

**AMENDATORY SECTION** (Amending Order 89-34, filed 8/29/89, effective 9/29/89)

**WAC 173-98-020 What are the definitions(+) of key terms?** Unless the context clearly requires otherwise, the definitions in this section apply throughout this chapter.

(1) "Act" means the Federal Water Pollution Control Act (33 U.S.C. 4661 et seq.).

(2) (~~"Allowance"~~) means a specific portion of the financial assistance agreement for the purpose of defraying the costs of planning, design, or both.

(~~3~~) "Applicant" means a public (~~bodies~~) body requesting financial assistance for (~~wastewater~~) water pollution control facilities projects authorized in section 212 of the act. "Applicant" can also mean (~~entities~~) an entity other than a public (~~bodies~~) body which requests financial assistance authorized by sections 319 and 320 of the act. (~~These entities~~) An entity must be financially stable and clearly have the capacity to repay their loans.

(3) "Approvable" means:

- All major department comments on the draft document (i.e., facilities plan or plans and specifications) have been addressed.
- Preliminary State Environmental Policy Act (SEPA) review checklists have been prepared for the project or the project is in compliance with SEPA.
- The SRF State Environmental Review Process (SERP) review checklists have been prepared for the project or the project is in compliance with SERP. Only the final written department approval remains.

(4) "Construction" means the erection, installation, expansion, or improvement of (~~(a)~~) water pollution control (~~(facility)~~) facilities or (~~(activity)~~) activities.

(5) "Cost-effective alternative" means that alternative with the lowest present worth or equivalent annual value that achieves the requirements of the project while recognizing the environmental and other nonmonetary considerations.

(6) "Coverage requirement" means annual net revenue which, after the payment of senior lien obligations and together with utility local improvement district assessments (if applicable), is at least equal to one hundred twenty percent of annual debt service on the loan and any other obligations on a parity therewith.

(7) "Defeasance" means the setting aside in escrow or other special fund or account of sufficient investments and money dedicated to pay all principal of and interest on all or a portion of an obligation as it comes due.

(8) "Department" means the Washington state department of ecology.

(~~(7)~~) (9) "Design" means the plans and specifications for (~~(a)~~) water pollution control (~~(facility)~~) facilities or (~~(activity)~~) activities.

(~~(8)~~) (10) "Director" means the director of the Washington state department of ecology or his(~~(f)~~) or her authorized designee.

(~~(9)~~) (11) "The effective date of the loan agreement" means the date the loan agreement is signed by the department's water quality program manager.

(12) "EPA" means the United States Environmental Protection Agency.

(~~(10)~~) (13) "Existing residential need" means work required on the recipient's water pollution control facilities for the existing residential population in order to meet the recipient's National Pollution Discharge Elimination System or state waste discharge permit.

(14) "Facilities plan(~~s~~)" means (~~(those necessary)~~) plans and studies necessary for treatment works (~~(needed)~~) to comply with enforceable requirements of the act and with state statutes. Facilities plans must include a systematic evaluation of alternatives that are feasible in light of the unique demographic, environmental or ecological, topographic, hydrologic and institutional characteristics of the area(~~(s)~~ and). Facilities plans must also demonstrate that the selected alternative is cost-effective.

(~~(11)~~) (15) "Federal capitalization grant" means a federal grant awarded by (~~(the Environmental Protection Agency)~~) EPA(~~(s)~~) to the state as seed money to help establish the state water pollution control revolving fund.

(~~(12)~~) (16) "Financial assistance" means each of the four types of assistance specified in WAC 173-98-030 (1)(b) through (~~(e)~~) (f) and other assistance authorized by Title VI of the act and chapter 90.50A RCW.

(~~(13)~~) (17) (~~(Financial assistance)~~) SRF loan agreement means a legal contract between a recipient and the state, enforceable under state law, and specifying the terms and schedules under which assistance is provided. (~~(Financial assistance agreements)~~ are referred to as "binding commitments" by EPA.

(~~(14)~~) (18) "Fund" means the state water pollution control revolving fund.

~~((15))~~ (19) "General obligation debt" means an obligation of the recipient secured by annual ad valorem taxes levied by the recipient and by the full faith, credit, and resources of the recipient.

(20) "Initiation of operation" means the actual date the ~~((facility))~~ water pollution control facilities initiates operation and ~~((is being used))~~ the entity begins using the facilities for its intended purpose. This date may occur prior to final inspection and will be determined by the department after consultation with the recipient. This date may be the same or earlier than the date of project completion.

~~((16))~~ (21) "Intended use plan (IUP)" means a plan identifying the intended uses by the department of the amount of funds available for financial assistance from the state water pollution control revolving fund (SRF) for that fiscal year as described in section 606(c) of the act. The projects on the IUP will be ranked by environmental and financial need.

~~((17))~~ (22) "Nonpoint source water pollution" means pollution that enters any waters of the state from any dispersed water-based or land-use activities, including, but not limited to~~((:));~~

(a) Atmospheric deposition, surface water runoff from agricultural lands, urban areas, forest lands, subsurface or underground sources~~((:));~~ and

(b) Discharges from boats or other marine vessels.

~~((18))~~ (23) "Plans and specifications" means the construction contract documents and supporting engineering documents prepared in sufficient detail to allow contractors to bid on and construct water pollution control facilities. "Plans and specifications" and "design" may be used interchangeably.

~~((19))~~ (24) "Project" means the scope of work for which financial assistance is issued.

~~((20))~~ (25) "Project completion" means the date the project is ~~((certified))~~ determined by the department as being complete ~~((after the final inspection.~~

~~((21))~~ "Project priority list" means a list of projects required by section 216 of the act. The project priority list will be the intended use plan for funds issued in fiscal year 1990 and thereafter).

~~((22))~~ (26) "Public body" means the state of Washington or any agency, county, city or town, other political subdivision, municipal corporation or quasi-municipal corporation, and those Indian tribes ~~((now or hereafter))~~ recognized as such by the federal government at the time the SRF loan agreement is signed.

~~((23))~~ (27) "Public health emergency" means a situation declared by the Washington state department of ~~((social and))~~ health ~~((services))~~ in which illness or exposure known to cause illness is occurring or is imminent.

~~((24))~~ (28) "Recipient" means an applicant for financial assistance which has signed ~~((a financial assistance))~~ an SRF loan agreement.

~~((25))~~ (29) "Reserve account" means, for a loan that constitutes revenue-secured debt, the account of that name created in the loan fund to secure the payment of the principal of and interest on the loan.

(30) "Revenue-secured debt" means an obligation of the recipient secured by a pledge of the revenue of a utility and one not of a general obligation of the recipient.

(31) "Senior lien obligations" means all revenue bonds and other obligations of the recipient outstanding on the date of execution of this agreement (or subsequently issued on a parity therewith, including refunding obligations) or issued after the date of execution of this agreement having a claim or lien on the gross revenue of the utility prior and superior to the claim or lien of the loan, subject only to maintenance and operation expense.

(32) "Severe public health hazard" means a situation declared by the state department of ~~((social and))~~ health ~~((services))~~ and the department in which the potential for illness exists, ~~((but))~~ even if the illness is not currently occurring or imminent. For the purposes of this chapter there must be contamination of drinking water or contamination must be present on the surface of the ground in such quantities and locations to create a potential for public contact. The problem must generally involve a serviceable area including, but not limited to, a subdivision, town, city, or county. Also, the problem must be one which cannot be corrected through more efficient operation and maintenance of the wastewater disposal system(s).

~~((26))~~ (33) "State water pollution control revolving fund (SRF)" means the water pollution control revolving fund established by RCW 90.50A.020.

~~((27))~~ (34) "Water pollution" means such contamination, or other alteration of the physical, chemical, or biological properties of any waters of the state, including, but not limited to, change in:

(a) Temperature~~((:));~~

(b) Taste~~((:));~~

(c) Color~~((:));~~

(d) Turbidity~~((:));~~ or

(e) Odor ~~((of the waters, or such)).~~

It also means a discharge of any liquid, gaseous, solid, radioactive, or other substance into any waters of the state ~~((as))~~ that will or is likely to create a nuisance or render ~~((such))~~ those waters harmful, detrimental, or injurious to the public health, safety, or welfare, or injurious to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses, or to livestock, wild animals, birds, fish, or other aquatic life.

~~((28))~~ (35) "Water pollution control activities" means actions ~~((for))~~ taken by a public body to achieve the following purposes:

(a) To control nonpoint sources of water pollution;

(b) To develop and implement a comprehensive conservation and management plan for estuaries; and

(c) To maintain, improve, or protect water quality through the use of water pollution control facilities, management programs, or other means.

~~((29))~~ (36) "Water pollution control ~~((facility))~~ or ~~((water pollution control))~~ facilities" means any facilities or systems for the control, collection, storage, treatment, disposal, or recycling of wastewater ~~((including)).~~ Wastewater includes, but is not limited to, sanitary sewage, storm water, combined sewer overflows, residential, commercial, industrial, and agricultural wastes, which are causing water quality

degradation due to concentrations of conventional, nonconventional, or toxic pollutants. Water pollution control facilities include all equipment, utilities, structures, real property integral to the treatment process, and interests in and improvements on real property necessary for or incidental to such purpose. Water pollution control facilities also include ~~((such))~~ facilities, equipment, and collection systems ~~((as))~~ which are necessary to protect federally designated sole source aquifers.

**AMENDATORY SECTION** (Amending Order 89-34, filed 8/29/89, effective 9/29/89)

**WAC 173-98-030** ~~((Uses of the money and policies for establishing terms of assistance.))~~ How, and under what conditions, can money from the state water pollution control revolving fund be used? (1) Uses of the money. The state water pollution control revolving fund (SRF) may be used for the following purposes:

(a) To accept and retain funds from capitalization grants provided by the federal government, state matching funds appropriated in accordance with chapter 90.50A RCW, payments of principal and interest, and any other funds earned or deposited;

(b) To make loans ~~((at or below market interest rates))~~ to applicants in order to finance the planning, design, and/or the construction of water pollution control facilities, make loans to applicants for the implementation of nonpoint source pollution control management programs (which includes planning and implementing elements of the nonpoint source pollution assessment and management program), and make loans to applicants for the development and implementation of a comprehensive estuary conservation and management plan, subject to the requirements of the act;

(c) To provide loans for up to twenty years reserve capacity for water pollution control facilities;

(d) To buy or refinance ~~((, at or below market interest rates,))~~ the debt obligations incurred by applicants after March 7, 1985, for the construction of water pollution control facilities. (March 7, 1985, was the date that the amendments adding Title VI to the act were first considered by Congress. Any refinancing agreements must be for construction initiated after that date according to federal and state law);

~~((#))~~ (e) To guarantee or purchase insurance for local obligations where such an action would improve credit market access or reduce interest rates;

~~((#))~~ (f) As a source of revenue or security for the payment of principal and interest on revenue or general obligation bonds issued by the state, if the proceeds of ~~((such))~~ those bonds will be deposited in the fund; and

~~((#))~~ (g) To finance the reasonable costs incurred by the department in the administration of the account as authorized by the act and chapter 90.50A RCW.

(2) Policies for establishing the terms of financial assistance. ~~((Loans may be made at or below market interest rates and may include zero percent interest loans. The specific terms established in the program guidelines will receive complete public review. These terms shall not be changed without full public review and opportunity for public comment, and any such changes shall not affect existing financial assistance~~

~~agreements. Terms shall be established in the guidelines based on the needs to provide substantive financial assistance to projects, to consider unique individual economic circumstances such as financial hardship conditions, to award loans in a timely manner and to maintain a financially sound revolving loan fund in perpetuity. Loan repayments shall be in accordance with WAC 173-98-110.))~~ Recipients' interest rates will be based on the average market interest rate. The average market interest rate will be based on the daily market rate published in the Bond Buyer's Index for tax exempt municipal bonds. The average market rate will be calculated three months before the SRF funding cycle begins using the daily market interest rate for those months. The average market interest rate will be recalculated three months before the Draft IUP is issued, based on the daily market interest rate for those months. If that interest rate is at least 0.1 percent below the previously calculated average market interest rate, recipients' interest rates will be based on the lower average market interest rate rounded to the nearest 0.1 percent. Recipients will not receive an interest rate higher than the interest rate established at the beginning of the funding cycle.

Loan terms and interest rates are as follows:

<u>Repayment Period</u>	<u>Project Duration</u>	<u>Interest Rate</u>
<u>Up to five years:</u>	<u>Projects must be completed in less than two years from the effective date of the SRF loan agreement to project completion.</u>	<u>Zero percent interest rate.</u>
<u>Up to five years:</u>	<u>Projects that take two years or more to complete from the effective date of the SRF loan agreement to project completion.</u>	<u>Forty percent of the average market rate.</u>
<u>More than 5 but less than 15 years:</u>	<u>Not applicable.</u>	<u>Sixty percent of the average market rate.</u>
<u>15 to 20 years:</u>	<u>Not applicable.</u>	<u>Seventy-five percent of the average market rate.</u>

(3) Financial hardship assistance for facilities construction.

(a) Financial hardship assistance may be available to loan recipients for the existing residential need portion of a water pollution control facilities construction project if the project will cause a residential sewer user charge in excess of 1.5 percent of the median household income. Median household income is based on census data. Median household income data is updated yearly based on inflation. If median household income data is not available for a community the

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department will allow a local government to conduct a scientific survey to determine the median household income.

(b) The need for hardship assistance is calculated on water pollution control facilities construction costs associated with existing residential need at the time an application for funding is received by the department. The analysis does not include costs for growth. For example, if an applicant applies for ten million dollars to finance facilities construction costs, where six million dollars is for existing residential need and the remaining four million dollars is for growth, the hardship analysis would be based on the six million dollars for existing residential need.

(c) If the department determines that financial hardship exists, it may structure loan agreements with terms to help keep residential user charges below the financial hardship level for the existing residential need, if possible. Hardship terms may include lengthening the repayment period to a maximum of twenty years, lowering the interest rate, or a combination of a lower interest rate and an extended term.

(d) For some facilities projects, financial hardship cannot be established using residential user fees as a percent of median household income. In these situations, financial hardship determinations will be made on a case-by-case basis.

(e) If an applicant is requesting financial hardship assistance, it should submit a completed financial hardship analysis form with its application for financial assistance.

**AMENDATORY SECTION** (Amending Order 89-34, filed 8/29/89, effective 9/29/89)

**WAC 173-98-040** (~~(Provisions of guidelines.)~~) Where can I obtain more detail about the application, review, and issuance processes for funds from state water pollution control revolving fund? The department (~~(will publish)~~) publishes guidelines which (~~(will)~~) describe in greater detail the financial assistance application, review and issuance processes, the terms of assistance, and other elements of this program.

**AMENDATORY SECTION** (Amending Order 89-34, filed 8/29/89, effective 9/29/89)

**WAC 173-98-050** What are the limitations on the use of funds and (~~(establishment of categories.)~~) how are the funds categorized? (1) The fund may be used to provide financial assistance to applicants for the construction of water pollution control facilities which are identified in the intended use plan (~~(/project priority list)~~) and activities eligible for assistance under sections 319 and 320 of the act.

(2) Unless the demand for funding is limited (~~(/financial assistance agreements (binding commitments) which are signed within one hundred twenty days of the award of the federal capitalization grant or issuance of the final intended use plan when federal capitalization grants are not awarded.)~~) SRF loan agreements are subject to the following funding category limitations:

(a) Not more than eighty percent of the fund will be available for the construction of facilities as established under section 212 of the act (~~(/)~~) and subject to the require-

ments of (~~(the)~~) that act. (~~(These)~~) Those projects will be under the water pollution control facilities category.

(b) Not more than ten percent of the fund will be available for the implementation of a program established under section 319 of the act for the management of nonpoint sources of pollution, and subject to the requirements of that act. (~~(These)~~) Those projects will be under the nonpoint source category.

(c) Not more than ten percent of the fund will be available for the development and implementation of a comprehensive conservation and management plan under section 320 of the act relating to the National Estuary Program, and subject to the requirements of that act. (~~(These)~~) Those projects will be under the comprehensive estuary conservation and management category (estuary category).

(d) Not more than fifty percent of the fund in each category will be available to any one applicant.

(3) (~~(After the one hundred twenty day limitation period established in subsection (2) of this section, the department may make financial assistance agreements with any applicant as necessary to utilize available funds. The director may exercise prerogative to ensure that the fund is equitably distributed state-wide, consider the intent of category limitations above, and is self-sustaining in perpetuity. Such projects must comply with all applicable requirements of the act.)~~) In accordance with federal law, loan offers identified on the final IUP will be effective for up to one year from the date of the offer or until the issuance of the next year's final IUP. All SRF loan offers that do not result in a signed SRF loan agreement within the effective offer period are automatically terminated. Funds reserved for SRF loan agreements that are not signed within the effective period may be carried over and made available for the next year's funding cycle.

(4) The fund (~~(cannot)~~) may not be used for activities primarily directed toward water resources or water pollution control activities or facilities or portions (~~(thereof)~~) of those facilities that are primarily intended to control, transport, treat, dispose, or otherwise manage commercial, institutional, or industrial wastewater or other water pollution control needs from (~~(industrial)~~) those sites. Costs associated with commercial, institutional, or industrial pretreatment are not eligible for funding. However, commercial, institutional, or industrial (~~(or commercial)~~) wastewater flows attributable to a public body's water pollution control (~~(facility)~~) facilities which are determined by the department to be "small" may be allowed. Small flows are commercial, institutional, or industrial flows that comprise less than five percent individually or thirty percent collectively of the total flow.

(5) The fund (~~(cannot)~~) may not be used to make direct loans to applicants to support the nonfederal share of eligible portions of projects receiving assistance under Title II of the act. The fund (~~(can)~~) may be used to finance portions of such projects which were determined to be ineligible for federal assistance but which are eligible under (~~(this)~~) the SRF program.

(6) (~~(If state grants authorized by chapter 70.146 RCW are combined with SRF financial assistance, these combinations will generally be structured to approximately equal a fifty-five percent grant for the eligible project costs except for hardship cases and base grants that exceed fifty percent, as~~)

determined by the department according to the criteria of the grant program administered by the department. For recipients of a grant/loan combination, requirements will be consistent, insofar as possible, and will not result in duplication of effort, but will be no less stringent than is allowed by federal and state laws, regulations, and guidance.

To ensure that federal funds are obligated in a timely manner, equitably in the department's programs, and the fund is maintained in perpetuity, the director may exercise prerogative in establishing department grant percentages, loan interest rates, and terms of loans.

(7) Applicants must submit an approvable facilities plan for projects funded according to the water pollution control facilities category. Other planning level documents including, but not limited to, engineering reports (chapter 173-240 WAC), may be approvable for financial assistance issued under the nonpoint and estuary categories. Facilities plans must be approved before the financial assistance agreements can be signed for those agreements signed on or after January 1, 1991.) Noneligible project costs include, but are not limited to, the following:

(a) Acts of nature: Projects related to acts of nature that alter the natural environment, thereby causing water quality problems;

(b) Aquatic plant control for aesthetic reasons, navigational improvements, or other purposes unrelated to water quality;

(c) Engineering reports;

(d) Facilities that propose to meet or maintain primary treatment of domestic sewage;

(e) Flood control: Projects primarily designed to provide flood control;

(f) Lake implementation projects where there is no public access;

(g) Reclamation of abandoned mines or if used in the mining process;

(h) State and federal agency water pollution control programs that are part of the agency's mission, goals, or statutory responsibilities;

(i) Scientific research unrelated to a specific project;

(j) Sewers: Side sewer laterals or individual pump stations on private residential property, or other appurtenances where the facilities are not owned and maintained by a public body;

(k) Solid and hazardous waste facilities;

(l) Storm water activities and facilities associated exclusively with flood control.

(7) Noneligible project component costs include, but are not limited to, the following:

(a) Bond costs for debt issuance;

(b) Employee training not related to or identified in an SRF loan agreement;

(c) Equipment required for site and building maintenance;

(d) Facilities components:

(i) Abandonment of existing structures;

(ii) Bonus or acceleration payments to contractors to meet contractual completion dates for construction;

(iii) Capacity in excess of twenty years;

(iv) Construction claims and associated costs determined to be nonmeritorious;

(v) Construction claims, meritorious, in excess of the maximum allowable loan amount;

(vi) Corrective action plans for the one-year performance certification program;

(vii) Cost-plus-a-percentage-of-cost contracts (also know as multiplier contracts);

(viii) Demolition of structures that are not interfering with proposed construction;

(ix) Replacement parts, for an initial set of spare parts for equipment that is critical for facilities to operate in compliance with discharge permit requirements;

(e) Fines and penalties due to violations of or failures to comply with federal, state, or local laws;

(f) Interest on bonds, interim financing, and associated costs to finance projects;

(g) Lake implementation projects where there is no public access;

(h) Land acquisition for siting of wastewater treatment plants, sewer rights of way, and easements, and associated costs;

(i) Landscaping for aesthetic reasons;

(j) Legal expenses other than those associated with development of local ordinances for water quality protection and improvement or associated with the use of a bond counsel in developing a loan agreement;

(k) Lobbying or expenses associated with lobbying;

(l) Monitoring equipment used by an industry for sampling and analyzing industrial discharges to municipal water pollution control facilities;

(m) Office equipment;

(n) Operating expenses of local government, such as the salaries and expenses of a mayor, city council member, and/or city attorney;

(o) Overtime differential paid to employees of local government to complete administrative or force account work;

(p) Personal injury compensation or damages arising out of the project, whether determined by adjudication, arbitration, negotiation, or other means;

(q) Preparation of SRF loan applications;

(r) Previously funded objectives financed with an SRF loan;

(s) Rework costs;

(t) Routine or ongoing operation and maintenance costs;

(u) Seminar and conference fees not identified in an SRF loan agreement;

(v) Vehicle purchase or lease except those vehicles that are integral to a treatment process e.g., sludge truck.

**AMENDATORY SECTION** (Amending Order 89-34, filed 8/29/89, effective 9/29/89)

**WAC 173-98-060** (~~Allowance provisions for planning and design for facilities.~~) **What is the step process for planning facilities and activities projects?** (1) (~~An established allowance of financial assistance shall be provided for planning and design for water pollution control facilities. The allowance shall be based on total construction costs when the bids are received. If the project is in the design~~



phase, the allowance shall be based on approvable facilities planning estimates, and the allowance will be adjusted when the bids are received. The allowance is determined in accordance with the tables provided in the program guidelines.

(2) The allowance is not intended to necessarily cover one hundred percent of all planning and design engineering costs incurred. Accordingly, the allowance tables are not recommended to be used to determine the cost for planning or design services provided by the consulting engineer. This actual cost must be negotiated between the applicant and its consulting engineer based upon the nature, scope, and complexity of the project.

(3) The allowance will be paid to the recipient according to the following schedule and conditions:

(a) A recipient may request payment of thirty percent of the estimated planning and design allowance immediately after the financial assistance agreement is signed.

(b) Half the remaining estimated planning and design allowance may be requested when the design of the project is at least fifty percent complete.

(c) Adjustment and final payment of the allowance will occur when the lowest, responsible, responsive bid(s) are accepted and approved by the department.

(d) If a project receives grant assistance administered by the department, the allowance will be adjusted so that only the nongrant share is provided. (These combinations will generally be structured to approximately equal a fifty-five percent grant for eligible project costs.) The step process for facilities. To be eligible for an SRF loan, facilities projects must proceed according to a systematic method known as the "step process." Before a public body with a facilities project is eligible to apply for funds, all previous steps must be approved or approvable by the department in order to help ensure that funds are well spent on projects proceeding towards a successful and viable outcome. Funding for site-specific facilities planning (Step 1) or design (Step 2) does not guarantee the awarding of future loans for construction (Step 3). The loan agreement will not be signed until all previous steps have been completed and approved by the department.

(a) Planning (Step 1). Step 1 involves the preparation of a site-specific facilities plan that identifies and prioritizes the cost-effective alternatives for addressing a water pollution control problem with or without state and federal funding. If there is an existing engineering report, prepared with or without department funding, it must be upgraded for SRF eligibility if it does not meet the definition of a facilities plan.

(b) Design (Step 2). Step 2 includes the preparation of plans and specifications for use in construction. These must be based on the preferred cost-effective alternative identified in the facilities plan.

(i) Facilities plan must be approved or deemed approvable by the department before an application for design can be considered for funding. Site-specific facilities planning documents not funded by a department grant or loan must also be approved or approvable by the department before an application for design can be considered.

(ii) Applications for Step 2 loans will be accepted and considered for funding if it can be documented by the appli-

cant that Step 1 planning is approved within ninety days after the close of the application period.

(iii) Due to specific loan review criteria, a facilities plan approved by the department for purposes other than securing a loan will not be accepted for design purposes.

(iv) A facilities plan approved by the department more than two years prior to the close of the SRF application period must contain evidence of department review to ensure the document reflects current conditions.

(c) Construction (Step 3). Step 3 includes the actual building of facilities based on the approved design.

(i) Design must be approved or deemed approvable by the department before an application for construction can be considered for funding.

(ii) Applications for Step 3 loans will be accepted and considered for funding if it can be documented by the applicant that Step 2 design is approved within ninety days after the close of the application period.

(d) Design and construction (Step 4). In some cases, design and construction may be combined into one loan award. Applications for Step 4 loans will be accepted and considered for funding if it can be demonstrated that Step 2 design can be completed and approved by the department within one year of the date the final IUP is made public. The SRF loan share of the total eligible project under Step 4 cannot exceed fifty percent of the amount available in the appropriate funding category, or one million dollars, whichever is less.

(e) Step compliance and step deviations. There is one situation in which a deviation from the step process can be allowed:

(i) If the Washington state department of health has declared a public health emergency and if the proposed project would remedy this situation.

(ii) In this situation, the department will accept applications for funding consideration that do not follow the step process. However, no loan agreement will be signed until all previous steps have been completed and approved by the department. This deviation from the step process will only allow an application to be considered for funding. It does not allow a loan to be awarded until all step requirements have been satisfied.

(iii) If a deviation is approved, the applicant may deviate by only one step. For instance, the department could accept an application for design if planning was not completed and approved, or an application for construction if design was not completed and approved. However, the department may not accept an application for construction if planning was not completed and approved.

(2) The step process for activities. In most cases, the step process for activities is not required. However, those applications proposing to implement a specific project identified in a completed comprehensive plan are given additional consideration in the evaluation process. Agricultural best management practices that involve improvements on private property, or lake projects, must follow the step process.

(a) Planning (Step 1) involves the identification of problems and evaluation of cost-effective alternatives, based on environmental and economic considerations, for correcting and preventing water quality problems. Specific activities

may include planning for watershed management, ground water management areas, lake restoration, and water quality assessment and other related activities.

(b) Implementation (Step 2) includes the actual implementation of the project based on the approved planning document.

AMENDATORY SECTION (Amending Order 89-34, filed 8/29/89, effective 9/29/89)

WAC 173-98-070 ((Compliance with applicable)) **What other laws, regulations, ((and other)) or requirements((+)) must recipients comply with?** (1)(a) All recipients shall comply with all applicable federal, state, and local laws, orders, regulations, and permits. Applications must not be inconsistent with pertinent adopted water quality plans including, but not limited to, plans under sections 208, 303(e), 319, and 320 of the act.

(b) The Puget Sound water quality management plan constitutes the comprehensive conservation and management plan required in section 320 (b)(4) of the act. Plans must not be inconsistent with shoreline master programs, ground water management programs and storm water plans, combined sewer overflow (CSO) reduction plans and county or city comprehensive sewer plans.

(c) In accordance with the ((financial assistance)) SRF loan agreement, the applicant shall provide assurances that the necessary permits required by authorities having jurisdiction over the project have been secured((, and make)), Copies must be available to the department, ((if requested)) upon request.

(2) Recipients shall fully comply with all federal, state, and local laws and regulations related to procurement, discrimination, labor, job safety, and drug-free environments. The recipient shall also comply with the state and federal minority-and-women-owned businesses regulations.

(3) If ((financial assistance)) an SRF loan is provided for water pollution control facilities, recipients shall submit a declaration of construction of water pollution control facilities to the department within thirty days of project, phase, or segment completion.

(4) Recipients must maintain accounting records in accordance with "generally accepted government accounting standards." These standards are defined as, but not limited to, those contained in the United States General Accounting Office (GAO) publication "Standards for Audit of Governmental Organizations, Programs, Activities, and Functions." For example, charges must be properly supported, related to eligible costs, and documented by appropriate records. These accounts must be maintained as separate accounts.

(5) ((Recipients must demonstrate their legal ability to provide a dedicated source of revenue and guarantee the repayment of their obligations to the fund from that dedicated source. Dedicated sources of revenue could be special assessments, general taxes, or general obligation bonds, revenue bonds, user charges, rates, fees, or other sources.

(6)) Accounting irregularities may result in an immediate stoppage of payment until irregularities are resolved. The director may require immediate repayment of misused loan funds.

((7)) (6) According to RCW 90.50A.060, in the event of loan default, the state of Washington may withhold any amounts otherwise due to the recipient from the state and direct that such moneys be applied to the indebtedness and deposited into the SRF.

((8)) (7) Appeals of ((financial assistance)) SRF loan agreement((s)) decisions will be processed in accordance with the water quality financial assistance appeals procedure. The only decisions which can be appealed are written decisions by the department made during the effective ((financial assistance)) SRF loan agreement period ((will be appealable)). Appeals must be filed ((with the financial assistance program disputes decision coordinator)) in writing to the department within forty-five days from the date of the disputed decision. Following the final decision of a dispute, the department and the recipient shall proceed with the project in accordance with the decision rendered. Administrative or legal costs and other expenses incurred as part of an appeal will not be eligible for reimbursement.

((9)) (8) The department, or at the department's discretion another authorized auditor, will audit the ((financial assistance)) SRF loan agreement and records.

((10)) (9) Recipients shall maintain comprehensive insurance coverage on the project for an amount equal to the funds disbursed.

AMENDATORY SECTION (Amending Order 89-34, filed 8/29/89, effective 9/29/89)

WAC 173-98-080 Indemnification. (1) The department shall in no way be held responsible for payment of salaries, consultant's fees, and other overhead costs related to ((a financial assistance)) an SRF loan agreement issued to ((an applicant)) a recipient.

(2) To the extent that the Constitution and laws of the state of Washington permit, the ((applicant)) recipient shall indemnify and hold the department harmless from and against any liability for any or all injuries to persons or property arising out of ((a financial assistance)) an SRF loan agreement except for such damage, claim, or liability resulting from the negligent act or omission of the department.

AMENDATORY SECTION (Amending Order 89-34, filed 8/29/89, effective 9/29/89)

WAC 173-98-090 ((Project priority list and)) **How do I make sure my project is included in the intended use plan ((process))?** (1) ((The project priority list required by section 216 of the act will be the intended use plan (IUP) beginning in fiscal year 1990 and thereafter.)) Applicants must apply for SRF financial assistance in order for their projects to be included on the IUP. Projects must be on the IUP in order to receive SRF financial assistance.

(2) Projects in all three categories will be ranked according to environmental and financial need. Projects in each category which have the highest environmental and financial need will be given priority for assistance under the SRF program. Because funds must be used in a timely manner to ensure that all available federal funding is received by the

state, readiness to proceed (~~(may)~~) is also (~~(be)~~) used in establishing the priority of projects.

(3) Applications for financial assistance (~~(according to)~~) in the water pollution control facilities category (WAC 173-98-050 (2)(a)) must address problems such as public health emergencies, severe public health hazards, the need to provide secondary or advanced treatment, the need to improve and protect water quality, reduction of combined sewer overflows, and other environmental needs.

(4) Applications for financial assistance in the nonpoint source category (WAC 173-98-050 (2)(b)) must address the remedies and prevention of water quality degradation associated with nonpoint source water pollution and must not be inconsistent with needs identified in the department's nonpoint source pollution assessment and management program.

(5) Applications for financial assistance in the comprehensive estuary conservation and management category (estuary category) (WAC 173-98-050 (2)(c)) must meet applicable environmental needs outlined above and must meet needs identified in the Puget Sound water quality management plan or the respective plans for other federally designated estuaries in the state of Washington.

(6) Financial need would normally focus on the need to maintain user charges and fees at affordable levels. Both the priority process and the terms of the (~~(financial assistance)~~) SRF loan will be directed toward this objective. Unless the provisions of water pollution control facilities or activities has caused a financial hardship, refinancing of completed projects or segments would generally be low priority.

(7) Applicants must fully describe the environmental and the financial need for the project (~~(, and they must submit a completed financial capability assessment form and a schedule for signing the financial assistance agreement and completing their project. These documents will be used to prepare a draft intended use plan (IUP) for public review and comment. Public participation will be used in the preparation of the draft and final intended use plan).~~).

(8) The department will prepare the draft IUP prior to the award of each federal capitalization grant from EPA or in the absence of a federal capitalization grant before principal and interest repayments to the SRF are offered. The (~~(plan)~~) IUP will generally list projects in the order that projects may be offered financial assistance.

**AMENDATORY SECTION** (Amending Order 89-34, filed 8/29/89, effective 9/29/89)

**WAC 173-98-100 How do recipients comply with the state environmental review process**(~~(\*)~~)<sup>2</sup> (1) All (~~(projects)~~) recipients which receive (~~(financial assistance from the SRF program)~~) SRF loans must meet the provisions of the State Environmental Policy Act (SEPA), chapter 43.21C RCW, and the SEPA rules, chapter 197-11 WAC. Additional provisions are currently needed by federal law under Title VI of the act to satisfy the state's responsibility to help ensure that recipients comply with the National Environmental Policy Act (NEPA) and other applicable environmental laws, regulations, and executive orders. The lead agency (WAC 197-11-050(2)) responsible for SEPA compliance for each project under the SRF program shall also comply with

the following additional provisions. When a categorical exclusion, finding of no significant impact, or a record of decision has been issued (~~(by EPA)~~) under NEPA for the same project scope of work, no additional environmental documentation is required. (~~(The)~~) Applicants will need to adopt the federal environmental documentation to meet their responsibilities as required by SEPA rules WAC 197-11-600, 197-11-610, and 197-11-630. If federal environmental documentation has not been submitted for approval to (~~(EPA)~~) the appropriate federal agency, applicants and designated lead agencies must:

(a) Consult with the department (~~(prior to)~~) before determining that the project is categorically exempt from SEPA and obtain concurrence that the project meets the criteria for a categorical exemption (WAC 197-11-305) and give public notice of the categorical exemption by publishing a notice in a newspaper of area-wide circulation. This notice shall include the locations where the public may review the facilities plan and other environmental information.

(b) Consult with the department prior to issuing a threshold determination (WAC 197-11-330), and submit a copy of the environmental checklist (WAC 197-11-315) and a recommended threshold determination to the department.

(c) Obtain written concurrence from the director with the recommended threshold determination as to whether a determination of nonsignificance (DNS) (WAC 197-11-340) or an environmental impact statement (EIS) is to be issued prior to issuing the actual document.

(d) Issue the threshold determination, determination of nonsignificance (DNS) or determination of significance (DS) (WAC 197-11-360) and submit copies to the department; two copies shall be sent to (~~(both)~~) the department's environmental review section (~~(of central programs)~~) and one copy to the regional water quality (~~(financial assistance)~~) program (~~(WQFAP)~~) WQ of the department. The director must concur in writing with the findings of the checklist and DNS if a DNS is issued.

(e) Give public notice of the threshold determination by publishing a notice in a newspaper of area-wide circulation. This notice shall include the locations where the public may review the threshold determination, facilities plan, and other environmental information.

(f) Distribute copies of the threshold determination and supporting documents to other affected local, state, and federal agencies, Indian tribes, and the public.

(g) When a DS is issued, the lead agency will develop the final scope of elements to be addressed in the environmental impact statement (EIS) and obtain written concurrence from the director. The department shall be consulted throughout the EIS process.

(h) Distribute copies of the draft and final EIS(~~(s)~~) to the department; two copies shall be sent to both the environmental review section (~~(of central programs)~~) and the (~~(WQFAP)~~) department's water quality program.

(i) Give public notice of the draft and final EIS(~~(s)~~) by publishing notices in a newspaper of area-wide circulation. Notices shall include the locations where the public may review the draft and final EIS(~~(s)~~) or obtain copies.

(j) Distribute copies of the draft and final EIS(~~(s)~~) to other affected local, state, and federal agencies, Indian tribes, and the public.

(k) The director must concur in writing with the finding of the final EIS.

(2) The lead agency shall issue a notice of action for the final EIS regarding the preferred alternative in accordance with RCW 43.21C.080, WAC 197-11-680, and 197-11-990.

(3) A cost-effectiveness analysis will be required for all SRF projects. Planning must include a comparison of the total cost, i.e., capital, operation and maintenance, and replacement costs of the project with other alternatives, including the no action alternative(~~(, i.e., capital, operation and maintenance, and replacement costs)~~). The comparison of the total costs, e.g., total present worth or annual equivalent costs of projects for the planning period, must be included. (~~Cost-effectiveness~~) Cost-effective analyses must also include nonmonetary cost of the project, i.e., the environmental impact, resource utilization, implementability, etc. This analysis must be included in the planning document and must be summarized in the EIS or DNS. Financial assistance under the SRF program will be offered to the cost-effective solution to the water pollution control problem.

(4) All mitigation measures (~~(recommended or)~~) committed to in the environmental checklist or state EIS, or in the finding of no significance impact/environmental assessment or record of decision/federal EIS (for federally approved projects) will become (~~(financial assistance)~~) SRF loan agreement conditions. Applicants must complete all mitigation measures required. Failure to abide by these conditions will result in withholding of payments and may result in immediate repayment of the loan.

(5) The applicant (~~(is responsible for compliance)~~) must comply with the requirements of applicable environmental laws, regulations, and executive orders. Concurrence from the director will be based on best available information provided by the applicant. The department is not responsible for concurrence based on erroneous information.

**AMENDATORY SECTION** (Amending Order 89-34, filed 8/29/89, effective 9/29/89)

**WAC 173-98-110 (~~(Repayments of loans)~~) What are the repayment options and schedules?** (1) General provisions.

When the scope of work identified in the (~~(financial assistance)~~) SRF loan agreement (~~(for a loan)~~) has been fully (~~(performed)~~) completed and/or the initiation of operation date has been determined:

(a) The department and recipient will execute a final (~~(financial assistance)~~) SRF loan agreement amendment which details the final loan amount. This amount will include the principal from disbursements made to recipients and accrued interest. Interest will accrue on each disbursement as it is paid to the recipient.

(b) The department will prepare according to the SRF loan agreement, a repayment schedule (~~(according to the financial assistance agreement)~~) which (~~(will)~~) fully amortize the final loan amount within twenty years of project completion. The first repayment of principal and interest will be due

no later than one year after the initiation of operation date. Equal payments will be due every six months after this first payment. Loan balances may be repaid or additional principal payments may be (~~(repaid)~~) made at any time without penalty.

(c) If any amount of the final loan amount or any other amounts owed to the department remains unpaid after it becomes due and payable, the department may assess a late charge. The late charge shall be additional interest at the rate of one percent per month, or fraction thereof, starting on the date the debt becomes past due and until it is paid in full.

(d) If the due date for any semiannual payment falls on a Saturday, Sunday, or designated holiday for Washington state agencies, the payment shall be due on the next business day for Washington state agencies.

(2) Phased or segmented project. Where a project has been phased or segmented, the general provisions for repayment shall apply to the completion of individual phases or segments.

(3) More than five years to complete project. When (~~(the)~~) a project approved by the department takes longer than five years to complete, loan repayment (~~(of the loan)~~) must begin within five years of the first disbursement (~~(on)~~) for the project, unless the director determines that the fund is fiscally sound without this repayment schedule. Repayments for these loans must follow the general provisions as outlined in subsection (1)(b) of this section.

(4) Security for loan repayment. Loans shall be secured by a general obligation pledge or a revenue pledge of the recipient. The obligation of the recipient to make loan repayments from the sources identified in its SRF loan agreement shall be absolute and unconditional, and shall not be subject to diminution by setoff, counterclaim, or abatement of any kind.

(a) General obligation. When repayment of a loan is secured by a general obligation pledge, the recipient shall pledge for so long as the loan is outstanding, to include in its budget and levy taxes annually within the constitutional and statutory tax limitations provided by law without a vote of its electors, on all of the taxable property within its boundaries in an amount sufficient, together with other money legally available and to be used for loan repayment, to pay when due the principal of and interest on the loan, and the full faith, credit, and resources of the recipient shall be pledged irrevocably for the annual levy and collection of those taxes and the prompt payment of the principal of and interest on the loan.

(b) Revenue obligation. Repayment of a loan may be secured by an irrevocable pledge of the net revenues of the recipient's utility and, in appropriate cases, utility local improvement district assessments. In such cases:

(i) Lien position. Repayment of a loan shall constitute a lien and charge (A) upon the net revenues of the recipient's utility prior and superior to any other charges whatsoever, except that the lien and charge shall be junior and subordinate to the lien and charge of any senior lien obligations and, (B) if applicable, upon utility local improvement district assessments prior and superior to any other charges whatsoever.

(ii) Coverage requirement. For so long as the loan is outstanding, the recipient shall establish, maintain, and collect such rates and charges for utility service which will produce

net revenue which, together with utility local improvement district assessments in the utility local improvement district deposited in the loan fund, shall be at least equal to the coverage requirement. "Coverage requirement" means annual net revenue which, after the payment of senior lien obligations and together with utility local improvement district assessments (if applicable), is at least equal to one hundred twenty percent of annual debt service on the loan and any other obligations on a parity therewith.

(iii) Reserve requirement. For loans that are revenue-secured debt with terms greater than five years, the recipient must accumulate a reserve for the loan equivalent to at least the average annual debt service on the loan during the first five years of the repayment period of the loan. This amount shall be deposited in a reserve account in the loan fund in approximately equal annual payments commencing within one year after the initiation of operation or the project completion date, whichever comes first. "Reserve account" means, for a loan that constitutes revenue-secured debt, an account of that name created in the loan fund to secure the payment of the principal of and interest on the loan. The amount on deposit in the reserve account may be applied by the recipient (A) to make, in part or in full, the final repayment to the department of the loan amount or, (B) if not so applied, for any other lawful purpose of the recipient once the loan amount, plus interest and any other amounts owing to the department hereunder, have been paid in full.

(5) Repayment from other than pledged sources. A recipient may repay any portion of its loan from any legally available funds other than those pledged in its SRF loan agreement to repayment.

(6) No defeasance or advance refunding. So long as the department holds a loan, the recipient shall not be entitled to, and shall not effect, its economic defeasance or advance refunding.

AMENDATORY SECTION (Amending Order 89-34, filed 8/29/89, effective 9/29/89)

**WAC 173-98-120 General provisions.** (1) Sale of facilities to private enterprises. Recipients may sell facilities for which the SRF loan was provided to private enterprises; however, the ~~((financial assistance))~~ SRF loan agreement must be terminated in accordance with the terms of the agreement and the assistance repaid to the SRF immediately upon sale.

(2) Refinancing. The refinancing of existing debt obligations shall be limited to water pollution control facilities where project construction began after March 7, 1985. Applicants requesting refinancing must meet all the requirements contained in the act. They must be on the IUP before assistance will be offered and must be eligible to receive such assistance.

(3) Self certification. The department may authorize a recipient to certify compliance with selected program requirements. The recipient must request such certification authority and document that it has the capability and resources, that it is in the best interest of the state, and that the request is consistent with state and federal laws and regula-

tions. Concurrences required in the environmental review process cannot be delegated to recipients.

~~((4) Legislative reporting. The department shall report to the legislature no later than November 30 of each year on the use of the fund by the department. This report shall include a list of applicants, recipients, project descriptions, total loan amounts, financial arrangements and interest rates, repayment schedules, and source(s) of repayments.~~

~~(5) Construction engineering contracts. Consulting services shall not use a "cost plus percentage of cost" or "percentage of construction cost" type contract.)~~

## WSR 98-24-037

### PERMANENT RULES

### DEPARTMENT OF

### SOCIAL AND HEALTH SERVICES

(Economic Services Administration)

[Filed November 24, 1998, 3:13 p.m.]

Date of Adoption: November 24, 1998.

Purpose: WAC 388-450-0106 and 388-450-0116 are new rules added to incorporate the method of allocating income of a financially responsible person included in the assistance unit to meet the needs of ineligible alien household members and the method of allocating income of a financially responsible person excluded from the assistance unit because of their alien status. Allocation methods currently used create a financial advantage for households which include undocumented aliens when compared to households consisting entirely of United States citizens and/or resident aliens. The new rules will eliminate this financial advantage and ensure equal treatment for all households. The proposed rules are the result of negotiation with the state legislature and Columbia Legal Services to create rules that would ensure equal treatment for households consisting entirely of United States citizens and/or resident aliens and those households which include undocumented aliens.

Statutory Authority for Adoption: RCW 74.04.005, 74.08.090.

Adopted under notice filed as WSR 98-19-126 on September 23, 1998.

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 2, 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 2, Repealed 0.

PERMANENT

Effective Date of Rule: Thirty-one days after filing.  
November 24, 1998  
Marie Myerchin-Redifer, Manager  
Rules and Policies Assistance Unit

**NEW SECTION**

**WAC 388-450-0106 Allocating the income of a financially responsible person included in the assistance unit to household members excluded because of their alien status.** This section applies to TANF/SFA, RCA, RMA and TANF/SFA-related medical programs.

When a financially responsible person, as defined in WAC 388-450-0100(3), is included in the assistance unit, that person's income is allocated to household members who are excluded from the assistance unit because of their alien status, as defined in WAC 388-450-0100 (4)(a), after allowing the following deductions:

(1) The fifty percent earned income incentive for TANF/SFA assistance units or the ninety dollar work expense deduction for RCA assistance units, if the income is earned;

(2) An amount equal to the difference between the payment standards:

(a) That would include the eligible assistance unit members and those individuals excluded from the assistance unit because of their alien status; and

(b) Only the eligible assistance unit members.

(3) The payment standard amount equal to the number of ineligible persons, as defined in WAC 388-450-0100 (4)(b) through (h);

(4) An amount not to exceed the need standard, as defined in WAC 388-478-0015, for court or administratively ordered current or back support paid for legal dependents; and

(5) The employment related child care expenses for which the household is liable.

**NEW SECTION**

**WAC 388-450-0116 Allocating the income of a financially responsible person excluded from the assistance unit because of their alien status.** This section applies to TANF/SFA and RCA programs.

When a financially responsible person, as defined in WAC 388-450-0100(3), is excluded from the assistance unit because of their alien status, as defined in WAC 388-450-0100 (4)(a), that person's income, after allowing the following deductions, is countable income available to the assistance unit:

(1) The fifty percent earned income incentive for TANF/SFA assistance units or the ninety dollar work expense deduction for RCA assistance units, if the income is earned;

(2) An amount equal to the difference between the payment standards:

(a) That would include the eligible assistance unit members and those individuals excluded from the assistance unit because of their alien status; and

(b) Only the eligible assistance unit members.

(3) The payment standard amount equal to the number of ineligible persons, as defined in WAC 388-450-0100 (4)(b) through (h);

(4) An amount not to exceed the need standard, as defined in WAC 388-478-0015, for court or administratively ordered current or back support paid for legal dependents; and

(5) The employment related child care expenses for which the household is liable.

**WSR 98-24-038****PERMANENT RULES****DEPARTMENT OF****SOCIAL AND HEALTH SERVICES**

(Aging and Adult Services)

(Office of Rates Management)

[Filed November 24, 1998, 3:16 p.m., effective January 1, 1999]

Date of Adoption: November 24, 1998.

Purpose: WAC 388-78A-990, to increase the fee for obtaining or reissuing a boarding home license from \$54 to \$79 per licensed bed; and WAC 388-78A-010, to change the definition of "department" from Department of Health to Department of Social and Health Services and the reference in "restraint" from WAC 246-316-335(3) to WAC 388-78A-335(3).

Citation of Existing Rules Affected by this Order: Amending WAC 388-78A-010 and 388-78A-990.

Statutory Authority for Adoption: RCW 18.20.090 and 18.20.240.

Adopted under notice filed as WSR 98-20-097 on October 7, 1998.

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 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 2, Repealed 0.

Effective Date of Rule: January 1, 1999.

November 24, 1998

Marie Myerchin-Redifer, Manager  
Rules and Policies Assistance Unit

**AMENDATORY SECTION** (Amending WSR 98-20-021, filed 9/25/98, effective 9/25/98)

**WAC 388-78A-990 Fees.** For renewal of licenses that expire on December 31, 1998 or after and initial licenses

issued effective January 1, 1999 or after, the licensee or applicant shall:

- (1) Submit an annual license fee of ~~((fifty-four))~~ seventy-nine dollars per bed of the licensed resident bed capacity ~~((for initial and renewed licenses))~~;
- (2) Submit an additional one hundred fifty dollars when billed by the department for:
  - (a) A third on-site visit resulting from failure of the licensee or applicant to adequately respond to a statement of deficiencies; and
  - (b) A complete on-site survey resulting from a substantiated complaint; and
- (3) Submit an additional late fee in the amount of ten dollars per day from the license renewal date until the date of mailing the fee, as evidenced by the postmark.

**AMENDATORY SECTION** (Amending WSR 98-20-021, filed 9/25/98, effective 9/25/98)

**WAC 388-78A-010 Definitions.** For the purpose of this chapter, the following words and phrases shall have the following meanings unless the context clearly indicates otherwise.

- ~~((1))~~ **"Abuse"** means an act by any individual which injures, exploits or in any way jeopardizes a resident's health, welfare, or safety, including but not limited to:
- ~~((a))~~ **(1)** Physically damaging or potentially damaging nonaccidental acts;
  - ~~((b))~~ **(2)** Emotionally damaging verbal behavior and harassment; and
  - ~~((c))~~ **(3)** Sexual use, exploitation and mistreatment through inappropriate touching, inappropriate remarks or encouraging participation in pornography or prostitution.
- ~~((2))~~ **"Activities of daily living"** means those tasks related to basic personal care such as bathing, toileting, dressing, grooming, hygiene, ambulation, and eating.
- ~~((3))~~ **"Aged person"** means, according to RCW 18.20.020, a person of the age of sixty-five years or more, or a person of less than sixty-five years who by reason of infirmity requires domiciliary care.
- ~~((4))~~ **"Ambulatory"** means capable of walking or traversing a normal path to safety without the physical assistance of another individual;
- ~~((a))~~ **(1)** **"Semi-ambulatory"** means 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 individual;
- ~~((b))~~ **(2)** **"Nonambulatory"** means unable to walk or traverse a normal path to safety without the physical assistance of another individual.
- ~~((5))~~ **"Bathing fixture"** means a bathtub, shower or sit-down shower.
- ~~((6))~~ **"Bathroom"** means a room containing at least one bathing fixture.
- ~~((7))~~ **"Board"** means, in the definition of boarding home, the provision of meal service and lodging.
- ~~((8))~~ **"Boarding home"** means any home or other institution, however named, which is advertised, announced or maintained for the express or implied purpose of providing board and domiciliary care to three or more aged persons not

related by blood or marriage to the operator. It shall not include facilities certified as group training homes pursuant to RCW 71A.22.040, nor any home, institution or section thereof which is otherwise licensed and regulated under the provisions of state law providing specifically for the licensing and regulation of such home, institution or section thereof. Nor shall it include any independent senior housing, independent living units in continuing care retirement communities, or other similar living situations including those subsidized by the department of housing and urban development.

~~((9))~~ **"Colostomy care, uncomplicated routine"** means an act of changing a colostomy bag and dressing according to boarding home procedures approved by a RN or physician, when the resident does not:

~~((a))~~ **(1)** Have colostomy complications, including but not limited to obvious infection, constipation, diarrhea, painful, cracked or bleeding skin; or

~~((b))~~ **(2)** Need colostomy irrigations.

~~((10))~~ **"Construction"** means:

~~((a))~~ **(1)** A new building to be used as a boarding home or part of a boarding home;

~~((b))~~ **(2)** An addition, modification or alteration to the facility which changes the department-approved use of an existing boarding home or portion of a boarding home; and

~~((c))~~ **(3)** An existing building or portion thereof to be converted for use as a boarding home.

~~((11))~~ **"Continuing care contract"** means, as stated in RCW 70.38.025, a contract providing a person, for the duration of that person's life or for a term in excess of one year, shelter along with nursing, medical, health-related, or personal care services, which is conditioned upon the transfer of property, the payment of an entrance fee to the provider of such services, or the payment of periodic charges for the care and services involved. A continuing care contract is not excluded from this definition because the contract is mutually terminable or because shelter and services are not provided at the same location.

~~((12))~~ **"Continuing care retirement community"** means, as stated in RCW 70.38.025, an entity which provides shelter and services under continuing care contracts with its members and which sponsors or includes a health care facility or a health service.

~~((13))~~ **"Contractor"** means an agency or person who contracts with a licensee to provide resident-care services or equipment.

~~((14))~~ **"Dementia care"** means a form of care unique to the needs of residents with dementia of the alzheimer type exhibiting symptoms such as impaired cognition, confusion, memory loss, personality change, disorientation, chronic wandering, loss of inhibitions, and other intellectual losses diminishing the ability to perform basic personal care functions, which:

~~((a))~~ **(1)** May or may not be provided in a dementia care unit; and

~~((b))~~ **(2)** Is not normally applied to developmentally disabled individuals as defined in chapter 71A.10 RCW.

~~((15))~~ **"Dementia care unit"** means an area of a boarding home staffed by individuals trained in dementia



care and designed to facilitate the provision of such care to residents with dementia of the alzheimer type.

((16)) **"Department"** means the Washington state department of social and health services.

((17)) **"Dietitian"** means an individual certified under chapter 18.138 RCW.

((18)) **"Document"** means to record, with signature, title, date and time:

((a)) (1) Information about medication administration or disposal, a nursing care procedure, accident, occurrence or change in resident condition that may impact the care or needs of a resident; and

((b)) (2) Processes, events or activities that are required by law, rule or policy.

((19)) **"Domiciliary care"** means:

((a)) (1) Assistance with activities of daily living provided by the licensee either directly or by contract;

((b)) (2) Assuming general responsibility for the safety and well-being of the resident; and

((c)) (3) Limited nursing services, if provided by the licensee.

((20)) **"Exploitation"** means the illegal or improper use of a resident's resources, labor, or services for another person's profit or advantage.

((21)) **"Functional abilities"** means the physical, mental, emotional and social abilities of a resident to cope with the affairs and activities of daily living.

((22)) **"Health care practitioner"** means any individual authorized by Washington state law to provide health care, including but not limited to a physician, dentist, chiropractor, naturopath, advanced registered nurse practitioner or physician's assistant.

((23)) **"Incident report"** means a written record of an event involving a resident including but not limited to injury, abuse, neglect, or exploitation.

((24)) **"Infectious"** means capable of causing infection or disease by entrance of organisms into the body which grow and multiply there, including but not limited to bacteria, viruses, protozoans, and fungi.

((25)) **"Independent living unit"** means an apartment, condominium or other self-sufficient dwelling unit occupied by an individual or individuals not receiving domiciliary care.

((26)) **"Independent senior housing"** means an independent living unit occupied by an individual or individuals sixty or more years of age.

((27)) **"Individual's resident plan"** means a statement, written by the licensee and approved by the resident or resident's representative, of services to be provided based on an evaluation of the resident's needs.

((28)) **"Infirmary"** means a disability which materially limits normal activity without requiring inpatient medical or nursing care. An infirmary may be based on conditions, including but not limited to physical handicap, mental illness, developmental disability, mental confusion, disability or disturbance.

((29)) **"Licensee"** means the person to whom the department issues the boarding home license.

((30)) **"Licensed resident bed capacity"** means the resident occupancy level requested by the licensee and approved by the department.

((31)) **"Licensed room list"** means a department-approved list identifying resident rooms, the dimensions and calculated square footage of each room, the number of approved bed spaces, and other information relative to the licensed resident bed capacity of a boarding home.

((32)) **"Limited nursing services"** means nursing care, consistent with chapters 18.78 and 18.88 RCW, provided by the licensee which does not include continuous skilled nursing care and supervision of the type provided in nursing homes licensed pursuant to chapter 18.51 RCW.

((33)) **"Medication"** means **"drugs"** as defined in RCW 18.64.011.

((34)) **"Medication administration"** means the act of an authorized individual giving medication to a resident in accordance with the laws and regulations governing such acts and entails:

((a)) (1) Comparing the label on the container with the prescriber's order or with a direct copy of a verified transcription of the order;

((b)) (2) Removing an individual dose from a previously dispensed, properly labeled container;

((c)) (3) Giving an individual dose to the proper resident; and

((d)) (4) Properly recording the medication, dose, and time given in the resident record.

((35)) **"Neglect"** means conduct resulting in the deprivation of care necessary to maintain the resident's minimum physical and mental health including:

((a)) (1) Physical and material deprivation;

((b)) (2) Lack of medical care;

((c)) (3) Inadequate food, clothing or cleanliness;

((d)) (4) Rejection;

((e)) (5) Lack of social interaction and physical activity;

((f)) (6) Lack of personal care; and

((g)) (7) Lack of supervision appropriate for the resident's level of functioning.

((36)) **"Nurse"** means an individual licensed either as a:

((a)) (1) **"Licensed practical nurse"** or **"LPN"** under chapter 18.78 RCW; or

((b)) (2) **"Registered nurse"** or **"RN"** under chapter 18.88 RCW.

((37)) **"Person"** means any individual, firm, partnership, corporation, company, association, joint stock association, and the legal successor thereof.

((38)) **"Physician"** means an individual licensed under chapter 18.57 or 18.71 RCW.

((39)) **"Prescriber"** means a health care practitioner authorized by Washington state law to prescribe drugs.

((40)) **"Resident-care staff person"** means any employee, temporary employee, volunteer, or contractor who provides direct care services to a resident.

((41)) **"Resident"** means an individual living in a boarding home who is not related by blood or marriage to the



operator of the boarding home and, by reason of age or infirmity, requires domiciliary care.

((42)) **"Resident's representative"** means an individual legally appointed, or designated by the resident in writing, to act in the resident's behalf.

((43)) **"Respite care"** means short term care of an aged person to temporarily relieve the family or other caregiver of providing that care.

((44)) **"Restraint"** means any methods used to prevent or limit free body movement, including but not limited to:

((a)) (1) Confinement, unless agreed to as provided in WAC ((246-316-335(3))) 388-78A-335(3);

((b)) (2) An apparatus; and

((c)) (3) A drug given without, or contrary to, a legally prescribed order.

((45)) **"Room"** means a space set apart by floor to ceiling partitions on all sides with all openings provided with doors or windows.

((46)) **"Staff person"** means any employee, temporary employee, volunteer, or contractor.

((47)) **"State Building Code"** means chapter 51-20 WAC, State Building Code adoption and amendment of the Uniform Building Code; chapter 51-22 WAC, State Building Code adoption and amendment of the Uniform Mechanical Code; chapter 51-24 WAC, State Building Code adoption and amendment of the Uniform Fire Code; and chapter 51-25 WAC, State Building Code adoption and amendment of the Uniform Fire Code.

((48)) **"Toilet"** means a disposal apparatus fitted with a seat and flushing device used for urination and defecation.

((49)) **"Urethral catheter care, uncomplicated routine"** means an act of performing perineal care, emptying the drainage bag, measuring the contents as required, and replacing and repositioning the drainage bag; but does not mean the act of inserting, irrigating, or removing the catheter.

((50)) **"Usable floor space"** means:

((a)) (1) For boarding homes licensed prior to January 1, 1989, and continuously thereafter, floor area in resident bedrooms excluding walk-in closets; or

((b)) (2) For boarding homes licensed after December 31, 1988, floor area in living and sleeping rooms excluding bathrooms, toilets, toilet compartments, closets, halls, storage, and utility spaces.

((51)) **"Volunteer"** means an individual who regularly provides planned and organized services within the boarding home without reimbursement, but does not mean an individual who visits residents or provides occasional entertainment.

((52)) **"Vulnerable adult"** means an individual sixty years of age or older who has the functional, mental, or physical inability to care for himself or herself.

((53)) **"WISHA"** means the Washington Industrial Safety and Health Act, chapter 49.17 RCW administered by the Washington state department of labor and industries.

**WSR 98-24-042**  
**PERMANENT RULES**  
**DEPARTMENT OF**  
**FISH AND WILDLIFE**

[Order 98-241—Filed November 24, 1998, 3:36 p.m., effective January 1, 1999]

Date of Adoption: October 27, 1998.

Purpose: Amend personal use rules.

Citation of Existing Rules Affected by this Order:  
Amending WAC 220-56-240 and new section WAC 220-55-20000A.

Statutory Authority for Adoption: RCW 75.08.080, section 40, chapter 191, Laws of 1998.

Adopted under notice filed as WSR 98-19-121 on September 23, 1998.

Changes Other than Editing from Proposed to Adopted Version: WAC 220-55-20000A amended to allow all harvest with \$6 resident and \$30 nonresident interim license, with exemption for January 1999 waterfowl and elk permit hunts. No separate interim shellfish license.

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 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 1, 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: January 1, 1999.

November 18, 1998

Lisa Pelly, Chairperson  
Fish and Wildlife Commission

**NEW SECTION**

**WAC 220-55-20000A Interim hunting and fishing license.** (1) A three-month interim combination hunting and fishing license, allowing the taking of all fish, shellfish, small game and big game under established seasons for the period January 1, 1999, through March 31, 1999, is available for six dollars for residents and thirty dollars for nonresidents, plus a dealer's fee of one dollar for issuance. Valid state and federal migratory waterfowl stamps are required to be possessed in order to take waterfowl.

(2) A three-month interim combination hunting and fishing license is not needed for January 1999 waterfowl seasons or January 1999 elk permit hunts.

AMENDATORY SECTION (Amending WSR 98-06-031, filed 2/26/98, effective 5/1/98)

**WAC 220-56-240 Daily limits sturgeon, smelt, herring and other food fish not otherwise provided for.** It is unlawful for any person to retain (~~in any day~~) more than the following quantities and sizes of food fish taken for personal use. Unless otherwise provided, other food fish fishing is open the entire year:

(1) Sturgeon:

(a) Unlawful to fish from a floating device May 1 through June 30 downstream from the boating deadline below Bonneville Dam to markers on the Oregon and Washington shores of the Columbia River at Beacon Rock.

(b) 1 fish daily limit with the following size restrictions in all (~~other~~) state waters:

(i) Minimum size is 42 inches in length except minimum size 48 inches in length in waters of the Columbia River and tributaries upstream from Dalles Dam; and

(ii) Maximum size is 60 inches in length.

(c) The possession limit is two daily limits of fresh, frozen or processed sturgeon.

(d) There is a limit of two sturgeon per person for the period January 1 through March 31, 1999. There is an annual personal use limit of 10 sturgeon from April 1st through the following March 31st.

(2) Forage fish: 10 pounds in the aggregate. The possession limit is two daily limits in fresh form. Additional forage fish may be possessed in frozen or processed form.

(3) All other food fish not otherwise provided for in this chapter: No limit.

**WSR 98-24-043  
PERMANENT RULES  
SUPERINTENDENT OF  
PUBLIC INSTRUCTION**

[Order 98-11—Filed November 24, 1998, 3:50 p.m.]

Date of Adoption: November 24, 1998.

Purpose: To implement and update statutory requirements for governing the administration of shared leave programs by school districts and educational districts. Updates include allowing an educational service district employee to transfer his/her personal holiday to another employee; and allows a district employee to transfer sick leave to another employee regardless of whether he/she is in a position which accrues annual leave.

Citation of Existing Rules Affected by this Order: Amending chapter 392-126 WAC.

Statutory Authority for Adoption: RCW 28A.400.380.

Other Authority: RCW 41.04.650 through 41.04.665.

Adopted under notice filed as WSR 98-16-055 on August 3, 1998.

Changes Other than Editing from Proposed to Adopted Version: Refer to attached summary of comments and agency responses [no information supplied by agency].

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 4, Amended 0, Repealed 2.

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.

November 24, 1998

Dr. Terry Bergeson

Superintendent of

Public Instruction

~~((AUTHORITY AND PURPOSE))~~

AMENDATORY SECTION (Amending Order 25, filed 8/21/90, effective 9/21/90)

**WAC 392-126-004 Authority.** The authority for this chapter is RCW 28A.400.380 which authorizes the superintendent of public instruction to adopt rules and regulations promulgating standards governing the administration of the shared leave program which permits sharing of annual and sick leave by school district and educational service district employees and sharing of personal holiday by educational service district employees.

AMENDATORY SECTION (Amending Order 25, filed 8/21/90, effective 9/21/90)

**WAC 392-126-006 Purpose.** The purpose of this chapter is to set forth policies and procedures for the operation of a permissive shared leave program in school districts and educational service districts which permits employees to donate annual (~~and sick~~) leave, sick leave, or personal holiday to a fellow employee who is suffering from or has a relative or household member suffering from an extraordinary or severe illness, injury, impairment, or physical or mental condition which has caused or is likely to cause the employee to take leave without pay or terminate his or her employment.

NEW SECTION

**WAC 392-126-022 Definition—Personal holiday.** As used in this chapter, "personal holiday" means the additional paid holiday per calendar year granted to an educational service district employee pursuant to RCW 1.16.050.

AMENDATORY SECTION (Amending Order 25, filed 8/21/90, effective 9/21/90)

**WAC 392-126-040 Definition—Leave donor.** As used in this chapter, "leave donor" means an employee who has an approved written request for the transfer of annual (~~or sick~~)

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leave, sick leave, or personal holiday to the shared leave program.

**NEW SECTION**

**WAC 392-126-053 Definition—Donated personal holiday.** As used in this chapter, "donated personal holiday" means the amount of personal holiday donated by a leave donor under the shared leave program of an educational service district pursuant to RCW 1.16.050.

**AMENDATORY SECTION** (Amending Order 25, filed 8/21/90, effective 9/21/90)

**WAC 392-126-075 Eligibility.** In the event a district implements a shared leave program, an employee shall be eligible to receive shared leave under the following conditions:

- (1) The employee's job is one in which annual ~~((and/or sick))~~ leave, sick leave, or personal holiday can be used and accrued.
- (2) The employee is not eligible for time loss compensation under chapter 51.32 RCW.
- (3) The employee has abided by district policies regarding the use of sick leave.
- (4) The employee has exhausted, or will exhaust, his or her annual leave ~~((and/or))~~, sick leave and personal holiday.
- (5) The condition has caused, or is likely to cause, the employee to go on leave without pay or terminate district employment.
- (6) Leave sharing is limited to transfers from employees within the same employing district.

**AMENDATORY SECTION** (Amending Order 25, filed 8/21/90, effective 9/21/90)

**WAC 392-126-080 Donation of annual leave.** An employee may donate annual leave to specific individuals or pool using the following criteria:

- (1) The employee may donate any amount of accrued annual leave provided the donation does not cause the employee's annual leave balance to fall below ten days. For the purpose of this section, annual leave does not accrue if the employee receives compensation in lieu of accumulating a balance of annual leave.
- (2) Employees may not donate excess annual leave that the donor would not be able to take because of an approaching date after which the annual leave cannot be used.
- (3) All donated annual leave must be given voluntarily. No employee shall be coerced, threatened, intimidated, or financially induced into donating annual leave.

**AMENDATORY SECTION** (Amending Order 25, filed 8/21/90, effective 9/21/90)

**WAC 392-126-085 Donation of sick leave.** An employee may donate sick leave to specific individuals or pool using the following criteria:

- (1) ~~((The employee must be in a job in which annual leave is not accrued.~~

~~((2))~~ The employee must have accrued more than sixty days of sick leave.

~~((3))~~ (2) Employees may not donate more than six days of sick leave during any twelve-month period.

~~((4))~~ (3) Employees may not donate an amount of sick leave that will result in his or her sick leave account going below sixty days.

~~((5))~~ (4) All donated sick leave must be given voluntarily. No employee shall be coerced, threatened, intimidated, or financially induced into donating sick leave.

**NEW SECTION**

**WAC 392-126-087 Donation of personal holiday.** An educational service district employee may donate part or all of his or her personal holiday to specific individuals or pool.

**AMENDATORY SECTION** (Amending Order 25, filed 8/21/90, effective 9/21/90)

**WAC 392-126-090 Maximum amount.** The district shall determine the amount of shared leave a leave recipient may receive and may only authorize an employee to use up to a maximum of two hundred sixty-one days of shared leave during total ~~((state))~~ district employment. All forms of paid leave available for use by the recipient must be used prior to using shared leave.

**NEW SECTION**

**WAC 392-126-092 Repayment of shared leave used.** An employee who uses leave that is transferred to him or her may not be required to repay the value of the leave that he or she used.

**REPEALER**

The following sections of the Washington Administrative Code are repealed:

- WAC 392-126-003 Termination date.
- WAC 392-126-010 Purpose.

**WSR 98-24-045  
PERMANENT RULES  
DEPARTMENT OF LICENSING**

[Filed November 25, 1998, 9:41 a.m., effective January 1, 1999]

Date of Adoption: November 25, 1998.

Purpose: To adopt rule to increase fees under chapter 18.170 RCW.

Citation of Existing Rules Affected by this Order: Amending WAC 308-18-150.

Statutory Authority for Adoption: Chapter 18.170 RCW.

Adopted under notice filed as WSR 98-20-080 on October 6, 1998.

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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 1, Repealed 0.

Effective Date of Rule: January 1, 1999.

November 25, 1998

Alan E. Rathbun  
Assistant Director

Certified trainer renewal	15.00
License renewal	25.00
Late renewal with penalty	30.00
Certification	25.00

**WSR 98-24-051**  
**PERMANENT RULES**  
**DEPARTMENT OF**  
**SOCIAL AND HEALTH SERVICES**

(Economic Services Administration)

[Filed November 25, 1998, 2:04 p.m.]

Date of Adoption: November 25, 1998.

Purpose: To consolidate and simplify program and eligibility requirements for providing general assistance (GA) and temporary assistance to needy families (TANF) assistance through use of a protective payee. Changes were made to the chapter regulating protective payees to comply with criteria in the Governor's Executive Order 97-02. The changes including elimination of rules of the department regulating itself, items included in the vendor contract, and duplications.

Citation of Existing Rules Affected by this Order: Repealing WAC 388-265-1400; amending WAC 388-265-1150, 388-265-1200, 388-265-1250, 388-265-1275, 388-265-1300, 388-265-1450, 388-265-1500, and 388-265-1600; and new sections WAC 388-265-1155 and 388-265-1375.

Statutory Authority for Adoption: RCW 74.08.090.

Adopted under notice filed as WSR 98-11-074 on May 19, 1998.

Changes Other than Editing from Proposed to Adopted Version: The word "protective" is removed from WAC 388-265-1375(5) in the last sentence describing the designation of the guardian as the "payee" rather than as the "protective payee." This will avoid confusion. Guardians fall under the direction of the court rather than the protective payee process.

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 10, Repealed 3.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, Amended 10, Repealed 3.

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 10, Repealed 3.

Effective Date of Rule: Thirty-one days after filing.

November 25, 1998

Marie Myerchin-Redifer, Manager  
Rules and Policies Assistance Unit

**AMENDATORY SECTION** (Amending WSR 97-17-050, filed 8/15/97, effective 9/15/97)

**WAC 308-18-150 Private security guard company, private security guard, and armed private security guard fees.** The following fees for a one-year period shall be charged by professional licensing services of the department of licensing:

Title of Fee	Fee
Private security guard company:	
Application/examination	\$250.00
Reexamination	25.00
License renewal	250.00
Late renewal with penalty	350.00
Certification	25.00
Private security guard:	
Original license	((35.00)) <u>53.00</u>
Transfer fee	20.00
Certified trainer examination/ reexamination	25.00
Certified trainer renewal	15.00
License renewal	25.00
Late renewal with penalty	30.00
Certification	25.00
Armed private security guard:	
Original license	((45.00)) <u>24.00</u>
Transfer fee	20.00
Certified trainer examination/ reexamination	25.00

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**AMENDATORY SECTION** (Amending WSR 94-10-065, filed 5/3/94, effective 6/3/94)

**WAC 388-265-1150 Protective payee—General information.** (1) ~~((The person chosen as the))~~ A protective payee ~~((may be:~~

- ~~(a) A relative, friend, neighbor, clergy, or member of a church or community service group;~~
  - ~~(b) A person who serves with a voluntary social agency;~~
  - ~~(c) A home economist with a public or private organization;~~
  - ~~(d) A member of a practical nurse association, or other agency;~~
  - ~~(e) For AFDC, a staff member of a public agency administering child welfare, health, rehabilitation, and housing programs;~~
  - ~~(f) A department staff member of homemaker services, housekeeping aide program; or~~
  - ~~(g) An employee of the department when another suitable person is not available.~~
- ~~(2) An employee of the department shall not serve as payee for a client in the employee's regular caseload.~~
- ~~(3) For a GAU client who is determined by the department to be actively addicted, the department shall select a:~~
- ~~(a) Department approved alcohol/drug treatment or assessment agency;~~
  - ~~(b) Designated staff of a community mental health agency;~~
  - ~~(c) Social service agency, individual, or corporation who has a written agreement with the department to provide protective payee services;~~
  - ~~(d) Judicially appointed guardian or other legal representative when such appointment appears to serve the best interests of the client; or~~
  - ~~(e) Department employee.~~
- ~~(4) The department shall give preference to a specialist in home and money management over other department staff.~~
- ~~(5) To avoid conflict of interest, the protective payee may not be:~~
- ~~(a) The office administrator;~~
  - ~~(b) The employee determining the financial eligibility of the client;~~
  - ~~(c) The employee recommending the protective payee plan;~~
  - ~~(d) A vendor of goods and services dealing directly with the client;~~
  - ~~(e) A special investigative or resource employee;~~
  - ~~(f) The employee authorizing payment for the client; or~~
  - ~~(g) For AFDC, any department employee, when the department has legal custody or the responsibility for placement and care of the child.~~
- ~~(6) Standards for selecting a protective payee include, but are not limited to:~~
- ~~(a) Interest and concern in the client's welfare;~~
  - ~~(b) Ability to help the client make proper use of the assistance payment;~~
  - ~~(c) Accessibility to the client or client's family;~~
  - ~~(d) Ability to establish and maintain a positive relationship with the client and client's family; and~~
  - ~~(e) Good character and reliability.~~

~~(7) To the extent possible, the client shall choose the protective payee, or participate in the selection of the protective payee))~~ is a person or agency who manages client cash benefits to provide for basic needs - housing, utilities, clothing, child care and food. They may also provide services such as training clients in money management.

(2) Clients are assigned to protective payees for the following reasons:

- (a) Emergency or temporary situations where a child is left without a caretaker (TANF/SFA);
- (b) Noncooperation with WorkFirst program requirements (TANF/SFA); or
- (c) Mismanagement of money (TANF/SFA or GA).

**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 388-265-1155 Protective payee selection.** (1) Clients may ask for a particular protective payee, but the department makes the final choice.

(2) Protective payees must contract with the department, except for employees of the department who are assigned this function as part of their job duties.

(3) A departmental employee acting as protective payee cannot:

- (a) Have the client in their caseload,
- (b) Have the client in the caseloads of other employees under their supervision,
- (c) Be responsible for determining or issuing benefits for the client,
- (d) Be the office administrator,
- (e) Be a special investigator.

(4) For TANF/SFA, a department employee cannot act as protective payee when the department has legal custody or responsibility for placement and care of the child.

**AMENDATORY SECTION** (Amending WSR 94-10-065, filed 5/3/94, effective 6/3/94)

**WAC 388-265-1200 Emergency ((AFDC)) and temporary protective payees (TANF/SFA).** ~~((1) The department shall make AFDC payment on behalf of a child, in most circumstances, to the parent as the a caretaker relative.~~

~~(2) The department may make payment to another person on behalf of a child, when the caretaker relative is not available, or does not have legal custody of the child.~~

~~(3) The department may pay AFDC to a person, other than a relative of specified degree, acting for the caretaker relative when the:~~

- ~~(a) Emergency situation is temporary;~~
- ~~(b) Person other than the caretaker relative, lives with, and assumes care and supervision of a child;~~
- ~~(c) Emergent situation deprives a child of the care and supervision of the caretaker relative with whom the child lives;~~
- ~~(d) Emergent situation requires the department to make and carry out new plans for the:~~
- ~~(i) Child's continuing care and support; and~~

(ii) ~~Transfer of responsibility for the child to a more permanent arrangement.~~

(4) ~~The emergency payee is not included in the AFDC assistance unit.~~

(5) ~~The department shall provide the client with written notice of the protective payment as described under WAC 388-265-1550.)~~ An emergency protective payee is assigned when a caretaker relative is not available to take care of and supervise a child due to an emergency.

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 97-02-047, filed 12/30/96, effective 1/30/97)

WAC 388-265-1250 Protective payee or vendor payment due to mismanagement of ((grant)) money. (1) ~~The ((rules in this section do not apply)) decision to assign a person to a protective ((payment for the caretaker relative sanctioned by the department due to the refusal or failure of the caretaker relative to cooperate with:~~

(a) ~~The job and opportunities and basic skills training program (JOBS); or~~

(b) ~~The office of support enforcement.~~

(2) ~~The department may use protective or vendor payment for cases in which the client:~~

(a) ~~Has demonstrated severe difficulty in managing money; and~~

(b) ~~For AFDC, has the capacity to learn, in a relatively short time, to manage assistance funds to assure the proper care of the child.~~

(3) ~~The department may authorize protective payment to help improve management and use of money for the best interest of the client.~~

(4) ~~The department shall base a decision to establish a protective payment plan due to the mismanagement of funds on the evidence contained in the case record. The evidence must be specific and clearly establish the fact that the way in which the funds are used by the client threatens the well-being of the child for AFDC or the GAU/SSI client.~~

(5) ~~Evidence of mismanagement includes, but is not limited to:~~

(a) ~~Continued inability to plan and spread necessary expenditures over the usual payment period;~~

(b) ~~Continued evidence that the child or GAU/SSI client is not properly fed and clothed;~~

(c) ~~For AFDC, that expenditures are made in such a way as to threaten the chances for healthy growth and development of the child;~~

(d) ~~Medical or psychological evaluations;~~

(e) ~~An alcohol/drug assessment which establishes incapacity due to alcoholism or drug addiction;~~

(f) ~~Observation of gross physical conditions such as extensive paralysis, serious mental retardation, continued disorientation, or severe memory loss;~~

(g) ~~Persistent and deliberate failure to meet obligations for rent, food, and other essentials; and~~

(h) ~~Repeated evictions or compiling of debts against current income.~~

(6) ~~The department shall provide social services assistance to accomplish the educational and constructive purposes of the protective payment plan.~~

(7) ~~The department shall not use protective or vendor payment when:~~

(a) ~~The basic problem is insufficient funds rather than management of money; or~~

(b) ~~A financial problem is due only to an emergent situation.~~

(8) ~~The department shall provide the client with written notice of the protective payment as described under WAC 388-265-1550.~~

(9) ~~The department may request the attorney general file a petition in the superior court for the appointment of a guardian for a child eligible for AFDC when the caretaker relative is not using the grant adequately for the needs of the child. Such guardianship, as provided under RCW 74.12.250, shall be:~~

(a) ~~Special and limited solely for the purpose of safeguarding the assistance grant made for the needs of a child; and~~

(b) ~~Terminated by the department on termination of the assistance grant, or sooner, upon order of the court))~~ payee because of mismanagement of funds must be based in law, such as teen parents (RCW 74.04.0052) or on documented evidence in the case file. The documentation must be current and show that the mismanagement threatens the well being of a child on TANF/SFA or of the client. Examples of evidence are:

(a) Department employees or others observe the client or client's children are hungry, ill, or not adequately clothed.

(b) Repeated requests for more money, for example emergency additional requirements, or for basic essentials such as food, utilities, clothing, and housing.

(c) A series of evictions or utility shut offs.

(d) Medical or psychological evaluations.

(e) An ADATSA alcohol/drug assessment which establishes incapacity due to alcoholism or drug addiction.

(f) Nonpayment of an in home child care provider when payment has been issued by the department for that purpose.

(g) Complaints from vendors showing a pattern of failure to pay bills or rent.

(2) A lack of money or a temporary shortage of money because of an emergency does not constitute mismanagement.

(3) When a client has a history of mismanaging money, benefits can be paid directly to vendors or through a protective payee.

AMENDATORY SECTION (Amending WSR 97-20-128, filed 10/1/97, effective 11/1/97)

WAC 388-265-1275 ((Protective payment—)) Assigning TANF/SFA or GA pregnant or parenting ((or pregnant)) minors to protective payee. ((Refer to RCW 74.04.0052)) Clients are assigned to protective payees if the clients are:

(1) Under age 18; and

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- (2) Unmarried; and  
 (3) Pregnant or have a dependent child.

**AMENDATORY SECTION** (Amending WSR 94-10-065, filed 5/3/94, effective 6/3/94)

**WAC 388-265-1300 Assigning TANF/SFA clients sanctioned for noncooperation or nonparticipation with WorkFirst activities to protective ((payment—AFDC clients sanctioned for failure, or refusal to cooperate with the job opportunities and basic skills training program (JOBS))) payees.** (1) ((The department shall determine if a client certified to the JOBS program has refused, or failed to participate in the JOBS program without good cause.

(2) The department shall require protective payment for a client determined by the department to not have good cause for refusing, or failing to cooperate with the JOBS program.

(3) The department shall make direct payment to the sanctioned client if the department, after making a reasonable effort, is unable to locate a protective payee.

(4) The department shall select a protective payee following the criteria under WAC 388-265-1500.

(5) The department shall notify the client in writing of protective payment as described under WAC 388-265-1550.

(6) The department shall resume direct payment to the caretaker relative when the department determines that the caretaker relative:

(a) Is participating in JOBS as required by the department; or

(b) Has good cause for refusal to participate in JOBS)) Clients in their second month of sanction for noncooperation or nonparticipation in WorkFirst work activities must be assigned to protective payees.

(2) Clients under sanction remain in protective payee status until they cooperate with WorkFirst and the sanction is removed, as long as they are receiving assistance.

#### NEW SECTION

**WAC 388-265-1375 Transfer from protective payees to guardianship.** (1) In emergency cases where a person is physically or mentally unable to manage their own funds, the client is referred to other divisions of the department for full care, including guardianship.

(2) In cases where a child is eligible for TANF/SFA and the caretaker relative does not use the benefits for adequate care of the child, the case can be referred to the attorney general to establish a limited guardianship.

(3) This process is used only if it appears there is a need for services to go beyond two years.

(4) These guardianships are limited to management of DSHS benefits.

(5) The protective payee plan is changed if a guardian is appointed. The guardian is designated as the payee.

**AMENDATORY SECTION** (Amending WSR 94-10-065, filed 5/3/94, effective 6/3/94)

**WAC 388-265-1450 Protective payee responsibility and fees.** (1) The ((department shall define the)) protective

payee's responsibilities ((in writing. The department will provide a copy of the protective payee's responsibilities to:

- (a) The protective payee;  
 (b) The client; and  
 (c) The case record.

(2) The payee and the department share the responsibility for developing a plan to improve the client's capacity to handle money and to evaluate the client's progress.

(3) The protective payee shall have the authority and responsibility to make decisions about the expenditures of the assistance payment.

(4) The teaching component for AFDC protective payment requires that the caretaker relative participate in the decision making to the extent of the caretaker relative's ability to do so.

(5) The protective payee shall provide an accounting record to the department to verify that they are spending the assistance money on behalf of the client.

(6) The department shall review the protective payee's accounting record and determine the appropriateness of the expenditures.

(7) The protective payee shall return any remaining funds to the department when the protective payee relationship is terminated for any reason)) are to:

(a) Manage client funds to pay bills for basic needs, such as housing and utilities, and as directed in the protective payee plans;

(b) Provide money management for client when this item is included in the protective payee plans;

(c) Urge clients to comply with WorkFirst and other program requirements, such as getting a job or attending school;

(d) Provide reports to the department on client progress.  
 (2) Protective payee vendors are paid up to forty dollars administrative fees per assigned client per month.

**AMENDATORY SECTION** (Amending WSR 94-10-065, filed 5/3/94, effective 6/3/94)

**WAC 388-265-1500 Protective payee ((or vendor payee)) plans.** (1) ((The department shall review the need for protective payment and the)) Δ protective payee((s performance of duties as frequently as indicated by the client's circumstances, but no less than every six months.

(2) The department shall approve a protective or vendor payment plan for AFDC which initially does not exceed a three-month period.

(3) The department may, after the initial review of the AFDC plan, authorize protective payment up to a maximum of twenty-four consecutive months. This plan must be reviewed no less than every six months.

(4) The review shall include an evaluation whether:

(a) Conditions justify continuation, or a modification of the plan;

(b) The protective payee's responsibilities are being carried out appropriately;

(c) The client can be expected to resume the payee function; or

(d) A court-appointed guardian or foster care is needed because:

(i) The client cannot learn the payee functions; and

**WSR 98-24-052**  
**PERMANENT RULES**  
**DEPARTMENT OF**  
**SOCIAL AND HEALTH SERVICES**  
 (Children's Administration)  
 [Filed November 25, 1998, 2:09 p.m.]

Date of Adoption: November 25, 1998.

Purpose: To require annual in-service training of child care providers.

Citation of Existing Rules Affected by this Order:  
 Amending WAC 388-155-010, 388-155-180, 388-155-200, 388-155-470, 388-150-010, 388-150-180, 388-150-200, 388-150-470, 388-151-010, 388-151-180, 388-151-190, 388-151-200, and 388-151-470.

Statutory Authority for Adoption: RCW 74.15.030.

Adopted under notice filed as WSR 98-20-098 on October 7, 1998.

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 13, 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 13, Repealed 0.

Effective Date of Rule: Thirty-one days after filing.

November 25, 1998

Marie Myerchin-Redifer, 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 99-01 issue of the Register.

**WSR 98-24-060**  
**PERMANENT RULES**  
**OFFICE OF THE**  
**STATE TREASURER**  
 [Filed November 30, 1998, 9:13 a.m.]

Date of Adoption: November 26, 1998.

Purpose: To prescribe the procedures to be followed by participants in the local government investment pool, to harmonize existing rules with adopted operating practices and to correct a typographical error.

Citation of Existing Rules Affected by this Order:  
 Amending WAC 210-01-020, 210-01-080, and 210-01-090.

Statutory Authority for Adoption: Chapter 43.250 RCW.

Other Authority: RCW 43.250.090.

~~(ii) It appears the plan will continue beyond two years))~~  
plan is developed for each case assigned to a protective payee.

(2) A copy of the plan is provided to:

(a) The protective payee; and

(b) The client.

(3) Protective payee status must be reviewed:

(a) After an initial three month period; and

(b) At least every six months beyond the initial period for on-going cases.

(4) Reviews include evaluation of:

(a) The need for the client to continue in protective payee status;

(b) The need to change the plan;

(c) The client's potential to assume control of their funds (or be removed from protective payee status); and

(d) Protective payee performance.

AMENDATORY SECTION (Amending WSR 94-10-065, filed 5/3/94, effective 6/3/94)

WAC 388-265-1600 ((~~Termination of~~) **Ending protective payee ((~~or vendor payee payment~~)) status and changing payees.** (((1) The department may remove a protective payee:

(a) Upon the payee's request;

(b) When a different payee is designated by the department;

(c) When the client is ready to resume the payee function; or

(d) When a judge has appointed a guardian or other legal representative.

(2) Vendor payment is discontinued when:

(a) The department locates a person to serve as protective payee; or

(b) When the client is ready to resume the payee function.

(3) If a guardian is appointed for the client the department shall change the protective payee plan and designate the guardian as the protective payee)) **A client may be removed from a protective payee when a:**

(1) Protective payee requests the client be reassigned;

(2) Different protective payee is assigned; or

(3) Protective payee is no longer required.

REPEALER

The following section of the Washington Administrative Code is repealed:

WAC 388-265-1400 Vendor payee.



Adopted under notice filed as WSR 98-21-062 on October 20, 1998.

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 3, 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 3, Repealed 0.

Effective Date of Rule: Thirty-one days after filing.

November 26, 1998

Douglas D. Extine

Deputy Treasurer

**AMENDATORY SECTION** (Amending WSR 96-18-029, filed 8/28/96, effective 9/28/96)

**WAC 210-01-020 Definitions.** Unless the context requires otherwise:

(1) "Local government investment pool" or "pool" means the aggregate of all funds from political subdivisions that are placed in the custody of the state treasurer for investment and reinvestment.

(2) "Pool participant" means any county, city, town, municipal corporation, political subdivision, community and technical college district, the state board for community and technical colleges, or other entities in this state as may be designated by statute.

(3) "Local government official" means any officer or employee of a political subdivision who has been designated by statute or by local charter, ordinance, or resolution as the officer having the authority to invest the funds of the political subdivision.

(4) "Financial officer" means the board-appointed treasurer of a community or technical college district or the state board for community and technical colleges.

(5) "Funds" means public funds under the control of or in the custody of any local government official or local funds, as defined by the ~~((official))~~ office of financial management publication "*Policies, Regulations and Procedures*," under the control of or in the custody of a financial officer by virtue of the official's or financial officer's authority that are not immediately required to meet current demands.

(6) "Financial institution" means a ~~((qualified))~~ public depository as defined in RCW 39.58.010.

**AMENDATORY SECTION** (Amending Resolution No. 639, filed 6/19/86)

**WAC 210-01-080 Deposit procedures.** A pool participant, to receive same day credit, must inform the ~~((state trea-~~

~~surer's office of a deposit by 9:00 a.m. of the day the deposit is to be made))~~ office of the state treasurer of any deposit over one million dollars no later than 9 a.m. on the same day the deposit is made. Deposits for one million dollars or less can be requested at any time prior to 10 a.m. on the day of deposit. All deposits will be made by electronic funds transfer to an account designated by the state treasurer. It is the responsibility of each pool participant to pay any bank charges associated with such electronic transfers to the office of the state treasurer. Failure to wire funds by a pool participant (after notification to the state treasurer of an intended transfer) will result in a bank overdraft in the state treasurer's bank account. Bank penalties for overdrafts will be assessed to those pool participants responsible for the overdraft.

**AMENDATORY SECTION** (Amending Resolution No. 639, filed 6/19/86)

**WAC 210-01-090 Withdrawal procedures.** A pool participant, in order to withdraw funds from the pool, must notify the ~~((state treasurer by 9:00 a.m. of the day on which the withdrawal will take place))~~ office of state treasurer of any withdrawal over one million dollars no later than 9 a.m. on the same day the withdrawal is made. Withdrawals for one million dollars or less can be requested at any time prior to 10 a.m. on the day of withdrawal. Each local government entity participating in the pool shall file with the state treasurer a letter designating the financial institution at which funds withdrawn from the pool shall be deposited. This letter shall contain the name of the financial institution, location of the financial institution, account number to which funds will be deposited and account name. This letter shall be signed by local officials authorized to receive and disburse funds, as described in WAC 210-01-030. Disbursements from the pool will be by electronic funds transfer. Failure of the state treasurer to wire funds to a pool participant (after proper notification to the state treasurer to disburse funds to a pool participant) may result in a bank overdraft in the pool participant's bank account. The state treasurer will reimburse pool participants for such bank overdraft penalties charged to the pool participant's bank account.

**WSR 98-24-069**

**PERMANENT RULES**

**DEPARTMENT OF REVENUE**

[Filed November 30, 1998, 3:40 p.m.]

Date of Adoption: November 30, 1998.

Purpose: Proposed WAC 458-20-262 explains the retail sales and use tax exemptions provided by RCW 82.08.02745 and 82.12.02685 for the construction, repair, decorating, or improvement of new or existing buildings or other structures that will be used to provide housing to the employer's agricultural employees. The rule also provides a sample exemption certificate to be used to substantiate the exempt nature of a sale.

Statutory Authority for Adoption: RCW 82.32.300 and 82.08.02745.

Adopted under notice filed as WSR 98-16-025 on July 28, 1998.

Changes Other than Editing from Proposed to Adopted Version: Language has been added to subsection (3)(a) to clarify what does and does not qualify as an exempt ingredient or component part of agricultural housing. The rule now provides specific examples of tax exempt ingredients or components (e.g., lumber and wallpaper). The rule now explains that property bolted or strapped to another item bolted or strapped to the structure qualifies for the exemption (e.g., a television set bolted to a refrigerator that is strapped to the structure). The rule now provides examples of items that do not qualify for the exemption, including kitchen utensils and throw rugs.

The rule has been revised to remove the term "year-round employee" from the second paragraph of subsection (4). The previous draft stated that the full amount of tax is due if at any time agricultural employee housing not located on agricultural land ceases to be used by year-round employees. This restriction is not provided in the exemption statutes.

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 1, 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.

November 30, 1998

Russell W. Brubaker  
Assistant Director

(b) "Agricultural employer" means any person engaged in agricultural activity, including the growing, producing, or harvesting of farm or nursery products, or engaged in the forestation or reforestation of lands, which includes but is not limited to the planting, transplanting, tubing, precommercial thinning, and thinning of trees and seedlings, the clearing, piling and disposal of brush and slash, the harvest of Christmas trees, and other related activities (RCW 19.30.010).

(c) "Agricultural employee housing" means all facilities provided by an agricultural employer, housing authority, local government, state or federal agency, nonprofit community or neighborhood-based organization that is exempt from income tax under section 501(c) of the Internal Revenue Code of 1986 (26 U.S.C. sec. 501(c)), or for-profit provider of housing for housing agricultural employees on a year-round or seasonal basis, including bathing, food handling, hand washing, laundry, and toilet facilities, single-family and multifamily dwelling units and dormitories, and includes labor camps under RCW 70.54.110. The term also includes but is not limited to mobile homes, travel trailers, mobile bunkhouses, modular homes, fabricated components of a house, and tents. Agricultural employee housing does not include housing regularly provided on a commercial basis to the general public (chapter 438, Laws of 1997). Agricultural employee housing does not include housing provided by a housing authority unless at least eighty percent of the occupants are agricultural employees whose adjusted income is less than fifty percent of median family income, adjusted for household size, for the county where the housing is provided.

(d) "Person" means any individual, receiver, administrator, executor, assignee, trustee in bankruptcy, trust, estate, firm, copartnership, joint venture, club, company, joint stock company, business trust, municipal corporation, political subdivision of the state of Washington, corporation, limited liability company, association, society, or any group of individuals acting as a unit, whether mutual, cooperative, fraternal, nonprofit, or otherwise and the United States or any instrumentality thereof (RCW 82.04.030).

(e) "Agricultural land" has the same meaning as "agricultural and farm land" in RCW 84.34.020(2).

(3) **Retail sales and use tax exemptions for agricultural employee housing.** RCW 82.08.02745 and 82.12.02685, respectively, provide retail sales tax and use tax exemptions for the purchase, construction, and use of agricultural employee housing. Both exemptions require that agricultural employee housing provided to year-round employees of the agricultural employer must be built to the current building code for single-family or multifamily dwellings according to the state building code, chapter 19.27 RCW. Neither of these exemptions apply to housing built for the occupancy of an employer, family members of an employer, or persons owning stock or shares in a farm partnership or corporation business.

(a) The retail sales tax does not apply to charges for labor and services rendered by any person in respect to the constructing, repairing, decorating, or improving of new or existing buildings or other structures used as agricultural employee housing. Also exempt are sales of tangible personal property that becomes an ingredient or component of the buildings or other structures, including but not limited to

## NEW SECTION

**WAC 458-20-262 Retail sales and use tax exemptions for agricultural employee housing.** (1) **Introduction.** RCW 82.08.02745 and 82.12.02685 provide a retail sales and use tax exemption for agricultural employee housing as of March 20, 1996. Chapter 438, Laws of 1997, effective May 20, 1997, amended both RCW 82.08.02745 and 82.12.02685 by limiting the exemptions and allowing additional agricultural employee housing providers to receive the exemption. This rule also explains the exemptions, who is entitled to the exemption and the required information to be contained in an exemption certificate.

(2) **Definitions.** The following definitions apply throughout this section.

(a) "Agricultural employee" means any person who renders personal services to, or under the direction of, an agricultural employer in connection with the employer's agricultural activity (RCW 19.30.010).

septic tanks, pump houses, cisterns, and driveways. Examples of ingredients or components include but are not limited to cement, lumber, nails, paint and wallpaper.

(i) Appliances and furniture, including but not limited to stoves, refrigerators, bed frames, lamps and television sets, bolted or strapped directly to the building or structure are considered components of the building or structure. Additionally, appliances and furniture bolted or strapped to another item that is bolted or strapped directly to the building or structure (e.g., a television set bolted to a refrigerator that is strapped to the structure) are considered components of the building or structure.

(ii) Items that are not bolted or strapped directly to the building or structure, or to another item similarly bolted or strapped, do not qualify for this exemption. These items include but are not limited to kitchen utensils, mattresses, bedding, portable heating units, and throw rugs. Stoves, refrigerators, bed frames, lamps and television sets that are not bolted or strapped as discussed in (a)(i) of this subsection, also do not qualify as components of the building or structure.

(iii) Purchases of labor and transportation charges necessary to move and set up mobile homes, mobile bunkhouses, and other property and component parts as agricultural employee housing are exempt of retail sales tax.

(iv) As a condition for exemption, the seller must take from the buyer an exemption certificate which substantially contains the information included in the sample form provided in subsection (5) of this section. The seller may accept a legible FAX or duplicate copy of an original exemption certificate. In all cases, the exemption certificate must be accepted in good faith by the seller, and must be retained by the seller for a period of at least five years. An exemption certificate may be provided for a single purpose, or for multiple purchases over a period not to exceed four years. Failure to comply with the provisions in this section may result in a denial of the exemption and the agricultural employer may be subject to use tax plus penalties and interest. Copies of the sample form provided in subsection (5) of this section are available through the department of revenue's taxpayer services division (360) 753-7634.

(b) The use tax exemption is available for the use of tangible personal property that becomes an ingredient or component of buildings or other structures used as agricultural employee housing during the course of constructing, repairing, decorating, or improving the buildings or other structures by any person. Again, appliances and furniture that are bolted or strapped to the actual building or structure are considered components of the building or structure.

(i) The exemption for materials incorporated into buildings or other structures used as agricultural employee housing also applies to persons/consumers constructing these buildings or structures for the federal government or county housing authorities. (See also WAC 458-20-17001 on government contracting.)

(ii) An agricultural employer claiming the exemption who retitles a used mobile home or titles a new mobile home acquired from an out-of-state seller must provide a completed exemption certificate to the department of licensing or its agent to substantiate the exempt nature of the home.

(4) **Requirement to remit payment of tax if agricultural housing fails to continue to satisfy the conditions of exemption.** The agricultural employee housing must be used for at least five consecutive years from the date the housing is approved for occupancy to retain the retail sales and use tax exemption. If this condition is not satisfied, the full amount of tax otherwise due shall be immediately due and payable together with interest, but not penalties, from the date the housing is approved for occupancy until the date of payment.

If at any time agricultural employee housing that is not located on agricultural land ceases to be used as agricultural employee housing, the full amount of tax otherwise due shall be immediately due and payable with interest, but not penalties, from the date the housing ceased to be used as agricultural employee housing.

(5) **Retail sales tax exemption certificate.** The agricultural employer (buyer) must provide an exemption certificate to a seller to show entitlement to the exemption provided by the statute. This exemption certificate must be substantially in the form shown below.

**AGRICULTURAL EMPLOYEE HOUSING EXEMPTION CERTIFICATE**

**This exemption certificate is to be solely for allowable purchases by an agricultural employee housing provider.**

1. Name of Seller:

\_\_\_\_\_

2. Name of Agricultural Employee Housing Provider:

\_\_\_\_\_

3. Address of Agricultural Employee Housing Provider:

\_\_\_\_\_

*Street, City, State      Zip Code*

4. Agricultural Employee Housing Providers UBI/Registration No.:

\_\_\_\_\_

PERMANENT

**For the purpose of the exemption, the agricultural employer certifies the following:**

- The buildings or other structures built on agricultural land will be used as agricultural employee housing for at least five years from the date the housing is approved for occupation otherwise the entire tax becomes due plus interest from the time the housing ceases to be used for agricultural housing until date of payment.
- It is understood that buildings or other structures built on nonagricultural land must conform to the state building code and be provided to year-round agricultural employees otherwise the total tax exempted is due plus interest from the date the housing ceases to be used as agricultural employee housing as defined in WAC 458-20-262(3) until date of payment.
- The buildings or other structures used to house year-round agricultural employees will be constructed to meet the state building code (chapter 19.27 RCW) for single-family or multifamily dwelling.
- The buildings or other structures will not be used as housing for an employer, family members of an employer, or persons owning stock or shares in a farm partnership or corporation business.
- The buildings or other structures will not be used to regularly provide housing on a commercial basis to the general public.
- If purchases are being made to construct agricultural employee housing for a housing authority, at least eighty percent of the occupants will be agricultural employees whose adjusted gross income is less than fifty percent of median family income adjusted for household size, for the county where the housing is provided.

Is the agricultural employee housing being built on agricultural land: Yes  No

If yes, please provide parcel number: \_\_\_\_\_

Print Name of Buyer: \_\_\_\_\_

Signature: \_\_\_\_\_

Date Signed: \_\_\_\_\_ Effective Date: \_\_\_\_\_ through \_\_\_\_\_ (Not to exceed 4 years)

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**WSR 98-24-072  
PERMANENT RULES  
DEPARTMENT OF  
LABOR AND INDUSTRIES**

[Filed November 30, 1998, 4:01 p.m., effective January 1, 1999]

Date of Adoption: November 30, 1998.

Purpose: Adoption of rules applicable to the department's retrospective rating program requested by business and to comply with Executive Order 97-02.

Citation of Existing Rules Affected by this Order:  
Repealing WAC 296-17-904 Definitions, 296-17-910 Qualifications for group insurance, 296-17-911 Group dividends, 296-17-912 Retrospective rating plan, 296-17-913 Qualifications for employers, 296-17-915 Evaluation of incurred

losses, 296-17-916 Retro premium adjustment, 296-17-91601 Ninety-day open option, 296-17-917 Qualifications for group, 296-17-918 Limitation of liability indemnification, 296-17-91901 Table II, 296-17-91902 Table III, 296-17-91903 Table IV, 296-17-91904 Table V and 296-17-91905 Table VI; and amending WAC 296-17-914 Retro premium formula.

Statutory Authority for Adoption: RCW 51.16.035.

Adopted under notice filed as WSR 98-21-077 on October 21, 1998.

Changes Other than Editing from Proposed to Adopted Version: Change #1:

WAC 296-17-91202 - Definitions (proposed version)

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**Adjustment:** Is the term the department uses to denote the numerical result of subtracting the retrospective premium from the standard premium. The result can be zero or it can be a negative or positive number. If the retrospective premium is less than the standard premium, you will get a refund of the difference. In the event that your retrospective premium is more than your standard premium we will bill you for the additional premium due.

Loss Development Factor (LDF)

Minimum Premium Ratio (MnPR):

Pension Claim

WAC 296-17-91202 - Definitions (adopted version)

**Adjustment:** The process of calculating retrospective premium, and any resulting refunds or assessments. For the first adjustment of a coverage period, retrospective premium is compared to the standard premium due. In subsequent adjustments of the coverage period, the new retrospective premium is compared to the prior retrospective premium to determine the amount of refund or assessment.

Loss Development Factor (LDF)

Minimum Premium Ratio (MnPR):

Pension Claim

Change #2

WAC 296-17-91205 (proposed)

(2)(b) Since the enhancement...a request for certification or recertification...

WAC 296-17-91205 (adopted version eliminates the words "or recertification")

(2)(b) Since the enhancement...a request for certification...

Change #3

WAC 296-17-91208 (proposed)

(1) Yes. Once we have...at the time of certification or recertification exists:

(2) The first step...The use of multiple groups cannot be used to circumvent the homogeneity requirement of the organization contained in RCW 51.16.035.

WAC 296-17-91208 (adopted versions eliminates the words "or recertification" in subsection (1) and the last sentence in subsection (2) after the table but before the example).

(1) Yes. Once we have...at the time of certification exists:

(2) Eliminates the following sentence. The use of multiple groups cannot be used to circumvent the homogeneity requirement of the organization contained in RCW 51.16.035.

Change #4

WAC 296-17-91210 (proposed)

Second sentence ...This analysis consists of ...dues paying members business, the risk classifications...

WAC 296-17-91210 (adopted version eliminates the comma and adds the word "and")

Second sentence ...This analysis consists of ...dues paying members business and the risk classifications...

Change #5

WAC 296-17-91216 (proposed)

Second sentence ...Our first evaluation would occur mid-April...

WAC 296-17-91216 (adopted version adds the year "2000" to the text)

Second sentence ...Our first evaluation would occur mid-April 2000...

Change #6

WAC 296-17-914 is shown as a new rule in the filing. It is an existing rule so it should be reflected as being amended.

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 29, Amended 1, Repealed 15.

Number of Sections Adopted on the Agency's Own Initiative: New 29, Amended 1, Repealed 15.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 29, Amended 1, Repealed 15.

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 29, Amended 1, Repealed 15.

Effective Date of Rule: January 1, 1999.

November 30, 1998

Gary Moore

Director

#### NEW SECTION

**WAC 296-17-91201 Introduction.** Washington Administrative Code (WAC) 296-17-91201 through 296-17-91406 and 296-17-919 contains the general rules applicable to the department's voluntary retrospective rating program. We refer to these rules (WACs) as sections and the complete body of information as the retrospective rating manual. The retrospective rating manual contains sections (WACs) that define or explain:

- Words or phrases which we use;
- The steps you must take to participate in the program;
- How group plans are authorized;
- Why members of a group must be involved in similar business operations;
- The need to have an insurance account with the department and keep it in good standing in order to participate in this voluntary rating plan;
- Workplace safety requirements of the plan;
- Formulas used to establish retrospective premium;
- Premium size tables;
- Plan tables.

#### NEW SECTION

**WAC 296-17-91202 Definitions.** In developing the general reporting rules and tables for retrospective rating, we have used certain words or phrases that could have several meanings. Appendix A of this manual contains a list of words or phrases defined by law (Title 51 RCW). To reduce misunderstandings which can result by our use of certain

words or phrases not defined in law (Title 51 RCW), we have developed definitions which will govern what these words or phrases mean for purposes of the retrospective rating program.

**Account in good standing:** The term "account" means an individual employer's industrial insurance account and related subaccounts, or a group's retrospective rating account. For an account to be in good standing, the employer and/or group must have submitted all of the required reports and paid all industrial insurance premium payments, assessments, penalties and interest when due and on time. This requirement also includes other fees, fines, penalties and assessments established by the department such as safety violations and computer access fees. An account may be deemed to be in good standing if the employer or group (organization) is current with a repayment agreement with the department.

**Adjustment:** The process of calculating retrospective premium, and any resulting refunds or assessments. For the first adjustment of a coverage period, retrospective premium is compared to the standard premium due. The difference will be refunded if the retrospective premium is lower than the standard premium due. You will be assessed the difference if the retrospective premium is higher than the standard premium due. In subsequent adjustments of the coverage period, the new retrospective premium is compared to the prior retrospective premium to determine the amount of refund or assessment.

**Basic premium ratio (BPR):** A component of the retrospective rating premium formula, the BPR represents the portion of standard premium that covers administrative costs (except claims handling) and an insurance charge which enables us to limit your retrospective premium requirement. BPRs can be found in WAC 296-17-91402 through 296-17-91406.

**Case reserve:** The department's estimate of cost associated with a specific claim over the lifetime of the claim.

**Coverage period:** A twelve-month period beginning January 1 and ending December 31, or April 1 through March 31, or July 1 through June 30, or October 1 through September 30. Only claims with a date-of-injury within the selected coverage period and standard premium due for the same coverage period are used to calculate retrospective premium. The coverage period is selected by the group or individually enrolled employer.

**Developed losses, a.k.a. total incurred losses (developed):** A component of the retrospective rating premium formula. Based on historical trends we know that the total incurred losses for open claims in a coverage period tend to increase over time. This can be the result of claim reopenings, changes in time loss duration, increased medical utilization, etc. The developed losses computation anticipates and distributes these increases among all the participants in a coverage period. Developed losses for pension claims are determined by multiplying their incurred losses by the applicable performance adjustment factor. For nonpension claims, developed losses are determined by multiplying their incurred losses by the applicable loss development factors.

**Evaluation date:** The date selected by the department in which incurred losses for applicable claims are measured

and captured for the purpose of calculating retrospective premium. Changes in incurred losses that occur after an evaluation date will not be considered until the next applicable evaluation date. The initial evaluation date is between nine and ten months after the coverage period ends. The next evaluation will occur twelve months later. If you elect an optional third and fourth year adjustment the evaluation date will occur in twelve month intervals. The evaluation date is also referred to as a "freeze date."

**Freeze date:** See evaluation date.

**Group:** Employer members of an organization who have agreed to have their retrospective premium calculated using the combined applicable standard premium and related loss data of the participants as a whole.

**Homogeneity:** An insurance term used to denote a similarity between two or more business risks. Although it is rare that any two businesses will be identical, similar businesses have similar exposure to occupational injury and disease.

**Incurred losses:** A term we use to denote a cost component of a claim. For open claims, incurred losses are the total of costs paid-to-date which have been assigned to a given employer account, or the case reserve established by the department, whichever is greater. For closed claims, incurred losses are the total of costs paid-to-date which have been assigned to a given employer account, regardless of any case reserve that may have been established.

**Loss conversion factor (LCF):** A component of the retrospective premium formula, the LCF represents an expense charge for claims handling and the present value of developed losses. LCFs can be found in WAC 296-17-91402 through 296-17-91406.

**Loss development factor (LDF):** LDFs are actuarially determined factors that are multiplied by incurred losses of nonpension retro claims to produce developed losses. LDFs are unique to each coverage period, but are the same for every nonpension retro claim in the coverage period. They are periodically recalculated. LDFs shown on retro reports have already been adjusted by the applicable performance adjustment factor.

**Loss ratio:** The numerical result when dividing developed losses by standard premium.

**Maximum premium ratio (MPR):** A factor presented by the organization (group) or individually enrolled employer that determines the maximum retrospective premium requirement for a given coverage period. MPRs can be found in WAC 296-17-91402 through 296-17-91406.

**Minimum premium ratio (MnPR):** For plans A1, A2 and A3, an actuarially determined factor that determines the minimum retrospective premium requirement for a given coverage period. MnPRs can be found in WAC 296-17-91404 through 296-17-91406.

**Pension claim:** A claim designated as a fatality or total permanent disability.

**Performance adjustment factor (PAF):** An actuarially determined factor unique to each retro coverage period which ensures that aggregate refunds are proportional to the relative performance of retro versus nonretro state fund employers.

**Plan:** A numeric table developed by the department used to calculate the retrospective premium requirement of a group or individually enrolled employer. A group or individually enrolled employer preselects one of five plans (A, A1, A2, A3 or B). The chosen plan will determine (along with the MPR and standard premium) which basic premium ratio, loss conversion factor and minimum premium ratio will be used to calculate the group or individually enrolled employer retrospective premium requirement.

**Premium:** Money paid (due) from an employer for workers' compensation insurance. It does not include money paid as fees, fines, penalties or deposits.

**Retrospective premium:** The net premium for a group or individually enrolled employer after an adjustment for a given coverage period, using the formulas and provisions found in WAC 296-17-914, 296-17-91402 through 296-17-91406 and 296-17-919.

**Standard premium:** The total accident fund and medical aid fund premiums paid (due) by a group or individually enrolled employer for a given coverage period. The supplemental pension assessment portion of total premiums due (paid) is not included. If the group includes employers subject to the staggered enrollment provision of the retrospective rating rules, the standard premium is the total premiums due (paid) for the calendar months in which they have been accepted into a group.

#### NEW SECTION

**WAC 296-17-91203 Can you give me an overview of the retrospective rating program?** Retrospective rating is a voluntary program offered by the department to a qualified employer or group of employers that insure their workers' compensation insurance obligations with the state fund. It offers financial incentives to participants to reduce their workers' compensation claim costs. Reductions in workers' compensation claim costs are accomplished in part through employer or group sponsored safety and accident prevention programs and effective claims management practices. The criteria that must be met to be considered a "qualified employer" can be found in WAC 296-17-91204. Qualified employers that enroll in an individual or group retrospective rating plan must participate in the program through the end of a coverage period if their account remains active. The department allows an organization sponsoring a group plan to enroll new employer members into their group on a quarterly basis. We refer to this as a staggered enrollment. Because of this feature, participation for employers in a group plan can be as short as three months or as long as twelve months. All retrospective rating participants agree to be subject to the provisions of the rules contained in the retrospective rating manual. Final determination of employer or group eligibility, account in good standing, evaluation of incurred losses and such other matters covered by the rules contained in the retrospective rating manual rest with the department. An organization may request in writing that a member be removed from a group plan during a coverage period. The organization must set forth the reasons why the member should be removed from the group plan. The department may grant the removal request only in instances where the member of the

organization has been convicted of criminal activities or civil infractions related to business practices of the member such as underpayment of taxes to any governmental agency, violation of environmental laws, theft of government managed resources such as timber, or willful violation of safety and health standards. Department determinations applicable to the retrospective rating program are subject to review under RCW 51.52.060.

#### NEW SECTION

**WAC 296-17-91204 I understand that there are specific requirements that an employer must meet before they can participate in either individual or group retrospective rating. Can you tell me what these requirements are?** Yes. The requirements are:

(1) Any employer that wishes to participate in the retrospective rating program must have an industrial insurance account with the department.

(2) Each employer's account must be in good standing at the time of enrollment.

(3) The department may require the posting of a surety bond or other security deposit. If so, it will be executed on forms authorized by the department and be in one thousand dollar increments. The surety bond or security deposit requirement will be based on the difference between the participants' estimated standard premium and the maximum premium due under the applicable retrospective rating plan. In the event that surety bond or security deposit requirement falls within two increment ranges, the bond will be at the higher increment level. The surety bond or security deposit must be in full force and effect for the entire coverage and the related adjustment periods.

#### NEW SECTION

**WAC 296-17-91205 I understand that there are specific prerequisites that an organization must meet to sponsor a retrospective rating group plan. Can you tell me what these requirements are?** Yes. Before further consideration can be given to an organization's request to sponsor a retrospective rating group plan they must meet all the following requirements in addition to any other requirements contained in the retrospective rating manual.

(1) The organization must have been in existence for at least two years.

(a) To validate this, the organization must provide the department with copies of its articles of incorporation, bylaws and marketing/membership applications or similar material, accompanied with an affidavit certifying that the documents are true and the information contained in the documents is accurate as of the date of submittal.

(b) The department will verify this information through contacts with various state, local and federal agencies and other businesses.

(2) The organization must have been formed for purposes other than sponsoring a group plan and participating in the department's retrospective rating program.

(a) The department will verify the purpose(s) of the organization from the information contained in the articles of

incorporation, bylaws, contracts and/or advertising material of the organization.

(b) Since the enhancement of workplace safety for the group is a principal requirement of the retrospective rating program, an organization, which at the time of a request for certification offers services which are limited to risk management, safety, loss control, claims administration or insurance will be deemed to be set up for the sole purpose of participating in the retrospective rating program and will not qualify to participate in this program.

(3) Employer members of the proposed retrospective rating group must be dues paying members of the organization. We recognize that some organizations may be funded through member donations and not dues. The intent of this requirement is that the members of the organization be current members as opposed to potential members. Where an organization's members do not pay dues the organization must provide a list of its current members and a written explanation of how member contributions are determined.

(a) An organization seeking to sponsor a group retrospective rating plan must submit a complete list of its current membership to the department accompanied with an affidavit certifying the list to be true and accurate as of the date of submittal.

(b) Each employer member that wants to participate in the organization's retrospective rating group plan must be in good standing with the organization and the department.

(c) Each employer member that wants to participate in the organization's retrospective rating group plan must provide us with a written request on a form provided by the department. Completion and submission of this application to the department signifies the employer's desire to participate in the organization's retrospective rating group plan if it is approved. The proposed retrospective rating group plan membership list must be submitted with the group application of the organization and the other material listed in subsection (2) of this section.

(4) The organization's industrial insurance account and retrospective rating account must be in good standing at all times, including the application process and the coverage and adjustment periods.

**NEW SECTION**

**WAC 296-17-91206 Are there other qualifying requirements that an organization must satisfy once the preliminary requirements have been met?** An organization seeking to sponsor a retrospective rating group must submit a written plan which demonstrates to the department's satisfaction that the formation of the group will substantially improve workplace safety, accident prevention and claims management for the employers in the group. An organization whose retrospective rating group is required to pay additional net premium assessments in two consecutive coverage periods will be placed on probationary status. If the organization is required to pay an additional premium assessment in the third consecutive coverage period, they will be denied future enrollment in the program until they can demonstrate that the deficiencies that led to the additional assessments have been corrected.

**NEW SECTION**

**WAC 296-17-91207 I have several businesses that have been combined for experience rating purposes because of common majority ownership. They still report and pay premiums using separate sub-accounts. If I want to participate in retrospective rating, do I need to enroll all of my businesses or can I enroll some and not the others?**

(1) Because an employer might manipulate their company's safety record by use of multiple industrial insurance accounts, employers enrolling a particular account in either an individual or group plan must enroll all businesses that they own or have a controlling interest whose nature of business is substantially the same. A controlling interest is defined as more than fifty percent ownership by one or more owners.

(2) If you have several businesses which are dissimilar to each other when the nature of the service is considered, you may elect to have all of the businesses covered under a retrospective rating plan or just one or more of the businesses.

**Example:** You operate a chain of ten grocery stores. Each store is operated at a different location. You have requested that each store be assigned a special account. In addition to the ten stores, your company also has a separate administrative office. This office reports under the clerical classification. Under subsection (1) of this section you must enroll all of your store locations if you are to participate in a retrospective rating plan. You may elect to include your administrative office under subsection (2) of this section.

**NEW SECTION**

**WAC 296-17-91208 Is there a requirement for employer members of an organization to be engaged in substantially similar businesses to participate in the organization's group plan?** (1) Yes. Once we have determined that the organization at the time of certification exists:

(a) For purposes other than sponsoring a group and participating in the department's retrospective rating program;

(b) Has been in existence with members for over two years; and

(c) Will serve to encourage improvements in work place safety and effective claims management practices, we will verify that the occupations or industries of the employer members of the organization are substantially similar.

(2) The first step in this process is for the organization to select the retrospective rating group plan(s) it wishes to sponsor from a single general industry/business group from the table below:

**Industry/business group table**

- Agriculture and related services.
- Automotive, truck and boat - manufacturing, sales, repair and related services.
- Construction and related services.
- Distillation, chemicals, food and related services.
- Facilities, property management, maintenance and related services.

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- Government, utilities, schools, healthcare and related services.
- Healthcare, pharmaceutical, laboratories and related services.
- Logging and wood products manufacturing and related services.
- Manufacturing - and related services.
- Retail and wholesale stores and professional services such as banks and law firms and related services.
- Temporary help services.
- Transportation, recycle, warehousing, facility maintenance and related services.

The intent of this process is to ensure that the homogeneity requirement of RCW 51.16.035 is met. This is accomplished by requiring an organization to select a single industry/business group from which it will form its group or groups. Whether the organization sponsors one group or multiple groups they must be within the same industry/business grouping.

**Example:** An organization that was formed to advance the interests of apple growers would select the agriculture and related services business/industry group plan. This organization could sponsor a single group for all its grower members or could offer different performance groups for its grower members.

(3) To simplify administration and keep to a minimum the administrative costs associated with devising a different classification system for the retrospective rating program, the retrospective rating program follows the same classification procedure established by the department to assign workers' compensation insurance classifications to an employer (WAC 296-17-31012). This procedure requires employers to be assigned a classification or series of classifications based on the nature of their business, not the occupations or duties of the workers they employ. Only those members whose business undertakings are substantially similar to the industry/business group selected by the organization will be permitted to participate. This grouping technique is fundamental to workers' compensation insurance and is referred to as "homogeneity of risk."

**Example:** Having selected the agriculture and related services business/industry grouping the department would verify that the employer members of the apple grower organization were either apple growers or were involved in a related service such as an apple processing operation owned by the grower.

#### NEW SECTION

**WAC 296-17-91209 Do all organization members enrolled in a retrospective rating group plan have to report within one classification?** No. Although it might be desirable for all members of the retrospective rating group to be covered under a single common classification, that approach would not be practical since most employers have more than one classification under which they report and pay premiums. We do, however, require that the members of the

organization participating in the group be engaged in substantially similar businesses. An otherwise qualifying account which has additional risk classifications not authorized for the group can still be permitted to enroll with the group. This assumes that the organization agrees to the added risks as a part of their group plan. Under no circumstance does this provision allow an organization to market their plan to existing members and or prospective members that report in these heterogeneous classifications.

**Example:** An employer operates an apple orchard and a separate car repair business. This employer could request an organization sponsoring an agricultural group to include the car repair business in their group provided their agricultural (apple orchard) was also enrolled. The organization sponsoring the agricultural and related services group could not enroll a car repair business in their group if the employer member did not also have an agricultural business also enrolled in the group plan.

#### NEW SECTION

**WAC 296-17-91210 Can you tell me how the authorized classifications for a retrospective rating group plan are determined?** Yes, the authorized classification or classifications of a group is determined from an analysis of an organization's current dues paying membership that have submitted applications to participate in the plan. This analysis consists of evaluating the nature of each current dues paying member's business and the risk classification(s) that our underwriters have assigned to those businesses. The department may also rely on information obtained from applicable field audit and classification inspection reports. Only those individual current dues-paying members of an organization or members described in WAC 296-17-91205(3) that are homogeneous (substantially similar) will be considered in determining the classifications authorized for the organization's retrospective rating group. This analysis ensures compliance with the requirement (RCW 51.16.035) that the industries of employers in an organization are substantially similar.

#### NEW SECTION

**WAC 296-17-91211 After a retrospective rating group plan has been authorized a classification or classifications, can an organization be allowed additional classifications at a later date?** The department may authorize an existing retrospective rating group to obtain additional classifications under the following circumstances:

(1) The department has created a new classification which is substantially similar to the nature of the business or businesses authorized for the group;

**Example (a):** Several years ago the department covered all forms of logging under a single logging classification. Changes in technology created new methods of logging leading to a new emerging industry of mechanized logging. To address this change the department created a new classification to cover this form of logging. If a retrospective rating group which included the general logging industry wanted

employers assigned the new mechanized logging classification in their group, they could request the addition of this classification and the department would in this case grant approval.

(2) Changes in technology, materials, processes or industry practices if they are substantially similar to the overall process and nature of the business or businesses authorized for the group; or

**Example (b):** Consider a homeowner that wants to have a deck built onto their house. A few years ago the homeowner's choices were limited to wood products. As technology has changed, and new products were developed, the homeowner is now provided a number of options such as polymer based composites. These new products are installed in much the same way as wood decking. Assume the new product is cut, handled and stacked in the same way as wood decking. A retrospective rating group involved in wood products manufacturing could be authorized the classification related to this manufacturing process based on a change related to technology.

(3) Changes in market conditions provided the overall scope of service has not changed.

**Example (c):** A farmer that has historically been engaged in growing hops learns that the market conditions for this crop make it necessary for the farmer to diversify to another crop or livestock. Assume this grower participates in a narrow based organization that was not authorized the classification for the other crop or livestock. This organization could request the additional classification.

The organization must petition the department for the additional classification(s). The request must be in writing and include detail as to how the new classification(s) are substantially similar to others currently assigned to the group. The request and recommendation(s) proposed by the department will be available for public review and comment. This will be done on the same day either before or after the regular business meeting of the retro advisory committee. Information and comments presented by the public at the meeting will be considered by the department prior to final determination. Final approval of classifications rests with the department. Determinations applicable to the retrospective rating program are subject to review under chapter 51.52.060 RCW.

#### NEW SECTION

**WAC 296-17-91212 Does an organization have to reapply each year for authorized classifications applicable to their retrospective rating group plan?** (1) Once the department approves a classification or a series of classifications for an organization's retrospective rating group, no further reapplication is necessary. Exceptions to this policy are noted in subsections (2) and (3) of this section.

(2) The department will review the past reporting of an organization's retrospective rating group members annually. If we discover a classification or series of classifications under which no worker hours were reported during the prior fiscal year (ending June 30) by the group members, we will

remove the classification from the group. The organization can apply to have the classification reinstated if they have members reporting in the classification or classifications in the previous and current year.

(3) New groups formed on or after July 1, 1999, will be required to present their written request for approval to the department. The request and recommendation(s) proposed by the department will be available for public review and comment. This will be done on the same day either before or after the regular business meeting of the retro advisory committee. Information and comments presented by the public at the meeting will be considered by the department prior to final determination. Final approval rests with the department. Department determinations applicable to the retrospective rating program are subject to review under chapter 51.52.060 RCW.

#### NEW SECTION

**WAC 296-17-91213 The department has approved our organization to sponsor a retrospective rating group. Is there an application process that we must follow? Yes.** Your next step would be to complete an application for group retrospective rating on forms provided by the department for the proposed group. A copy of this application can be found in Appendix A of this manual.

The application must be received by us on or before:

- April 30 for the coverage period beginning the following July 1;
- July 31 for the coverage period beginning the following October 1;
- October 31 for the coverage period beginning the following January 1; and
- January 31 for the coverage period beginning the following April 1.

When you complete this application you will need to select the maximum premium ratio and plan (A, A1, A2, A3, or B) that will apply to the group for the coverage period. You should consider the benefits and risk of each plan and maximum premium ratio in making this selection. Plan and maximum premium ratio choices can not be changed after the deadline listed above. If the agreement is submitted by fax by the deadline, an agreement with an original signature must be received by the department prior to the beginning of the coverage period. In the event that an application with an original signature is not received by the beginning of the coverage period you will not be enrolled in the program.

#### NEW SECTION

**WAC 296-17-91214 What is the next step after the organization has submitted this application?** (1) To enroll, each dues-paying employer member of your organization that completed a written request provided for in WAC 296-17-91205 (3)(c) must complete a group membership application/employer's authorization and release of insurance data. A copy of the application can be found in Appendix A of this manual. Other qualifying members of your organization who want to enroll in your group must complete the same applica-

tion. The completed application/releases for the accounts the organization wishes to enroll in the group must be received by the department by the 15th calendar day of the month prior to the selected coverage period.

**Example:** You have selected the coverage period beginning July 1. We must receive all group membership applications on or before June 15.

(2) An officer or designated representative of your organization must complete, sign and forward to us an original retrospective rating group agreement. A copy of this agreement can be found in Appendix A of this manual. This completed form must be received by us by the 15th calendar day of the month prior to the selected coverage period.

### NEW SECTION

**WAC 296-17-91215 Is there an application process to enroll in an individual retrospective rating plan?** Yes. You must complete a retrospective rating plan agreement on forms provided by the department, listing each account or subaccount to be enrolled. A copy of this agreement can be found in Appendix A of this manual. This completed form must be received by us by the 15th calendar day of the month prior to the selected coverage period. If the agreement is submitted by fax by the deadline, an agreement with an original signature must be received by the department prior to the beginning of the coverage period. In the event that an application with an original signature is not received by the beginning of the coverage period you will not be enrolled in the program. When you complete this agreement you will need to select the maximum premium ratio and plan (A, A1, A2, A3, or B) that you wish to participate in. You should consider the benefits and risk of each plan and maximum premium ratio in making this selection. Plan and maximum premium ratio choices can not be changed after the coverage period begins.

### NEW SECTION

**WAC 296-17-91216 Can you tell me what happens at the end of a coverage period?** (1) The initial evaluation date will occur between nine and ten months after the end of the coverage period. All future evaluation dates for a coverage period will take place approximately twelve months after the initial evaluation date.

**Example:** Assume that your coverage period began July 1, 1998, and ended June 30, 1999, (twelve calendar months). Our first evaluation date would occur mid-April 2000. This is roughly nine and one-half months from the last day of the coverage period. Because all retrospective rating plans have two mandatory evaluation dates we would do the second evaluation twelve months later.

(2) On the evaluation date, all claims with a date-of-injury within the coverage period are evaluated and the incurred losses which have been established for these claims are "captured" or "frozen."

(3) For occupational disease claims where multiple employer responsibility has been established, prorated incurred losses will be captured.

(4) Because our evaluation is limited to claim status and type, and not the adjudicative decisions surrounding a claim such as, but not limited to, claim allowance, case reserve, wage determination and dependent status; retrospective rating program appeals that concern claims are limited to the open or closed status of a claim on the evaluation date. If you are in disagreement with the department over an adjudicative or reserving issue you must appeal that decision at the appropriate time. We can not provide relief in the computation of the retrospective premium unless the disagreement (protest or appeal) produces relief prior to the evaluation date.

(5) In the event that the disagreement is over the open status of a specific claim and we determine that all of the information necessary to close the claim was in the department's possession at the time of the evaluation date, we will recalculate the retrospective premium requirement and refund the additional premium or reduce the assessment as applicable.

(6) In the adjustment process, captured incurred losses are translated into developed losses using the appropriate loss development and performance adjustment factors. Retrospective premium is then calculated using the requisite formulas and tables in the retrospective rating manual.

(7) The loss value for any one claim or group of claims arising from a single accident shall be limited to a maximum of five hundred thousand dollars prior to the application of the performance adjustment factor.

(8) For a given coverage period, each group or individually enrolled employer is subject to two mandatory adjustments. The initial adjustment will occur approximately ten months after the coverage period, with any subsequent adjustments occurring in twelve-month intervals. A group or individually enrolled employer can elect a package of two additional adjustments if the request is made within thirty days of the second mandatory adjustment. A group or individually enrolled employer may request an extension of sixty additional days to evaluate the potential impact of electing the two additional adjustments. The request for extension must be received by the department prior to the last day of the initial thirty-day election period.

(9) For claims with injury dates prior to July 1, 1996, a potential claim cost recovery from action against a third party, either by an injured worker or by the department, shall not be considered in the evaluation of incurred losses until the third-party action has been completed. For claims with injury dates after July 1, 1996, if the department determines that there is a reasonable potential of recovery from an action against a third-party, the incurred loss shall be reduced by fifty percent while the third-party action is pending. Regardless of the final outcome of the third-party action, the incurred loss will not be reevaluated after the final retrospective rating adjustment.

(10) For a third-party action completed before the final adjustment, the claim shall be credited with the department's net share of the recovery, after deducting attorney fees, if the action is completed prior to July 1, 1996. If a third-party action is completed on or after July 1, 1996, the claim shall be

credited with the department's gross share of the recovery, before deducting attorney fees.

#### NEW SECTION

**WAC 296-17-91219** If I am successful in reducing my workers' compensation insurance costs, and you inform me that I am entitled to a refund, when will I get the refund? Approximately eleven months after the coverage period has ended we will notify you if you are entitled to a refund of premium or owe us additional premium. Our notification will also include instructions on how to request reconsideration of the amount of the refund or assessment. We will not issue a refund check for under ten dollars. If a refund is less than ten dollars we will credit the amount to your industrial insurance account and you can deduct the amount from your next premium payment.

#### NEW SECTION

**WAC 296-17-91220** Do you establish how the refund is to be distributed to members of a group? No. We are not involved in how the premium refund is distributed. The distribution of any refund is determined by the organization that sponsored the group. We will, however, withhold the pro rata share of any member whose account is not in good standing, up to the amount owed by the member for the coverage period. Any moneys withheld will be deposited into the insurance trust funds and credited to the member's industrial insurance account. If you are enrolled individually and owe us money, we will apply your refund to the amount you owe. In the event that your refund is greater than the amount you owe us, we will refund the difference to you.

#### NEW SECTION

**WAC 296-17-91221** If a group is subject to an additional assessment, does the department bill each member of the group for their share? No. Just as we do not determine how a refund is to be distributed to members of a group, we are not concerned with how an additional assessment is distributed to members of a group. We hold the organization responsible for any additional assessment.

#### NEW SECTION

**WAC 296-17-91222** If a group or individually enrolled employer owes money related to a retrospective rating adjustment, when is it due? All additional assessments resulting from a retrospective rating adjustment are due within thirty days of the date we communicate the decision to you. If you disagree with the assessment you should either protest or appeal the decision. Make sure you do this in writing within thirty days of the date we communicate the decision to you. If you fail to do so our decision is final and binding on you.

#### NEW SECTION

**WAC 296-17-91223** If I am in a dispute with the department over an assessment, claim cost or moneys alleged to be owed to the department, can I participate in the retrospective rating program? If you are in a dispute with the department over an assessment, claim cost or owe the department any moneys, you cannot participate in the retrospective rating program unless you provide a surety bond or security deposit in lieu of the payment pending the outcome of the disagreement. If you have paid the amount covered by the disagreement and it is resolved in your favor, we will refund these moneys. We will not pay interest on this money.

#### NEW SECTION

**WAC 296-17-91224** Are employers required to share retrospective rating refunds with their workers? No. Retrospective rating refunds are paid out of the accident fund. Accident fund premiums are paid exclusively by employers. Since employees do not pay or contribute towards accident fund premiums employers are not obligated to return any of the retro refund to workers. Similarly, employers cannot charge retrospective rating assessments to their workers.

#### NEW SECTION

**WAC 296-17-91225** Can an organization be disqualified from sponsoring a retrospective rating group? Yes. If an organization or its officers are convicted of criminal or civil infractions related to the business practices of the organization such as under payment of taxes to any governmental agency; violation of environmental laws; theft of government managed resources such as timber; willful violation of safety and health standards they will lose eligibility to sponsor a retro group plan. The disqualification will take place within thirty days of our formal notice to the organization. Department determinations applicable to the retrospective rating program are subject to review under RCW 51.52.060.

#### NEW SECTION

**WAC 296-17-91250** Limitation of liability indemnification. With the exception of the required authorization for release of insurance data and group membership enrollment application for each employer account to be enrolled, the department disclaims interest in contracts executed between employer groups and participating group members. The department neither approves nor disapproves of any language contained therein and shall be held harmless for misrepresentation of fact(s) or errors of omission or commission stated in the terms of said contract. The department is released and exempt from liability for any dispute or cause of action between an employer group and participating group members or amongst participating group members arising under the contract.

**AMENDATORY SECTION** (Amending WSR 95-06-069, filed 3/1/95, effective 4/10/95)

**WAC 296-17-914 ((Retrospective rating formula))**

**How is retrospective premium calculated?** ((Employers who elect to have their premium adjusted under a retrospective rating plan must submit an application on a form provided by the department. This application must be received by the department no later than the 15th day of the month preceding the start of the coverage period. The employer must preselect a "maximum premium ratio" and either Plan A, A1, A2, A3, or B.

The employer's retrospective premium shall be calculated from the formula:

$$\text{Retrospective Premium} = (\text{Basic Premium Ratio} \times \text{Standard Premium}) + (\text{Loss Conversion Factor} \times \text{Adjusted Incurred Losses})$$

In the above formula, the basic premium ratio and loss conversion factor are taken from Plan A (WAC 296-17-91901) or Plan B (WAC 296-17-91902) or Plan A1 (WAC 296-17-91903) or Plan A2 (WAC 296-17-91904) or Plan A3 (WAC 296-17-91905) based on the employer's standard premium and preselected maximum premium ratio. Adjusted incurred losses equal incurred losses times the performance adjustment factor applicable to the coverage period. The performance adjustment factor for each coverage period shall be calculated independently of results for previous coverage periods. Evaluation of incurred losses will be done according to the methods prescribed in WAC 296-17-915.

The maximum retrospective premium is the product of the maximum premium ratio times the employer's standard premium. In the event that the retrospective premium formula produces a value greater than the maximum premium, the retrospective premium shall be reduced to the maximum premium.

Under Plans A1, A2, and A3, the minimum retrospective premium is the product of the minimum premium ratio times the employer's standard premium. If the retrospective pre-

mium formula produces a value less than the minimum premium, the retrospective premium shall be increased to the minimum premium.

Under Plan A, a firm may elect to forego the protection of a maximum premium ratio if its financial condition is sufficiently strong and stable so that it could qualify as a self-insurer under the department's guidelines for certification of self-insurers. The basic premium ratio effective January 1, 1989, will be .058 if the firm selects and qualifies for an unlimited maximum premium. (1) Retrospective premium for a group or individually enrolled employer is calculated using the formula:

$$\text{Retrospective Premium} = (\text{Basic Premium Ratio} \times \text{Standard Premium}) + (\text{Loss Conversion Factor} \times \text{Developed Losses})$$

Applicable basic premium ratios and loss conversion factors are found in WAC 296-17-91402 through 296-17-91406, depending on the preselected plan, maximum premium ratio and standard premium.

(2) The maximum retrospective premium is the product of the maximum premium ratio times the standard premium. If the retrospective premium formula produces a value greater than the maximum retrospective premium, the retrospective premium shall be reduced to the maximum retrospective premium.

(3) For plans A1, A2, and A3, the minimum retrospective premium is the product of the minimum premium ratio times the standard premium. If the retrospective premium formula produces a value less than the minimum retrospective premium, the retrospective premium shall be increased to the minimum retrospective premium.

(4) Under plan A, an employer enrolled in an individual plan or an organization sponsoring a group may elect to forego the protection of a maximum premium ratio if its financial condition is sufficiently strong and stable so that it could qualify as a self-insurer under the department's certification guidelines. The basic premium ratio will be .058 if the employer/group selects and qualifies for an unlimited maximum retrospective premium.

**NEW SECTION**

**WAC 296-17-91402 Table II.**

RETROSPECTIVE RATING PLAN A  
BASIC PREMIUM RATIOS  
LOSS CONVERSION FACTOR= .729  
Effective January 1, 1998

Maximum Premium Ratio:	1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.60	1.70	1.80	2.00
Size Group														
63	.907	.856	.820	.791	.766	.745	.725	.708	.692	.677	.649	.625	.602	.563
62	.902	.850	.813	.783	.757	.735	.715	.698	.681	.666	.638	.612	.590	.550
61	.897	.844	.805	.774	.748	.726	.705	.687	.670	.654	.625	.600	.577	.536
60	.892	.838	.798	.766	.739	.716	.695	.676	.658	.642	.613	.587	.563	.522

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Maximum Premium Ratio:	1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.60	1.70	1.80	2.00
59	.888	.831	.790	.758	.730	.706	.684	.665	.647	.630	.600	.574	.550	.508
58	.883	.825	.783	.749	.720	.696	.674	.654	.635	.618	.588	.561	.537	.495
57	.878	.818	.775	.740	.711	.686	.663	.643	.624	.607	.576	.548	.524	.482
56	.872	.810	.766	.731	.701	.675	.652	.631	.612	.594	.563	.535	.511	.468
55	.865	.802	.757	.721	.690	.664	.640	.619	.599	.582	.550	.522	.497	.455
54	.858	.794	.747	.710	.679	.652	.628	.607	.587	.569	.537	.509	.484	.442
53	.851	.785	.738	.700	.668	.641	.616	.595	.575	.556	.524	.496	.471	.429
52	.843	.776	.728	.690	.657	.629	.605	.582	.562	.544	.511	.483	.458	.417
51	.836	.767	.718	.679	.646	.618	.592	.570	.550	.531	.498	.470	.446	.405
50	.828	.758	.708	.668	.634	.605	.580	.557	.537	.518	.485	.457	.432	.392
49	.821	.748	.697	.656	.622	.593	.567	.544	.524	.505	.472	.444	.419	.379
48	.813	.739	.686	.645	.610	.581	.555	.531	.511	.492	.459	.431	.406	.367
47	.804	.729	.675	.633	.598	.568	.542	.519	.498	.479	.446	.418	.394	.355
46	.796	.718	.663	.620	.584	.554	.528	.505	.484	.465	.433	.406	.382	.344
45	.787	.707	.650	.607	.571	.541	.514	.491	.471	.452	.420	.394	.371	.334
44	.778	.695	.638	.594	.557	.527	.501	.478	.458	.440	.408	.382	.360	.324
43	.768	.683	.625	.580	.544	.514	.488	.465	.445	.427	.396	.371	.349	.314
42	.758	.671	.612	.567	.530	.500	.474	.451	.431	.413	.383	.357	.336	.301
41	.748	.659	.599	.554	.517	.486	.460	.437	.417	.399	.368	.343	.322	.288
40	.737	.647	.586	.540	.503	.472	.446	.423	.403	.385	.355	.330	.309	.276
39	.726	.635	.573	.526	.489	.458	.432	.409	.389	.372	.342	.317	.296	.264
38	.714	.622	.560	.513	.476	.445	.418	.396	.376	.359	.329	.305	.284	.252
37	.702	.608	.546	.499	.462	.431	.405	.383	.363	.346	.317	.293	.273	.242
36	.688	.594	.532	.485	.448	.417	.392	.369	.350	.333	.304	.281	.262	.231
35	.673	.578	.516	.469	.433	.402	.377	.355	.336	.320	.292	.269	.250	.221
34	.657	.562	.500	.454	.418	.388	.363	.342	.323	.307	.280	.258	.240	.211
33	.640	.546	.484	.439	.403	.374	.349	.329	.310	.295	.268	.247	.229	.202
32	.623	.529	.468	.424	.389	.360	.336	.316	.298	.283	.257	.237	.220	.193
31	.607	.512	.452	.408	.373	.345	.322	.302	.285	.270	.246	.226	.210	.185
30	.589	.495	.435	.392	.358	.331	.308	.289	.273	.259	.235	.216	.201	.178
29	.571	.478	.419	.377	.344	.317	.295	.277	.261	.247	.225	.207	.193	.171
28	.553	.461	.403	.361	.329	.303	.282	.264	.248	.235	.213	.195	.181	.160
27	.537	.446	.388	.346	.314	.288	.267	.248	.233	.219	.197	.179	.165	.143
26	.521	.430	.373	.331	.299	.273	.252	.234	.218	.205	.183	.165	.151	.129
25	.504	.414	.358	.317	.285	.259	.238	.220	.205	.192	.170	.152	.138	.117
24	.482	.394	.339	.300	.269	.245	.225	.208	.194	.181	.161	.145	.132	.113
23	.460	.374	.321	.283	.254	.231	.213	.197	.184	.172	.153	.138	.127	.109
22	.437	.355	.304	.268	.241	.219	.201	.187	.174	.163	.146	.132	.121	.105
21	.414	.336	.288	.254	.228	.208	.191	.177	.166	.156	.139	.127	.117	.102
20	.394	.318	.272	.239	.214	.194	.179	.166	.155	.145	.130	.119	.110	.096
19	.377	.301	.254	.222	.198	.179	.164	.152	.142	.133	.120	.109	.101	.089
18	.358	.283	.238	.207	.184	.166	.152	.140	.131	.123	.110	.101	.094	.083
17	.339	.266	.222	.192	.171	.154	.140	.130	.121	.114	.103	.094	.088	.079
16	.320	.249	.208	.179	.159	.143	.131	.121	.113	.106	.096	.088	.083	.075
15	.303	.234	.194	.168	.148	.134	.122	.113	.106	.100	.091	.084	.079	.072
14	.293	.220	.180	.157	.141	.128	.117	.109	.103	.097	.089	.082	.078	.071
13	.281	.204	.167	.148	.133	.122	.112	.105	.099	.094	.086	.081	.076	.070
12	.269	.187	.156	.139	.126	.116	.108	.101	.096	.091	.084	.079	.075	.069
11	.254	.167	.145	.130	.119	.110	.103	.097	.092	.088	.082	.077	.073	.068
10	.238	.150	.135	.122	.113	.105	.098	.093	.089	.085	.079	.075	.072	.067
9	.219	.138	.125	.115	.106	.100	.094	.089	.085	.082	.077	.073	.071	.066
8	.197	.127	.116	.107	.100	.094	.090	.086	.082	.079	.075	.072	.069	.065
7	.170	.117	.108	.100	.094	.089	.085	.082	.079	.077	.073	.070	.068	.064
6	.137	.107	.100	.094	.089	.085	.081	.078	.076	.074	.071	.068	.066	.064

PERMANENT

Maximum Premium Ratio:	1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.60	1.70	1.80	2.00
5	.105	.098	.092	.087	.083	.080	.077	.075	.073	.071	.068	.066	.065	.063
4	.096	.089	.084	.081	.078	.076	.074	.072	.070	.068	.066	.065	.064	.063

**NEW SECTION**

**WAC 296-17-91403 Table III.**

**RETROSPECTIVE RATING PLAN B  
BASIC PREMIUM RATIOS  
AND LOSS CONVERSION FACTORS  
Effective January 1, 1998**

Maximum Premium Ratio:	1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.60	1.70	1.80	2.00	
<b>Size Group</b>															
63	Basic Premium Ratio	.993	.986	.979	.972	.965	.958	.951	.944	.938	.931	.917	.903	.889	.861
	Loss Conversion Factor	.007	.014	.021	.028	.035	.042	.049	.056	.062	.069	.083	.097	.111	.139
62	Basic Premium Ratio	.992	.985	.977	.970	.962	.954	.947	.939	.931	.924	.909	.893	.878	.848
	Loss Conversion Factor	.008	.015	.023	.030	.038	.046	.053	.061	.069	.076	.091	.107	.122	.152
61	Basic Premium Ratio	.992	.983	.975	.967	.959	.950	.942	.934	.926	.917	.901	.884	.868	.835
	Loss Conversion Factor	.008	.017	.025	.033	.041	.050	.058	.066	.074	.083	.099	.116	.132	.165
60	Basic Premium Ratio	.991	.982	.973	.964	.955	.946	.937	.928	.919	.910	.892	.874	.856	.819
	Loss Conversion Factor	.009	.018	.027	.036	.045	.054	.063	.072	.081	.090	.108	.126	.144	.181
59	Basic Premium Ratio	.990	.980	.971	.961	.951	.941	.931	.921	.912	.902	.882	.862	.843	.803
	Loss Conversion Factor	.010	.020	.029	.039	.049	.059	.069	.079	.088	.098	.118	.138	.157	.197
58	Basic Premium Ratio	.989	.979	.968	.957	.947	.936	.926	.915	.904	.894	.872	.851	.830	.787
	Loss Conversion Factor	.011	.021	.032	.043	.053	.064	.074	.085	.096	.106	.128	.149	.170	.213
57	Basic Premium Ratio	.989	.977	.966	.954	.943	.931	.920	.908	.897	.886	.863	.840	.817	.771
	Loss Conversion Factor	.011	.023	.034	.046	.057	.069	.080	.092	.103	.114	.137	.160	.183	.229
56	Basic Premium Ratio	.988	.976	.963	.951	.939	.927	.914	.902	.890	.878	.853	.829	.805	.756
	Loss Conversion Factor	.012	.024	.037	.049	.061	.073	.086	.098	.110	.122	.147	.171	.195	.244
55	Basic Premium Ratio	.987	.974	.961	.948	.935	.922	.909	.896	.883	.870	.844	.818	.792	.741
	Loss Conversion Factor	.013	.026	.039	.052	.065	.078	.091	.104	.117	.130	.156	.182	.208	.259
54	Basic Premium Ratio	.986	.972	.959	.945	.931	.917	.904	.890	.876	.862	.835	.807	.780	.724
	Loss Conversion Factor	.014	.028	.041	.055	.069	.083	.096	.110	.124	.138	.165	.193	.220	.276
53	Basic Premium Ratio	.985	.971	.956	.941	.927	.912	.898	.883	.868	.854	.824	.795	.766	.707
	Loss Conversion Factor	.015	.029	.044	.059	.073	.088	.102	.117	.132	.146	.176	.205	.234	.293
52	Basic Premium Ratio	.984	.969	.953	.938	.922	.907	.891	.876	.860	.845	.814	.783	.752	.690
	Loss Conversion Factor	.016	.031	.047	.062	.078	.093	.109	.124	.140	.155	.186	.217	.248	.310
51	Basic Premium Ratio	.983	.967	.950	.934	.917	.901	.884	.868	.851	.835	.802	.769	.735	.669
	Loss Conversion Factor	.017	.033	.050	.066	.083	.099	.116	.132	.149	.165	.198	.231	.265	.331
50	Basic Premium Ratio	.982	.965	.947	.929	.911	.894	.876	.858	.841	.823	.787	.752	.717	.646
	Loss Conversion Factor	.018	.035	.053	.071	.089	.106	.124	.142	.159	.177	.213	.248	.283	.354

PERMANENT

PERMANENT

Maximum Premium Ratio:		1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.60	1.70	1.80	2.00
<b>Size Group</b>															
49	Basic Premium Ratio	.981	.962	.943	.924	.905	.886	.867	.848	.829	.810	.772	.734	.696	.621
	Loss Conversion Factor	.019	.038	.057	.076	.095	.114	.133	.152	.171	.190	.228	.266	.304	.379
48	Basic Premium Ratio	.980	.959	.939	.919	.898	.878	.858	.837	.817	.797	.756	.716	.675	.594
	Loss Conversion Factor	.020	.041	.061	.081	.102	.122	.142	.163	.183	.203	.244	.284	.325	.406
47	Basic Premium Ratio	.978	.957	.935	.913	.891	.870	.848	.826	.805	.783	.740	.696	.653	.566
	Loss Conversion Factor	.022	.043	.065	.087	.109	.130	.152	.174	.195	.217	.260	.304	.347	.434
46	Basic Premium Ratio	.977	.954	.931	.908	.885	.862	.839	.816	.793	.770	.724	.677	.631	.539
	Loss Conversion Factor	.023	.046	.069	.092	.115	.138	.161	.184	.207	.230	.276	.323	.369	.461
45	Basic Premium Ratio	.976	.951	.927	.902	.878	.854	.829	.805	.780	.756	.707	.658	.609	.512
	Loss Conversion Factor	.024	.049	.073	.098	.122	.146	.171	.195	.220	.244	.293	.342	.391	.488
44	Basic Premium Ratio	.974	.948	.922	.897	.871	.845	.819	.793	.767	.742	.690	.638	.587	.483
	Loss Conversion Factor	.026	.052	.078	.103	.129	.155	.181	.207	.233	.258	.310	.362	.413	.517
43	Basic Premium Ratio	.973	.945	.918	.891	.863	.836	.809	.781	.754	.727	.672	.617	.562	.453
	Loss Conversion Factor	.027	.055	.082	.109	.137	.164	.191	.219	.246	.273	.328	.383	.438	.547
42	Basic Premium Ratio	.970	.941	.911	.881	.852	.822	.792	.763	.733	.703	.644	.585	.525	.406
	Loss Conversion Factor	.030	.059	.089	.119	.148	.178	.208	.237	.267	.297	.356	.415	.475	.594
41	Basic Premium Ratio	.968	.935	.903	.870	.838	.806	.773	.741	.708	.676	.611	.546	.481	.352
	Loss Conversion Factor	.032	.065	.097	.130	.162	.194	.227	.259	.292	.324	.389	.454	.519	.648
40	Basic Premium Ratio	.965	.929	.894	.859	.823	.788	.753	.718	.682	.647	.576	.506	.435	.294
	Loss Conversion Factor	.035	.071	.106	.141	.177	.212	.247	.282	.318	.353	.424	.494	.565	.706
39	Basic Premium Ratio	.962	.923	.885	.847	.808	.770	.732	.693	.655	.616	.540	.463	.386	.233
	Loss Conversion Factor	.038	.077	.115	.153	.192	.230	.268	.307	.345	.384	.460	.537	.614	.767
38	Basic Premium Ratio	.958	.917	.875	.834	.792	.751	.709	.668	.626	.585	.502	.419	.336	.170
	Loss Conversion Factor	.042	.083	.125	.166	.208	.249	.291	.332	.374	.415	.498	.581	.664	.830
37	Basic Premium Ratio	.955	.910	.865	.820	.776	.731	.686	.641	.596	.551	.461	.371	.282	.102
	Loss Conversion Factor	.045	.090	.135	.180	.224	.269	.314	.359	.404	.449	.539	.629	.718	.898
36	Basic Premium Ratio	.951	.903	.854	.806	.757	.709	.660	.612	.563	.514	.417	.320	.223	.029
	Loss Conversion Factor	.049	.097	.146	.194	.243	.291	.340	.388	.437	.486	.583	.680	.777	.971
35	Basic Premium Ratio	.947	.895	.842	.789	.736	.684	.631	.578	.525	.473	.367	.262	.156	.000
	Loss Conversion Factor	.053	.105	.158	.211	.264	.316	.369	.422	.475	.527	.633	.738	.844	.987
34	Basic Premium Ratio	.943	.886	.829	.771	.714	.657	.600	.543	.486	.428	.314	.200	.085	.000
	Loss Conversion Factor	.057	.114	.171	.229	.286	.343	.400	.457	.514	.572	.686	.800	.915	.969
33	Basic Premium Ratio	.938	.876	.814	.752	.690	.628	.567	.505	.443	.381	.257	.133	.009	.000
	Loss Conversion Factor	.062	.124	.186	.248	.310	.372	.433	.495	.557	.619	.743	.867	.991	.953
32	Basic Premium Ratio	.933	.866	.799	.732	.665	.598	.531	.463	.396	.329	.195	.061	.000	.000
	Loss Conversion Factor	.067	.134	.201	.268	.335	.402	.469	.537	.604	.671	.805	.939	.984	.939



Maximum Premium Ratio:		1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.60	1.70	1.80	2.00
31	Basic Premium Ratio	.927	.854	.781	.707	.634	.561	.488	.415	.342	.268	.122	.000	.000	.000
	Loss Conversion Factor	.073	.146	.219	.293	.366	.439	.512	.585	.658	.732	.878	.994	.965	.925
30	Basic Premium Ratio	.920	.840	.760	.680	.600	.520	.440	.360	.280	.200	.040	.000	.000	.000
	Loss Conversion Factor	.080	.160	.240	.320	.400	.480	.560	.640	.720	.800	.960	.975	.949	.913
29	Basic Premium Ratio	.913	.826	.739	.651	.564	.477	.390	.303	.216	.128	.000	.000	.000	.000
	Loss Conversion Factor	.087	.174	.261	.349	.436	.523	.610	.697	.784	.872	.990	.958	.935	.902
28	Basic Premium Ratio	.904	.807	.711	.615	.519	.422	.326	.230	.134	.037	.000	.000	.000	.000
	Loss Conversion Factor	.096	.193	.289	.385	.481	.578	.674	.770	.866	.963	.969	.940	.918	.887
27	Basic Premium Ratio	.892	.785	.677	.570	.462	.355	.247	.140	.032	.000	.000	.000	.000	.000
	Loss Conversion Factor	.108	.215	.323	.430	.538	.645	.753	.860	.968	.983	.946	.918	.897	.868
26	Basic Premium Ratio	.881	.761	.642	.522	.403	.283	.164	.044	.000	.000	.000	.000	.000	.000
	Loss Conversion Factor	.119	.239	.358	.478	.597	.717	.836	.956	.983	.960	.925	.899	.879	.851
25	Basic Premium Ratio	.868	.736	.604	.472	.340	.208	.075	.000	.000	.000	.000	.000	.000	.000
	Loss Conversion Factor	.132	.264	.396	.528	.660	.792	.925	.987	.961	.940	.907	.883	.864	.838
24	Basic Premium Ratio	.852	.705	.557	.409	.261	.114	.000	.000	.000	.000	.000	.000	.000	.000
	Loss Conversion Factor	.148	.295	.443	.591	.739	.886	.992	.964	.941	.922	.893	.872	.855	.832
23	Basic Premium Ratio	.835	.669	.504	.338	.173	.008	.000	.000	.000	.000	.000	.000	.000	.000
	Loss Conversion Factor	.165	.331	.496	.662	.827	.992	.969	.944	.924	.907	.881	.862	.848	.827
22	Basic Premium Ratio	.814	.628	.442	.256	.070	.000	.000	.000	.000	.000	.000	.000	.000	.000
	Loss Conversion Factor	.186	.372	.558	.744	.930	.978	.949	.927	.909	.894	.871	.854	.841	.823
21	Basic Premium Ratio	.790	.579	.369	.159	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	Loss Conversion Factor	.210	.421	.631	.841	.990	.957	.932	.912	.896	.882	.862	.847	.835	.818
20	Basic Premium Ratio	.758	.516	.274	.032	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	Loss Conversion Factor	.242	.484	.726	.968	.966	.936	.913	.895	.881	.869	.851	.837	.827	.812
19	Basic Premium Ratio	.720	.439	.159	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	Loss Conversion Factor	.280	.561	.841	.979	.942	.915	.894	.878	.865	.854	.838	.826	.817	.805
18	Basic Premium Ratio	.672	.344	.016	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	Loss Conversion Factor	.328	.656	.984	.954	.920	.896	.877	.863	.851	.842	.827	.817	.810	.799
17	Basic Premium Ratio	.617	.234	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	Loss Conversion Factor	.383	.766	.977	.932	.902	.879	.863	.850	.839	.831	.819	.810	.803	.794
16	Basic Premium Ratio	.550	.100	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	Loss Conversion Factor	.450	.900	.953	.913	.885	.865	.851	.839	.830	.823	.812	.804	.798	.790
15	Basic Premium Ratio	.477	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	Loss Conversion Factor	.523	.992	.932	.896	.872	.854	.841	.831	.822	.816	.806	.799	.794	.788
14	Basic Premium Ratio	.414	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	Loss Conversion Factor	.586	.973	.912	.881	.861	.846	.834	.825	.818	.812	.804	.797	.793	.787

PERMANENT

Maximum Premium Ratio:		1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.60	1.70	1.80	2.00
<u>Size Group</u>															
13	Basic Premium Ratio	.344	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	Loss Conversion Factor	.656	.953	.889	.867	.851	.838	.828	.821	.814	.809	.801	.796	.791	.786
12	Basic Premium Ratio	.256	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	Loss Conversion Factor	.744	.931	.874	.856	.842	.831	.823	.816	.810	.806	.799	.794	.790	.785
11	Basic Premium Ratio	.159	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	Loss Conversion Factor	.841	.906	.860	.846	.834	.825	.818	.812	.807	.803	.796	.792	.788	.784
10	Basic Premium Ratio	.042	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	Loss Conversion Factor	.958	.879	.848	.836	.827	.819	.813	.807	.803	.800	.794	.790	.787	.783
9	Basic Premium Ratio	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	Loss Conversion Factor	.982	.850	.838	.828	.820	.813	.808	.803	.800	.797	.792	.788	.786	.782
8	Basic Premium Ratio	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	Loss Conversion Factor	.952	.838	.828	.820	.813	.808	.803	.800	.796	.794	.790	.787	.784	.781
7	Basic Premium Ratio	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	Loss Conversion Factor	.917	.828	.820	.813	.807	.803	.799	.796	.793	.791	.788	.785	.783	.780
6	Basic Premium Ratio	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	Loss Conversion Factor	.876	.818	.812	.806	.802	.798	.795	.792	.790	.788	.785	.783	.782	.779
5	Basic Premium Ratio	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	Loss Conversion Factor	.826	.809	.804	.800	.797	.794	.791	.789	.787	.786	.783	.782	.780	.778
4	Basic Premium Ratio	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	Loss Conversion Factor	.815	.800	.797	.794	.792	.790	.788	.786	.785	.784	.782	.781	.779	.777

**NEW SECTION**

**WAC 296-17-91404 Table IV.**

RETROSPECTIVE RATING PLAN A1  
 MINIMUM PREMIUM RATIOS  
 BASIC PREMIUM RATIO= .058  
 LOSS CONVERSION FACTOR= .729  
 Effective January 1, 1998

Maximum Premium Ratio:	1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.60	1.70	1.80	2.00
<u>Size Group</u>														
63	.987	.975	.963	.951	.940	.928	.918	.907	.897	.887	.868	.850	.833	.801
62	.987	.974	.961	.949	.938	.926	.915	.904	.894	.884	.864	.845	.828	.795
61	.986	.973	.960	.948	.936	.924	.912	.901	.890	.880	.860	.841	.823	.789
60	.986	.972	.959	.946	.933	.921	.909	.898	.887	.876	.855	.836	.817	.783
59	.985	.971	.958	.944	.931	.919	.907	.895	.883	.872	.851	.831	.812	.777
58	.985	.970	.956	.943	.929	.917	.904	.892	.880	.869	.847	.826	.807	.771
57	.985	.970	.955	.941	.927	.914	.901	.889	.877	.865	.843	.822	.802	.765
56	.984	.969	.954	.939	.925	.912	.899	.886	.874	.862	.839	.818	.797	.760
55	.984	.968	.953	.938	.924	.910	.896	.884	.871	.859	.836	.814	.793	.756
54	.983	.967	.951	.936	.922	.908	.894	.881	.868	.856	.832	.810	.790	.752

PERMANENT

Maximum Premium Ratio:	1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.60	1.70	1.80	2.00
Size Group														
53	.983	.966	.950	.935	.920	.906	.892	.878	.866	.853	.829	.807	.786	.748
52	.982	.965	.949	.933	.918	.904	.890	.876	.863	.850	.826	.804	.783	.744
51	.982	.965	.948	.932	.917	.902	.887	.874	.860	.847	.823	.800	.779	.740
50	.982	.964	.947	.930	.915	.899	.885	.871	.857	.844	.819	.796	.775	.735
49	.981	.963	.946	.929	.913	.897	.882	.868	.854	.841	.816	.792	.770	.731
48	.981	.962	.945	.927	.911	.895	.880	.866	.852	.838	.812	.789	.767	.727
47	.980	.962	.944	.926	.910	.894	.878	.864	.849	.836	.810	.786	.764	.723
46	.980	.961	.943	.925	.909	.893	.877	.863	.848	.835	.809	.785	.763	.723
45	.980	.961	.942	.925	.908	.892	.877	.862	.848	.834	.808	.784	.762	.722
44	.980	.960	.942	.924	.907	.891	.876	.861	.847	.833	.808	.784	.762	.722
43	.980	.960	.941	.924	.907	.891	.875	.861	.846	.833	.807	.784	.762	.722
42	.979	.959	.940	.922	.905	.888	.872	.857	.843	.829	.803	.779	.757	.717
41	.978	.958	.938	.920	.902	.885	.869	.853	.839	.825	.798	.774	.751	.710
40	.978	.957	.937	.918	.899	.882	.866	.850	.835	.820	.793	.768	.745	.704
39	.977	.956	.935	.916	.897	.879	.863	.846	.831	.816	.789	.764	.741	.699
38	.977	.955	.934	.914	.895	.877	.860	.843	.828	.813	.785	.760	.736	.694
37	.976	.954	.933	.912	.893	.875	.857	.841	.825	.810	.782	.756	.732	.690
36	.976	.953	.932	.911	.891	.873	.855	.838	.822	.807	.779	.753	.729	.686
35	.976	.953	.931	.910	.890	.871	.854	.837	.821	.805	.777	.751	.727	.684
34	.975	.952	.930	.909	.889	.870	.852	.835	.819	.804	.775	.749	.725	.683
33	.975	.951	.929	.908	.888	.869	.851	.834	.818	.802	.774	.748	.724	.682
32	.975	.951	.929	.907	.887	.868	.850	.833	.817	.802	.773	.747	.724	.682
31	.975	.951	.928	.907	.886	.867	.849	.832	.816	.801	.773	.747	.724	.682
30	.974	.950	.927	.906	.886	.867	.849	.832	.816	.801	.773	.747	.724	.682
29	.974	.950	.927	.906	.886	.867	.849	.832	.816	.801	.773	.747	.724	.682
28	.974	.949	.926	.904	.883	.864	.846	.828	.812	.797	.769	.744	.721	.682
27	.973	.947	.922	.899	.877	.857	.837	.819	.802	.785	.754	.727	.701	.657
26	.972	.945	.919	.895	.872	.851	.830	.811	.792	.775	.742	.712	.685	.636
25	.971	.943	.917	.892	.868	.846	.824	.804	.785	.766	.732	.701	.672	.620
24	.971	.943	.917	.892	.868	.846	.824	.804	.785	.766	.732	.701	.672	.620
23	.971	.943	.917	.892	.868	.846	.824	.804	.785	.766	.732	.701	.672	.620
22	.971	.943	.917	.892	.868	.846	.824	.804	.785	.766	.732	.701	.672	.620
21	.971	.943	.917	.892	.868	.846	.824	.804	.785	.766	.732	.701	.672	.620
20	.971	.943	.917	.892	.868	.846	.824	.804	.785	.766	.732	.701	.672	.620
19	.970	.941	.915	.891	.868	.846	.824	.804	.785	.766	.732	.701	.672	.620
18	.969	.940	.912	.887	.864	.843	.823	.804	.785	.766	.732	.701	.672	.620
17	.968	.938	.911	.885	.862	.840	.820	.801	.784	.766	.732	.701	.672	.620
16	.968	.937	.910	.884	.860	.838	.818	.800	.783	.766	.732	.701	.672	.620
15	.967	.937	.909	.884	.860	.838	.818	.800	.783	.766	.732	.701	.672	.620
14	.967	.937	.909	.884	.860	.838	.818	.800	.783	.766	.732	.701	.672	.620
13	.967	.937	.909	.884	.860	.838	.818	.800	.783	.766	.732	.701	.672	.620
12	.967	.937	.909	.884	.860	.838	.818	.800	.783	.766	.732	.701	.672	.620
11	.967	.937	.909	.884	.860	.838	.818	.800	.783	.766	.732	.701	.672	.620
10	.967	.937	.909	.884	.860	.838	.818	.800	.783	.766	.732	.701	.672	.620
9	.967	.937	.909	.884	.860	.838	.818	.800	.783	.766	.732	.701	.672	.620
8	.967	.937	.909	.884	.860	.838	.818	.800	.783	.766	.732	.701	.672	.620
7	.967	.937	.909	.884	.860	.838	.818	.800	.783	.766	.732	.701	.672	.620
6	.967	.937	.909	.884	.860	.838	.818	.800	.783	.766	.732	.701	.672	.620
5	.967	.937	.909	.884	.860	.838	.818	.800	.783	.766	.732	.701	.672	.620
4	.967	.937	.909	.884	.860	.838	.818	.800	.783	.766	.732	.701	.672	.620

PERMANENT

NEW SECTION

WAC 296-17-91405 Table V.

RETROSPECTIVE RATING PLAN A2  
 MINIMUM PREMIUM RATIOS  
 AND BASIC PREMIUM RATIOS  
 LOSS CONVERSION FACTOR= .729  
 Effective January 1, 1998

Maximum Premium Ratio:	1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.60	1.70	1.80	2.00
Size Group														
63 Basic Premium Ratio	.483	.457	.439	.425	.412	.402	.392	.383	.375	.368	.354	.342	.330	.311
63 Minimum Premium Ratio	.979	.960	.943	.927	.912	.898	.884	.871	.859	.846	.823	.802	.782	.745
62 Basic Premium Ratio	.480	.454	.436	.421	.408	.397	.387	.378	.370	.362	.348	.335	.324	.304
62 Minimum Premium Ratio	.978	.959	.941	.925	.909	.894	.880	.867	.854	.841	.818	.796	.775	.738
61 Basic Premium Ratio	.478	.451	.432	.416	.403	.392	.382	.373	.364	.356	.342	.329	.318	.297
61 Minimum Premium Ratio	.977	.957	.939	.922	.906	.891	.876	.862	.849	.836	.811	.789	.768	.730
60 Basic Premium Ratio	.475	.448	.428	.412	.399	.387	.377	.367	.358	.350	.336	.323	.311	.290
60 Minimum Premium Ratio	.976	.955	.936	.919	.902	.886	.871	.857	.843	.830	.805	.781	.760	.721
59 Basic Premium Ratio	.473	.445	.424	.408	.394	.382	.371	.362	.353	.344	.329	.316	.304	.283
59 Minimum Premium Ratio	.975	.954	.934	.916	.898	.882	.867	.852	.837	.824	.798	.774	.752	.713
58 Basic Premium Ratio	.471	.442	.421	.404	.389	.377	.366	.356	.347	.338	.323	.310	.298	.277
58 Minimum Premium Ratio	.974	.952	.931	.912	.895	.878	.862	.847	.832	.818	.792	.767	.745	.704
57 Basic Premium Ratio	.468	.438	.417	.399	.385	.372	.361	.351	.341	.333	.317	.303	.291	.270
57 Minimum Premium Ratio	.973	.950	.929	.909	.891	.874	.857	.842	.827	.813	.786	.761	.738	.697
56 Basic Premium Ratio	.465	.434	.412	.395	.380	.367	.355	.345	.335	.326	.311	.297	.285	.263
56 Minimum Premium Ratio	.972	.948	.926	.906	.887	.870	.853	.837	.822	.807	.780	.755	.731	.690
55 Basic Premium Ratio	.462	.430	.408	.390	.374	.361	.349	.339	.329	.320	.304	.290	.278	.257
55 Minimum Premium Ratio	.971	.946	.924	.903	.884	.866	.849	.832	.817	.802	.774	.749	.725	.683
54 Basic Premium Ratio	.458	.426	.403	.384	.369	.355	.343	.333	.323	.314	.298	.284	.271	.250
54 Minimum Premium Ratio	.970	.945	.922	.900	.880	.862	.844	.827	.812	.797	.768	.743	.719	.677
53 Basic Premium Ratio	.455	.422	.398	.379	.363	.350	.337	.327	.317	.307	.291	.277	.265	.244
53 Minimum Premium Ratio	.969	.943	.919	.897	.877	.858	.840	.823	.807	.792	.763	.737	.713	.671
52 Basic Premium Ratio	.451	.417	.393	.374	.358	.344	.332	.320	.310	.301	.285	.271	.258	.238
52 Minimum Premium Ratio	.968	.941	.917	.895	.874	.854	.836	.819	.803	.787	.758	.732	.709	.666
51 Basic Premium Ratio	.447	.413	.388	.369	.352	.338	.325	.314	.304	.295	.278	.264	.252	.232
51 Minimum Premium Ratio	.967	.939	.914	.891	.870	.851	.832	.815	.798	.782	.753	.727	.703	.660
50 Basic Premium Ratio	.443	.408	.383	.363	.346	.332	.319	.308	.298	.288	.272	.258	.245	.225
50 Minimum Premium Ratio	.966	.937	.912	.888	.867	.846	.828	.810	.793	.777	.747	.721	.697	.654
49 Basic Premium Ratio	.440	.403	.378	.357	.340	.326	.313	.301	.291	.282	.265	.251	.239	.219
49 Minimum Premium Ratio	.965	.935	.909	.885	.863	.842	.823	.805	.788	.772	.742	.715	.690	.647
48 Basic Premium Ratio	.436	.399	.372	.352	.334	.320	.307	.295	.285	.275	.259	.245	.232	.213
48 Minimum Premium Ratio	.964	.933	.907	.882	.860	.839	.819	.801	.783	.767	.737	.710	.685	.641

PERMANENT

Maximum Premium Ratio:		1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.60	1.70	1.80	2.00
Size Group															
47	Basic Premium Ratio	.431	.394	.367	.346	.328	.313	.300	.289	.278	.269	.252	.238	.226	.207
	Minimum Premium Ratio	.962	.931	.904	.879	.856	.835	.816	.797	.780	.763	.733	.706	.681	.637
46	Basic Premium Ratio	.427	.388	.361	.339	.321	.306	.293	.282	.271	.262	.246	.232	.220	.201
	Minimum Premium Ratio	.961	.929	.901	.876	.853	.832	.812	.793	.776	.760	.729	.702	.678	.635
45	Basic Premium Ratio	.423	.383	.354	.333	.315	.300	.286	.275	.265	.255	.239	.226	.215	.196
	Minimum Premium Ratio	.960	.927	.899	.873	.850	.829	.809	.790	.773	.757	.727	.700	.675	.633
44	Basic Premium Ratio	.418	.377	.348	.326	.308	.293	.280	.268	.258	.249	.233	.220	.209	.191
	Minimum Premium Ratio	.958	.925	.897	.871	.848	.826	.806	.788	.771	.754	.725	.698	.674	.631
43	Basic Premium Ratio	.413	.371	.342	.319	.301	.286	.273	.262	.252	.243	.227	.215	.204	.186
	Minimum Premium Ratio	.957	.924	.895	.869	.846	.824	.804	.786	.768	.752	.723	.696	.672	.630
42	Basic Premium Ratio	.408	.365	.335	.313	.294	.279	.266	.255	.245	.236	.221	.208	.197	.180
	Minimum Premium Ratio	.956	.921	.892	.865	.842	.820	.799	.781	.763	.747	.716	.690	.666	.623
41	Basic Premium Ratio	.403	.359	.329	.306	.288	.272	.259	.248	.238	.229	.213	.201	.190	.173
	Minimum Premium Ratio	.954	.919	.889	.862	.837	.815	.794	.775	.757	.740	.710	.683	.659	.616
40	Basic Premium Ratio	.398	.353	.322	.299	.281	.265	.252	.241	.231	.222	.207	.194	.184	.167
	Minimum Premium Ratio	.953	.917	.886	.858	.833	.810	.789	.770	.752	.735	.704	.677	.651	.609
39	Basic Premium Ratio	.392	.347	.316	.292	.274	.258	.245	.234	.224	.215	.200	.188	.177	.161
	Minimum Premium Ratio	.951	.914	.883	.855	.829	.806	.785	.765	.747	.730	.699	.671	.646	.603
38	Basic Premium Ratio	.386	.340	.309	.286	.267	.252	.238	.227	.217	.209	.194	.182	.171	.155
	Minimum Premium Ratio	.950	.913	.880	.852	.826	.802	.781	.761	.743	.725	.694	.666	.641	.598
37	Basic Premium Ratio	.380	.333	.302	.279	.260	.245	.232	.221	.211	.202	.188	.176	.166	.150
	Minimum Premium Ratio	.949	.911	.878	.849	.823	.800	.778	.757	.739	.722	.690	.661	.636	.593
36	Basic Premium Ratio	.373	.326	.295	.272	.253	.238	.225	.214	.204	.196	.181	.170	.160	.145
	Minimum Premium Ratio	.948	.909	.876	.847	.821	.797	.775	.755	.736	.718	.687	.658	.634	.590
35	Basic Premium Ratio	.366	.318	.287	.264	.246	.230	.218	.207	.197	.189	.175	.164	.154	.140
	Minimum Premium Ratio	.947	.908	.874	.845	.818	.795	.773	.752	.734	.716	.685	.656	.632	.588
34	Basic Premium Ratio	.358	.310	.279	.256	.238	.223	.211	.200	.191	.183	.169	.158	.149	.135
	Minimum Premium Ratio	.946	.906	.873	.844	.817	.793	.771	.751	.732	.714	.683	.655	.630	.587
33	Basic Premium Ratio	.349	.302	.271	.249	.231	.216	.204	.194	.184	.177	.163	.153	.144	.130
	Minimum Premium Ratio	.945	.906	.872	.842	.816	.792	.770	.750	.732	.714	.683	.655	.630	.588
32	Basic Premium Ratio	.341	.294	.263	.241	.224	.209	.197	.187	.178	.171	.158	.148	.139	.126
	Minimum Premium Ratio	.945	.905	.872	.842	.816	.792	.770	.750	.732	.714	.683	.655	.631	.589
31	Basic Premium Ratio	.333	.285	.255	.233	.216	.202	.190	.180	.172	.164	.152	.142	.134	.122
	Minimum Premium Ratio	.944	.904	.870	.841	.814	.790	.769	.749	.730	.714	.683	.656	.633	.591
30	Basic Premium Ratio	.324	.277	.247	.225	.208	.195	.183	.174	.166	.159	.147	.137	.130	.118
	Minimum Premium Ratio	.943	.902	.869	.840	.814	.790	.769	.748	.730	.713	.683	.658	.634	.595
29	Basic Premium Ratio	.315	.268	.239	.218	.201	.188	.177	.168	.160	.153	.142	.133	.126	.115

PERMANENT

Maximum Premium Ratio:	1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.60	1.70	1.80	2.00
<b>Size Group</b>														
Minimum Premium Ratio	.942	.902	.868	.839	.813	.790	.769	.749	.731	.715	.685	.659	.637	.599
28 Basic Premium Ratio	.306	.260	.231	.210	.194	.181	.170	.161	.153	.147	.136	.127	.120	.109
Minimum Premium Ratio	.942	.901	.867	.838	.811	.788	.766	.747	.729	.711	.681	.655	.632	.593
27 Basic Premium Ratio	.298	.252	.223	.202	.186	.173	.163	.153	.146	.139	.128	.119	.112	.101
Minimum Premium Ratio	.940	.898	.864	.833	.806	.781	.758	.738	.718	.700	.668	.640	.614	.571
26 Basic Premium Ratio	.290	.244	.216	.195	.179	.166	.155	.146	.138	.132	.121	.112	.105	.094
Minimum Premium Ratio	.939	.896	.860	.829	.801	.775	.752	.731	.711	.691	.657	.627	.599	.553
25 Basic Premium Ratio	.281	.236	.208	.188	.172	.159	.148	.139	.132	.125	.114	.105	.098	.088
Minimum Premium Ratio	.938	.895	.858	.826	.797	.771	.747	.725	.704	.685	.650	.619	.592	.542
24 Basic Premium Ratio	.270	.226	.199	.179	.164	.152	.142	.133	.126	.120	.110	.102	.095	.086
Minimum Premium Ratio	.938	.894	.858	.827	.798	.773	.749	.729	.708	.689	.655	.625	.600	.551
23 Basic Premium Ratio	.259	.216	.190	.171	.156	.145	.136	.128	.121	.115	.106	.098	.093	.084
Minimum Premium Ratio	.938	.895	.860	.829	.802	.777	.753	.733	.714	.697	.663	.636	.608	.564
22 Basic Premium Ratio	.248	.207	.181	.163	.150	.139	.130	.123	.116	.111	.102	.095	.090	.082
Minimum Premium Ratio	.938	.896	.862	.832	.805	.781	.760	.739	.722	.704	.674	.648	.622	.580
21 Basic Premium Ratio	.236	.197	.173	.156	.143	.133	.125	.118	.112	.107	.099	.093	.088	.080
Minimum Premium Ratio	.940	.899	.865	.836	.811	.787	.766	.747	.730	.714	.685	.659	.636	.599
20 Basic Premium Ratio	.226	.188	.165	.149	.136	.126	.119	.112	.107	.102	.094	.089	.084	.077
Minimum Premium Ratio	.939	.898	.865	.835	.810	.788	.766	.748	.730	.715	.689	.662	.642	.607
19 Basic Premium Ratio	.218	.180	.156	.140	.128	.119	.111	.105	.100	.096	.089	.084	.080	.074
Minimum Premium Ratio	.937	.894	.860	.830	.804	.781	.761	.742	.724	.708	.680	.655	.633	.597
18 Basic Premium Ratio	.208	.171	.148	.133	.121	.112	.105	.099	.095	.091	.084	.080	.076	.071
Minimum Premium Ratio	.935	.892	.857	.826	.800	.777	.756	.737	.718	.703	.677	.651	.631	.594
17 Basic Premium Ratio	.199	.162	.140	.125	.115	.106	.099	.094	.090	.086	.081	.076	.073	.069
Minimum Premium Ratio	.934	.891	.856	.826	.798	.775	.755	.736	.717	.703	.673	.653	.631	.592
16 Basic Premium Ratio	.189	.154	.133	.119	.109	.101	.095	.090	.086	.082	.077	.073	.071	.067
Minimum Premium Ratio	.934	.890	.855	.825	.798	.775	.754	.736	.719	.706	.679	.658	.633	.598
15 Basic Premium Ratio	.181	.146	.126	.113	.103	.096	.090	.086	.082	.079	.075	.071	.069	.065
Minimum Premium Ratio	.933	.889	.855	.826	.801	.778	.759	.739	.724	.710	.682	.663	.641	.613
14 Basic Premium Ratio	.176	.139	.119	.108	.100	.093	.088	.084	.081	.078	.074	.070	.068	.065
Minimum Premium Ratio	.924	.878	.850	.821	.796	.775	.755	.737	.720	.706	.679	.663	.642	.608
13 Basic Premium Ratio	.170	.131	.113	.103	.096	.090	.085	.082	.079	.076	.072	.070	.067	.064
Minimum Premium Ratio	.915	.868	.844	.818	.793	.772	.754	.735	.719	.706	.682	.656	.643	.612
12 Basic Premium Ratio	.164	.123	.107	.099	.092	.087	.083	.080	.077	.075	.071	.069	.067	.064
Minimum Premium Ratio	.904	.860	.839	.812	.791	.770	.751	.732	.718	.702	.680	.655	.637	.606
11 Basic Premium Ratio	.156	.113	.102	.094	.089	.084	.081	.078	.075	.073	.070	.068	.066	.063
Minimum Premium Ratio	.892	.859	.834	.811	.786	.768	.747	.730	.718	.704	.678	.655	.638	.612

PERMANENT

Maximum Premium Ratio:		1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.60	1.70	1.80	2.00
<b>Size Group</b>															
10	Basic Premium Ratio	.148	.104	.097	.090	.086	.082	.078	.076	.074	.072	.069	.067	.065	.063
	Minimum Premium Ratio	.876	.858	.829	.807	.782	.762	.748	.728	.712	.699	.676	.654	.640	.605
9	Basic Premium Ratio	.139	.098	.092	.087	.082	.079	.076	.074	.072	.070	.068	.066	.065	.062
	Minimum Premium Ratio	.856	.853	.825	.800	.782	.761	.744	.727	.712	.702	.674	.654	.631	.612
8	Basic Premium Ratio	.106	.093	.087	.083	.079	.076	.074	.072	.070	.069	.067	.065	.064	.062
	Minimum Premium Ratio	.855	.846	.823	.798	.779	.761	.741	.725	.713	.697	.671	.654	.633	.604
7	Basic Premium Ratio	.097	.088	.083	.079	.076	.074	.072	.070	.069	.068	.066	.064	.063	.061
	Minimum Premium Ratio	.855	.840	.818	.797	.777	.756	.738	.725	.707	.691	.668	.655	.636	.613
6	Basic Premium Ratio	.089	.083	.079	.076	.074	.072	.070	.068	.067	.066	.065	.063	.062	.061
	Minimum Premium Ratio	.855	.836	.814	.792	.768	.749	.735	.725	.709	.696	.664	.656	.640	.602
5	Basic Premium Ratio	.082	.078	.075	.073	.071	.069	.068	.067	.066	.065	.063	.062	.062	.061
	Minimum Premium Ratio	.855	.833	.811	.787	.767	.752	.732	.714	.700	.689	.677	.658	.624	.586
4	Basic Premium Ratio	.077	.074	.071	.070	.068	.067	.066	.065	.064	.063	.062	.062	.061	.061
	Minimum Premium Ratio	.855	.830	.811	.782	.767	.752	.729	.714	.700	.689	.677	.658	.624	.586

**NEW SECTION**

**WAC 296-17-91406 Table VI.**

**RETROSPECTIVE RATING PLAN A3  
MINIMUM PREMIUM RATIOS  
AND BASIC PREMIUM RATIOS  
LOSS CONVERSION FACTOR=.729  
Effective January 1, 1998**

Maximum Premium Ratio:		1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.60	1.70	1.80	2.00
<b>Size Group</b>															
63	Basic Premium Ratio	.818	.762	.722	.692	.666	.642	.622	.603	.586	.571	.543	.517	.495	.458
	Minimum Premium Ratio	.947	.916	.892	.871	.853	.837	.822	.808	.795	.782	.759	.738	.718	.682
62	Basic Premium Ratio	.814	.760	.719	.687	.659	.636	.616	.596	.578	.562	.534	.509	.486	.448
	Minimum Premium Ratio	.945	.912	.887	.866	.848	.831	.815	.801	.788	.775	.751	.729	.709	.673
61	Basic Premium Ratio	.813	.754	.713	.680	.652	.628	.606	.587	.570	.553	.524	.497	.475	.437
	Minimum Premium Ratio	.942	.909	.883	.861	.842	.825	.809	.794	.780	.767	.743	.721	.700	.663
60	Basic Premium Ratio	.811	.749	.705	.672	.644	.618	.597	.577	.558	.543	.513	.486	.464	.425
	Minimum Premium Ratio	.939	.905	.879	.856	.836	.819	.802	.787	.773	.759	.734	.712	.690	.653
59	Basic Premium Ratio	.805	.744	.699	.664	.634	.608	.586	.567	.549	.532	.501	.475	.452	.413
	Minimum Premium Ratio	.937	.901	.874	.851	.831	.813	.796	.780	.765	.751	.726	.703	.681	.643
58	Basic Premium Ratio	.802	.737	.691	.655	.626	.599	.577	.557	.538	.521	.490	.464	.441	.403
	Minimum Premium Ratio	.934	.898	.870	.846	.825	.807	.789	.773	.758	.744	.718	.694	.672	.633
57	Basic Premium Ratio	.796	.731	.685	.647	.618	.591	.568	.547	.528	.511	.480	.454	.431	.392
	Minimum Premium Ratio	.932	.894	.865	.841	.819	.800	.782	.766	.751	.736	.710	.685	.663	.624

**PERMANENT**

Maximum Premium Ratio:		1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.60	1.70	1.80	2.00
<b>Size Group</b>															
56	Basic Premium Ratio	.794	.725	.678	.640	.609	.581	.558	.537	.518	.501	.470	.443	.421	.382
	Minimum Premium Ratio	.928	.890	.860	.835	.813	.794	.776	.759	.743	.728	.701	.677	.654	.614
55	Basic Premium Ratio	.790	.721	.671	.632	.601	.573	.550	.527	.509	.490	.460	.433	.411	.371
	Minimum Premium Ratio	.925	.885	.855	.830	.807	.787	.768	.752	.735	.721	.693	.668	.645	.606
54	Basic Premium Ratio	.787	.714	.666	.626	.592	.565	.541	.518	.499	.481	.450	.423	.400	.363
	Minimum Premium Ratio	.921	.881	.849	.823	.801	.780	.761	.744	.728	.713	.685	.660	.637	.597
53	Basic Premium Ratio	.784	.709	.659	.617	.585	.555	.532	.509	.489	.472	.440	.414	.391	.353
	Minimum Premium Ratio	.917	.876	.844	.818	.794	.774	.754	.737	.721	.705	.677	.652	.629	.589
52	Basic Premium Ratio	.780	.704	.651	.610	.577	.548	.522	.501	.481	.463	.431	.405	.382	.345
	Minimum Premium Ratio	.913	.871	.839	.812	.788	.767	.748	.729	.713	.697	.669	.644	.621	.581
51	Basic Premium Ratio	.775	.698	.644	.602	.567	.539	.514	.491	.471	.454	.422	.396	.372	.336
	Minimum Premium Ratio	.909	.866	.833	.806	.782	.760	.740	.722	.705	.689	.661	.635	.613	.573
50	Basic Premium Ratio	.769	.690	.634	.593	.557	.529	.502	.480	.460	.442	.411	.384	.362	.325
	Minimum Premium Ratio	.905	.861	.828	.799	.775	.752	.733	.714	.697	.681	.652	.627	.604	.564
49	Basic Premium Ratio	.763	.682	.626	.583	.548	.519	.493	.470	.450	.432	.400	.374	.352	.316
	Minimum Premium Ratio	.901	.856	.822	.793	.768	.745	.725	.706	.689	.673	.644	.618	.595	.555
48	Basic Premium Ratio	.756	.674	.617	.574	.538	.509	.482	.460	.439	.422	.390	.365	.342	.307
	Minimum Premium Ratio	.897	.851	.816	.786	.761	.738	.718	.699	.682	.665	.636	.610	.587	.547
47	Basic Premium Ratio	.750	.665	.607	.564	.528	.498	.472	.449	.429	.411	.381	.355	.333	.298
	Minimum Premium Ratio	.892	.846	.810	.780	.754	.731	.710	.692	.674	.658	.628	.602	.579	.539
46	Basic Premium Ratio	.741	.654	.596	.552	.516	.485	.460	.437	.418	.400	.370	.345	.323	.289
	Minimum Premium Ratio	.888	.840	.803	.773	.747	.724	.703	.684	.666	.650	.621	.596	.573	.534
45	Basic Premium Ratio	.731	.643	.585	.540	.503	.473	.448	.426	.406	.389	.360	.335	.315	.282
	Minimum Premium Ratio	.884	.834	.796	.766	.740	.717	.696	.677	.660	.643	.614	.589	.567	.528
44	Basic Premium Ratio	.722	.633	.573	.528	.493	.463	.437	.415	.396	.379	.350	.326	.306	.274
	Minimum Premium Ratio	.879	.828	.790	.759	.732	.709	.689	.670	.653	.637	.608	.583	.561	.523
43	Basic Premium Ratio	.712	.622	.562	.517	.481	.451	.426	.405	.386	.370	.341	.318	.298	.267
	Minimum Premium Ratio	.874	.822	.783	.752	.726	.703	.682	.663	.646	.630	.602	.578	.556	.518
42	Basic Premium Ratio	.703	.612	.551	.506	.470	.440	.415	.394	.375	.358	.330	.307	.288	.257
	Minimum Premium Ratio	.869	.815	.776	.745	.718	.694	.673	.654	.637	.621	.593	.568	.547	.509
41	Basic Premium Ratio	.696	.602	.541	.495	.458	.429	.403	.382	.363	.347	.319	.296	.277	.247
	Minimum Premium Ratio	.863	.809	.769	.737	.710	.686	.665	.645	.628	.612	.583	.559	.537	.499
40	Basic Premium Ratio	.686	.592	.530	.484	.448	.418	.392	.371	.352	.336	.308	.286	.267	.237
	Minimum Premium Ratio	.858	.802	.762	.729	.701	.677	.656	.637	.619	.603	.574	.549	.527	.490
39	Basic Premium Ratio	.677	.581	.520	.473	.437	.407	.382	.360	.342	.325	.298	.275	.257	.228
	Minimum Premium Ratio	.852	.796	.754	.721	.693	.669	.648	.628	.610	.594	.566	.541	.519	.482

PERMANENT



Maximum Premium Ratio:		1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.60	1.70	1.80	2.00
Size Group															
38	Basic Premium Ratio	.668	.571	.509	.463	.426	.396	.372	.350	.332	.315	.288	.266	.248	.220
	Minimum Premium Ratio	.846	.789	.747	.714	.686	.661	.639	.620	.602	.586	.557	.533	.510	.473
37	Basic Premium Ratio	.659	.562	.499	.453	.416	.387	.362	.340	.322	.306	.279	.257	.240	.212
	Minimum Premium Ratio	.839	.781	.740	.706	.678	.653	.631	.612	.594	.578	.550	.525	.503	.466
36	Basic Premium Ratio	.649	.551	.488	.442	.405	.376	.351	.330	.312	.297	.270	.249	.231	.204
	Minimum Premium Ratio	.832	.774	.732	.698	.670	.645	.624	.604	.586	.570	.542	.517	.496	.459
35	Basic Premium Ratio	.635	.538	.475	.429	.393	.365	.340	.320	.302	.286	.260	.240	.223	.196
	Minimum Premium Ratio	.825	.766	.724	.690	.662	.637	.616	.596	.579	.563	.535	.510	.489	.453
34	Basic Premium Ratio	.623	.525	.463	.418	.382	.354	.330	.309	.292	.277	.252	.231	.215	.189
	Minimum Premium Ratio	.816	.757	.715	.682	.654	.629	.608	.589	.571	.556	.528	.504	.483	.447
33	Basic Premium Ratio	.610	.513	.451	.406	.371	.343	.320	.300	.283	.268	.244	.224	.208	.183
	Minimum Premium Ratio	.808	.749	.707	.674	.646	.622	.600	.582	.564	.549	.521	.498	.477	.442
32	Basic Premium Ratio	.597	.501	.440	.395	.361	.334	.311	.291	.274	.260	.236	.217	.201	.177
	Minimum Premium Ratio	.799	.740	.699	.666	.638	.614	.593	.575	.558	.543	.515	.492	.472	.438
31	Basic Premium Ratio	.582	.486	.425	.382	.348	.321	.299	.280	.264	.250	.226	.208	.193	.171
	Minimum Premium Ratio	.791	.732	.690	.658	.630	.606	.586	.567	.551	.536	.510	.487	.467	.434
30	Basic Premium Ratio	.567	.471	.412	.369	.336	.309	.288	.269	.254	.240	.218	.201	.187	.165
	Minimum Premium Ratio	.782	.723	.681	.649	.622	.599	.579	.561	.545	.530	.504	.482	.463	.430
29	Basic Premium Ratio	.551	.457	.398	.356	.324	.299	.277	.260	.245	.232	.210	.194	.180	.160
	Minimum Premium Ratio	.773	.714	.673	.642	.615	.592	.572	.555	.539	.524	.499	.477	.459	.427
28	Basic Premium Ratio	.537	.444	.386	.344	.313	.287	.266	.249	.234	.221	.200	.184	.171	.151
	Minimum Premium Ratio	.764	.705	.665	.633	.606	.584	.564	.546	.530	.516	.491	.470	.451	.421
27	Basic Premium Ratio	.524	.431	.373	.332	.300	.275	.254	.236	.221	.208	.187	.170	.157	.136
	Minimum Premium Ratio	.755	.697	.655	.623	.596	.573	.552	.534	.518	.502	.476	.453	.433	.400
26	Basic Premium Ratio	.510	.418	.361	.320	.288	.263	.242	.224	.209	.196	.175	.158	.145	.124
	Minimum Premium Ratio	.747	.688	.646	.613	.586	.562	.541	.523	.505	.490	.463	.439	.418	.383
25	Basic Premium Ratio	.497	.405	.348	.307	.276	.251	.230	.213	.198	.185	.164	.147	.134	.114
	Minimum Premium Ratio	.738	.679	.638	.605	.577	.553	.531	.512	.495	.479	.451	.427	.405	.369
24	Basic Premium Ratio	.476	.386	.331	.292	.262	.238	.218	.202	.188	.176	.157	.141	.129	.111
	Minimum Premium Ratio	.727	.669	.628	.596	.569	.546	.525	.506	.490	.474	.447	.423	.402	.367
23	Basic Premium Ratio	.454	.368	.315	.277	.249	.226	.208	.192	.179	.168	.150	.136	.124	.107
	Minimum Premium Ratio	.716	.659	.619	.588	.561	.539	.519	.501	.485	.469	.443	.420	.400	.365
22	Basic Premium Ratio	.434	.351	.300	.264	.237	.216	.198	.184	.172	.161	.144	.131	.120	.104
	Minimum Premium Ratio	.704	.649	.611	.580	.555	.533	.513	.496	.480	.465	.439	.417	.397	.363

PERMANENT

Maximum Premium Ratio:		1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.60	1.70	1.80	2.00
<b>Size Group</b>															
21	Basic Premium Ratio	.414	.335	.286	.252	.226	.206	.190	.176	.165	.155	.139	.126	.117	.102
	Minimum Premium Ratio	.693	.640	.603	.573	.548	.527	.508	.491	.476	.461	.436	.414	.395	.361
20	Basic Premium Ratio	.394	.318	.271	.238	.214	.194	.178	.166	.155	.145	.130	.119	.110	.096
	Minimum Premium Ratio	.683	.631	.595	.566	.541	.520	.502	.485	.470	.456	.431	.410	.391	.358
19	Basic Premium Ratio	.377	.301	.254	.222	.198	.179	.164	.152	.142	.133	.120	.109	.101	.089
	Minimum Premium Ratio	.674	.621	.585	.557	.533	.513	.494	.478	.464	.450	.426	.405	.387	.355
18	Basic Premium Ratio	.358	.283	.238	.207	.184	.166	.152	.140	.131	.123	.110	.101	.094	.083
	Minimum Premium Ratio	.664	.612	.575	.547	.524	.505	.488	.472	.458	.445	.421	.401	.383	.352
17	Basic Premium Ratio	.339	.266	.222	.192	.171	.154	.140	.130	.121	.114	.103	.094	.088	.079
	Minimum Premium Ratio	.654	.602	.567	.539	.517	.497	.480	.466	.453	.440	.418	.398	.380	.350
16	Basic Premium Ratio	.320	.249	.208	.179	.159	.143	.131	.121	.113	.106	.096	.088	.083	.075
	Minimum Premium Ratio	.644	.593	.559	.532	.510	.491	.475	.461	.448	.436	.414	.395	.378	.348
15	Basic Premium Ratio	.303	.234	.194	.168	.148	.134	.122	.113	.106	.100	.091	.084	.079	.072
	Minimum Premium Ratio	.635	.586	.552	.526	.504	.486	.470	.457	.445	.433	.412	.393	.376	.346
14	Basic Premium Ratio	.293	.220	.180	.157	.141	.128	.117	.109	.103	.097	.089	.082	.078	.071
	Minimum Premium Ratio	.630	.579	.545	.521	.501	.483	.468	.455	.443	.432	.411	.392	.375	.346
13	Basic Premium Ratio	.281	.204	.167	.148	.133	.122	.112	.105	.099	.094	.086	.081	.076	.070
	Minimum Premium Ratio	.624	.571	.538	.516	.497	.480	.465	.453	.441	.430	.409	.391	.374	.345
12	Basic Premium Ratio	.269	.187	.156	.139	.126	.116	.108	.101	.096	.091	.084	.079	.075	.069
	Minimum Premium Ratio	.618	.562	.533	.512	.493	.477	.463	.451	.440	.429	.408	.390	.374	.345
11	Basic Premium Ratio	.254	.167	.145	.130	.119	.110	.103	.097	.092	.088	.082	.077	.073	.068
	Minimum Premium Ratio	.611	.552	.527	.507	.490	.474	.461	.449	.438	.427	.407	.389	.373	.344
10	Basic Premium Ratio	.238	.150	.135	.122	.113	.105	.098	.093	.089	.085	.079	.075	.072	.067
	Minimum Premium Ratio	.603	.544	.522	.503	.487	.472	.458	.447	.436	.426	.406	.388	.372	.344
9	Basic Premium Ratio	.219	.138	.125	.115	.106	.100	.094	.089	.085	.082	.077	.073	.071	.066
	Minimum Premium Ratio	.593	.538	.517	.500	.483	.469	.456	.445	.434	.424	.405	.387	.372	.343
8	Basic Premium Ratio	.197	.127	.116	.107	.100	.094	.090	.086	.082	.079	.075	.072	.069	.065
	Minimum Premium Ratio	.582	.532	.513	.496	.480	.466	.454	.443	.433	.423	.404	.387	.371	.343
7	Basic Premium Ratio	.170	.117	.108	.100	.094	.089	.085	.082	.079	.077	.073	.070	.068	.064
	Minimum Premium Ratio	.569	.527	.509	.492	.477	.464	.452	.441	.431	.422	.403	.386	.370	.342
6	Basic Premium Ratio	.137	.107	.100	.094	.089	.085	.081	.078	.076	.074	.071	.068	.066	.064
	Minimum Premium Ratio	.552	.522	.505	.489	.475	.462	.450	.439	.430	.420	.402	.385	.369	.342
5	Basic Premium Ratio	.105	.098	.092	.087	.083	.080	.077	.075	.073	.071	.068	.066	.065	.063
	Minimum Premium Ratio	.536	.518	.501	.486	.472	.459	.448	.438	.428	.419	.400	.384	.369	.342
4	Basic Premium Ratio	.104	.089	.085	.081	.078	.075	.073	.072	.070	.068	.066	.065	.064	.062
	Minimum Premium Ratio	.532	.513	.497	.483	.469	.457	.446	.436	.427	.417	.399	.383	.368	.342

PERMANENT

**REPEALER**

The following sections of the Washington Administrative Code are repealed:

- WAC 296-17-904 Definitions.
- WAC 296-17-910 Qualifications for employer groups for workers' compensation insurance.
- WAC 296-17-911 Group dividends.
- WAC 296-17-912 Retrospective rating plan.
- WAC 296-17-913 Qualifications for employer participation in a retrospective rating plan.
- WAC 296-17-915 Evaluation of incurred losses dividend and retrospective rating plans.
- WAC 296-17-916 Retrospective premium adjustments—Due and payable.
- WAC 296-17-91601 Ninety-day open option.
- WAC 296-17-917 Qualifications for employer group participation in retrospective rating plan.
- WAC 296-17-918 Limitation of liability indemnification.
- WAC 296-17-91901 Table II.
- WAC 296-17-91902 Table III.
- WAC 296-17-91903 Table IV.
- WAC 296-17-91904 Table V.
- WAC 296-17-91905 Table VI.

**WSR 98-24-073  
PERMANENT RULES  
ARTS COMMISSION**

[Filed November 30, 1998, 4:25 p.m.]

Date of Adoption: November 30, 1998.

Purpose: Amending WAC 30-04-020 to reference correct defining WAC, and amending WAC 30-08-070, 30-12-150, 30-18-040, 30-22-070, and 30-22-090 for clarity.

Citation of Existing Rules Affected by this Order: Amending WAC 30-04-020, 30-08-070, 30-12-150, 30-18-040, 30-22-070, and 30-22-090.

Statutory Authority for Adoption: RCW 43.46.040.

Adopted under notice filed as WSR 98-20-087 on October 6, 1998.

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 5, 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.

November 30, 1998

Bill Palmer

Acting Executive Director

**AMENDATORY SECTION** (Amending Order 1, Resolution No. 86-1, filed 4/1/86)

**WAC 30-04-020 Public records available.** All public records of the commission as defined in WAC (~~30-04-030(9))~~ 30-02-010(34), are available for public inspection and copying pursuant to these rules, except as otherwise provided by RCW 42.17.310 and WAC 30-04-070.

**AMENDATORY SECTION** (Amending Order 1, Resolution No. 86-1, filed 4/1/86)

**WAC 30-08-070 Appeal procedure—Awards and contracts.** The commission shall provide a procedure for applicants to appeal the commission's decisions when there is evidence that information available at the time of the panel's or commission's action was either not considered (~~included~~) in (~~the~~) their review or was not clearly understood.

(1) Appeals (~~may not~~) must be (~~made~~) based solely on (~~new~~) information (~~not~~) available at the time of the original decision.

(2) Appeals must be presented in writing to the executive director, outlining the nature of the appeal.

(3) The executive director (~~(, in consultation with the chairperson shall accept or reject the appeal)~~) shall consider the appeal and issue a written decision. The executive director may schedule a conference if he/she determines it necessary.

(4) (~~Upon confirmation that the appeal is legitimate~~) The decision of the executive director may be appealed to the commission. Appeals must be submitted in writing, addressed to the chair of the commission of the commission's official address. Upon receipt of the appeal to the full commission, the executive director shall notify the commission and arrange for an appeals hearing at the next scheduled commission meeting. (~~The appeal may be presented by the applicant at that time.~~) The appeal must be presented by the applicant in its entirety at that time and shall be considered final.

(5) The commission shall (~~defer action to the next meeting of the commission, and must make it known to~~) inform the applicant (~~, at which time~~) of the date when the final decision will be made.

(6) After final commission action on the appeal, the executive director or a designated staff person shall notify the

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applicant of the decision in writing, within ~~((five))~~ fifteen working days after the date of the commission action.

(7) Administrative remedies shall not be considered exhausted until the applicant has received the written description of the commission's decision and action on the appeal or ~~((ten))~~ thirty working days since the decision ~~((have))~~ has passed, whichever occurs first.

(8) Appeals may not be made ~~((during the public portion of a commission meeting agenda and))~~ to the commission ~~((shall not take action on any such presentations that may be made))~~ without the above review by the executive director ~~((and chairperson))~~ as provided in subsection (3) of this section.

AMENDATORY SECTION (Amending Order 1, Resolution No. 86-1, filed 4/1/86)

WAC 30-12-150 Complimentary tickets requested for the purpose of evaluation. The following procedures are intended to guide the commission in its efforts to maintain an active liaison with its ~~((constituents [constituents]))~~ constituents, to appraise the work of the artistic community as it relates to commission programs, and to assure compliance with ~~((RCW 42-18-200))~~ chapter 42.52 RCW, Ethics in public service, which defines the laws regarding the acceptance of anything of economic value by a state employee.

In the context of the commission's duties to evaluate its clients, commissioners or staff may request ~~((or accept))~~ complimentary tickets or free admissions to arts events which are presented by applicants for grants or events funded in whole or in part by the commission. In order for the receipt of complimentary tickets for the purpose of evaluation to be clearly within the work of the commission, the following conditions must be observed:

(1) ~~((It must be necessary or appropriate to see an event in order to evaluate an applicant or recipient of financial support.~~

~~((2) Performances or exhibitions of all applicants or recipients of financial support should be attended. If the number of applicants or recipients for support makes it impractical to attend performances or exhibitions of all, only those events involving excessive travel or which are clearly unnecessary to attend in order to evaluate the organization may be omitted.~~

~~((3) There should be a limit on))~~ The number of commissioners or staff ~~((attending an event. Generally, free admissions))~~ requesting complimentary tickets for the purpose of evaluation shall be limited to two persons.

~~((4))~~ (2) Those who attend an event must be prepared to evaluate it in the context of commission guidelines and rules.

~~((5))~~ (3) A written evaluation, in a standard evaluation format, will be required from each commission or staff evaluator.

~~((6))~~ (4) Each applicant or recipient of financial support will be required to provide the commission with two complimentary tickets to events, if so requested.

~~((7))~~ (5) The executive director or designee will authorize on-site evaluations and appoint the person or persons to

perform the evaluation based upon their expertise and ability to report on the case.

~~((8))~~ (6) The executive director or his/her designee will notify the applicant or recipient of the assigned evaluation, the persons to perform the evaluation and request that admission be provided at no cost to the evaluator(s) at a time convenient to the client and evaluator(s).

AMENDATORY SECTION (Amending WSR 95-15-040, filed 7/12/95, effective 8/12/95)

WAC 30-18-040 Eligibility for grantees. ~~((1) Residency sponsors are any Washington school, school district, private nonparochial school, preschool, college, or university. In addition, any Section 501(c)(3) of the IRS Code (non-profit) or government agency may apply as a sponsor. This includes local arts councils and commissions, retirement homes, hospitals, correctional facilities, libraries, museums, and agencies serving special populations.~~

~~((2) Arts curriculum grantees are Washington state public school districts and schools. Government and other nonprofit agencies working in collaboration with their local schools, incorporated as not for profit in the state of Washington, and having federal IRS tax exempt status, also are eligible to apply.~~

~~((3) Arts education project grantees are Washington arts organizations and may apply to fund arts education projects developed in partnership with schools.~~

~~((4) Performing artists and arts organizations are professional performing artists residing in Washington state and arts organizations located in Washington state and they may apply to perform in schools and to serve one week, rural residencies that combine performances and workshops. Professional performing arts organizations with facilities in Washington state may apply to provide mainstage performances for students.~~

~~((5) Applications are competitive on a state-wide basis and grants are subject to the level of funds available to the commission.))~~ Nonprofit arts or community organizations, units of government, nonparochial schools and school districts, or artists and artist groups may be eligible to apply to the arts in education program. Eligibility for grants, contracts, or participation in an arts in education program varies and is published in the program guidelines. The commission establishes and publishes guidelines on an annual or biennial basis.

AMENDATORY SECTION (Amending WSR 95-15-040, filed 7/12/95, effective 8/12/95)

WAC 30-22-070 Contracting. Artists who have been approved by the commission for funding will be issued contracts based on available funding. Partners who collaborate on specific projects with the approval of the ~~((executive director))~~ commission will be issued contracts based on available funding. Contracts will be issued within a fiscal year beginning July 1 and ending June 30 or within the biennium.

**AMENDATORY SECTION** (Amending WSR 95-15-040, filed 7/12/95, effective 8/12/95)

**WAC 30-22-090 Evaluation methods.** Final reports will be required by the commission and must be completed and returned by each contractor by the ending date of the contract. Also, on-site monitoring of events ((with)) may be conducted by the commission and/or its staff.

**WSR 98-24-075**  
**PERMANENT RULES**  
**BUILDING CODE COUNCIL**

[Filed December 1, 1998, 8:40 a.m., effective July 1, 1999]

Date of Adoption: November 13, 1998.

Purpose: To correct chapter 51-11 WAC, the Washington State Energy Code, Section 503.7 Cooling with Outside Air (Economizer Cycle). This permanent rule reverts back to the 1994 requirement because the 1997 update eliminated commonly-used mechanical systems.

Citation of Existing Rules Affected by this Order: Amending WAC 51-11-503.7.

Statutory Authority for Adoption: RCW 19.27A.020, 19.27A.045, and 19.27.020.

Adopted under notice filed as WSR 98-16-066 on August 4, 1998.

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 1, Repealed 0.

Effective Date of Rule: July 1, 1999.

November 13, 1998

Mike McEnaney  
Council Chair

**AMENDATORY SECTION** (Amending WSR 98-03-003, filed 1/8/98, effective 7/1/98)

**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.

**EXCEPTIONS:** 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 sized no greater than two hundred 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 two hundred (200%) 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:** Systems and equipment that provide simultaneous heating and cooling shall comply with the requirements in, as appropriate, Section 1422 or Section 1435.

**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.

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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 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): ~~((Systems and equipment that provide mechanical cooling shall comply with Section 1413 and, as appropriate, Section 1423 or Section 1433.))~~ Each fan system shall be designed to use up to and including 100% 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.

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 3,500 cfm or total cooling capacity is less than 90,000 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 100% 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 100% 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 pro-

vided 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:**

**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.

**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-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.

## WSR 98-24-076

### PERMANENT RULES

#### BUILDING CODE COUNCIL

[Filed December 1, 1998, 8:42 a.m., effective July 1, 1999]

**Date of Adoption:** November 13, 1998.

**Purpose:** To repeal WAC 51-40-23110, the state amendment to Tables 23-II-I-1 and 23-II-I-2, Allowable Shear Tables. This action is necessary to allow the published language of the 1997 Edition of the Uniform Building Code, as published by the International Conference of Building Officials (and subsequent errata) to become effective.

**Citation of Existing Rules Affected by this Order:** Repealing WAC 51-40-23110.

**Statutory Authority for Adoption:** RCW 19.27.074, 19.27.031, 19.27.074 (1)(a).

**Adopted under notice filed as WSR 98-16-065 on August 4, 1998.**

**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 1.

**Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures:** New 0, Amended 0, 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 1.

Effective Date of Rule: July 1, 1999.

November 13, 1998  
Mike McEnaney  
Council Chair

**WSR 98-24-077**  
**PERMANENT RULES**  
**BUILDING CODE COUNCIL**

[Filed December 1, 1998, 8:44 a.m., effective July 1, 1999]

Date of Adoption: November 13, 1998.

Purpose: To update references and definitions in chapter 51.04 WAC, Policies and procedures for consideration of state-wide and local amendments to the State Building Code.

Citation of Existing Rules Affected by this Order: Amending WAC 51-04-015, 51-04-030, and 51-04-060.

Statutory Authority for Adoption: RCW 19.27.035, 19.27.074.

Adopted under notice filed as WSR 98-15-150 on July 22, 1998.

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 3, Repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, 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 3, Repealed 0.

Effective Date of Rule: July 1, 1999.

November 13, 1998  
Mike McEnaney  
Council Chair

**AMENDATORY SECTION** (Amending WSR 98-02-048, filed 1/5/98, effective 7/1/98)

**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 amend-

ments 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 Fuel Gas Piping~~); the Uniform Fire Code and Standards; the Uniform Plumbing Code and Standards; the state regulations for barrier-free facilities, as designated in RCW 19.27.031; 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.

**AMENDATORY SECTION** (Amending WSR 95-01-127, filed 12/21/94, effective 6/30/95)

**WAC 51-04-030 Policies for consideration of proposed local government residential amendments.** All amendments to the building code, as adopted by cities and counties for implementation and enforcement in their respective jurisdictions, that apply to single and multifamily buildings as defined by RCW 19.27.015, shall be submitted to the council for approval.

The council shall consider and approve or deny all proposed local government residential amendments to the building code within ninety days of receipt of a proposal, unless alternative scheduling is agreed to by the council and the proposing entity.

All local government residential amendments to the building code that require council approval shall be submitted in writing to the council, after the city or county legisla-



tive body has adopted the amendment and prior to implementation and enforcement of the amendment by the local jurisdiction.

It is the policy of the council to encourage joint proposals for local government residential amendments from more than one jurisdiction. Local government residential amendments submitted to the council for approval should be based on:

- (1) Climatic conditions that are unique to the jurisdiction.
- (2) Geologic or seismic conditions that are unique to the jurisdiction.
- (3) Environmental impacts such as noise, dust, etc., that are unique to the jurisdiction.
- (4) Life, health, or safety conditions that are unique to the local jurisdiction.
- (5) Other special conditions that are unique to the jurisdiction.

**EXCEPTIONS:** Appendices or portions thereof that have the effect of amending the uniform codes, that do not conflict with the building code for single and multifamily residential buildings as defined by RCW 19.27.015, may be adopted by local jurisdictions without council review or approval.

Local government residential amendments to:

- (1) Chapter 1, 17, or 34 of the Uniform Building Code;
- (2) Chapter 1 of the Uniform Mechanical Code;
- (3) Article 1(~~(, 2, 3 or 4)~~) of the Uniform Fire Code;
- (4) (~~(Part)~~) Chapter 1 of the Uniform Plumbing Code;
- (5) Chapter 1 or 11 of the State Energy Code; or
- (6) Chapter 1 of the Ventilation and Indoor Air Quality Code need not be submitted to the Council for review and approval provided that such amendments do not diminish the construction requirements of those chapters.

Those portions of the supplement or accumulative supplements that affect single and multifamily residential buildings as defined by RCW 19.27.015 that are not adopted by the council shall be submitted to the council for consideration as local government residential amendments to the building code.

Local government residential amendments shall conform to the limitations provided in RCW 19.27.040.

**AMENDATORY SECTION** (Amending WSR 94-05-058, filed 2/10/94, effective 3/13/94)

**WAC 51-04-060 Opinions.** RCW 19.27.031 grants the council authority to render opinions relating to the building code at the request of a local building official.

For the purposes of this section, the term "building official" means the local or state official, or their designee, responsible for implementation and enforcement of the specific code provision on which the opinion is requested.

Council building code related opinions shall be limited to the state regulations for barrier-free facilities, the state energy code, the state ventilation and indoor air quality code, and council amendments to the uniform codes.

Council related opinions may be developed and approved by a standing committee of the council.

Opinions approved by a standing committee may be reviewed and modified by the council.

~~((Energy code related opinions shall be developed in consultation with the Washington state energy office.))~~

**WSR 98-24-078**  
**PERMANENT RULES**  
**BUILDING CODE COUNCIL**

[Filed December 1, 1998, 8:46 a.m., effective July 1, 1999]

Date of Adoption: November 13, 1998.

**Purpose:** To amend the "007 Exceptions" sections of chapters 51-40, 51-42, 51-44, and 51-46 WAC; and WAC 51-11-101.3 Scope, to provide an exemption to the State Building Code for temporary worker housing and refer to the Department of Health rules regulating temporary worker housing.

**Citation of Existing Rules Affected by this Order:** Amending WAC 51-40-007, 51-42-007, 51-44-007, 51-46-007, and 51-11-101.3.

**Statutory Authority for Adoption:** RCW 19.27.031, 19.27.074.

Adopted under notice filed as WSR 98-15-151 on July 22, 1998.

**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 5, 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 5, Repealed 0.

**Effective Date of Rule:** July 1, 1999.

November 13, 1998

Mike McEnaney

Council Chair

**AMENDATORY SECTION** (Amending WSR 98-02-054, filed 1/6/98, effective 7/1/98)

**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 (with the exception of 3003.3 Standby Power and 3003.5 Stretcher Requirements) 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.

The provisions of this code do not apply to the construction, alteration, or repair of temporary worker housing except as provided by rule adopted under chapter 70.114A RCW or chapter 37, Laws of 1998 (SB 6168). "Temporary worker housing" means a place, area, or piece of land where sleeping places or housing sites are provided by an employer for his or her employees or by another person, including a temporary worker housing operator, who is providing such accommodations for employees, for temporary, seasonal occupancy, and includes "labor camps" under RCW 70.54.110.

**AMENDATORY SECTION** (Amending WSR 98-02-056, filed 1/6/98, effective 7/1/98)

**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.

The provisions of this code do not apply to the construction, alteration, or repair of temporary worker housing except as provided by rule adopted under chapter 70.114A RCW or chapter 37, Laws of 1998 (SB 6168). "Temporary worker housing" means a place, area, or piece of land where sleeping places or housing sites are provided by an employer for his or her employees or by another person, including a temporary worker housing operator, who is providing such accommodations for employees, for temporary, seasonal occupancy, and includes "labor camps" under RCW 70.54.110.

**AMENDATORY SECTION** (Amending WSR 98-02-053, filed 1/6/98, effective 7/1/98)

**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.

The provisions of this code do not apply to the construction, alteration, or repair of temporary worker housing except as provided by rule adopted under chapter 70.114A RCW or chapter 37, Laws of 1998 (SB 6168). "Temporary worker housing" means a place, area, or piece of land where sleeping places or housing sites are provided by an employer for his or her employees or by another person, including a temporary worker housing operator, who is providing such accommodations for employees, for temporary, seasonal occupancy, and includes "labor camps" under RCW 70.54.110.

**AMENDATORY SECTION** (Amending WSR 98-02-055, filed 1/6/98, effective 7/1/98)

**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.

The provisions of this code do not apply to the construction, alteration, or repair of temporary worker housing except as provided by rule adopted under chapter 70.114A RCW or chapter 37, Laws of 1998 (SB 6168). "Temporary worker housing" means a place, area, or piece of land where sleeping places or housing sites are provided by an employer for his or her employees or by another person, including a temporary worker housing operator, who is providing such accommodations for employees, for temporary, seasonal occupancy, and includes "labor camps" under RCW 70.54.110.

**AMENDATORY SECTION** (Amending WSR 98-03-003, filed 1/8/98, effective 7/1/98)

**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 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 602, but shall comply with all other requirements for building mechanical systems, and service water heating.

**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.

**101.3.1.4:** The provisions of this code do not apply to the construction, alteration, or repair of temporary worker housing except as provided by rule adopted under chapter 70.114A RCW or chapter 37, Laws of 1998 (SB 6168). "Temporary worker housing" means a place, area, or piece of land where sleeping places or housing sites are provided by an employer for his or her employees or by another person, including a temporary worker housing operator, who is providing such accommodations for employees, for temporary, seasonal occupancy, and includes "labor camps" under RCW 70.54.110.

**101.3.2 Application to Existing Buildings:** Additions, historic buildings, changes of occupancy or use, and alter-

tions 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.

EXCEPTIONS:

1. Untested storm windows may be installed over existing glazing for an assumed U-factor of 0.90, however, where glass and sash are being replaced in Group R Occupancy, glazing 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.

WSR 98-24-083  
PERMANENT RULES  
DEPARTMENT OF  
RETIREMENT SYSTEMS  
[Filed December 1, 1998, 1:21 p.m.]

Date of Adoption: December 1, 1998.

Purpose: To amend the Department of Retirement System's rules implementing RCW 41.50.120 Payment of monies due department by employers—Interest and 41.50.125 Interest on contributions—Department may charge.

Citation of Existing Rules Affected by this Order: Repealing WAC 415-114-300, 415-114-500, 415-114-550 and 415-114-600; and amending WAC 415-114-100, 415-114-200, 415-114-400, and 415-114-700.

Statutory Authority for Adoption: RCW 41.50.050, 41.50.120, 41.50.125.

Adopted under notice filed as WSR 98-21-064 on October 30, 1998.

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 4, Repealed 4.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, Amended 4, Repealed 4.

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.

November 30, 1998

John Charles

Director

Chapter 415-114 WAC

ASSESSMENT OF INTEREST CHARGES ON  
~~((EMPLOYERS'))~~ OVERDUE ~~((PAYMENTS))~~  
RECEIVABLES

AMENDATORY SECTION (Amending WSR 91-19-062, filed 9/16/91, effective 10/17/91)

WAC 415-114-100 Purpose. These rules relate to the implementation of RCW 41.50.120 and 41.50.125 which provide((s)) the department of retirement systems the authority to assess interest ~~((charges))~~ on ~~((employers' overdue payments of obligations))~~ the overdue unpaid balance of a receivable owed to the department. These rules are intended to encourage ~~((employers to pay obligations))~~ payment in a timely manner.

AMENDATORY SECTION (Amending WSR 91-19-062, filed 9/16/91, effective 10/17/91)

WAC 415-114-200 Definitions. As used in this chapter, unless a different meaning is plainly required by the context:

(1) "Department" - refers to the department of retirement systems established pursuant to chapter 41.50 RCW as now existing or hereafter amended;

(2) ~~((“Employers” refers to all employers within the retirement systems administered by the department as defined in RCW 41.50.030;~~

(3) ~~((“Obligations owed to the department” include, but are not limited to, employer and employee contributions;~~

(4)) “Receivable” - refers to an amount owed to DRS, where there is a legal obligation to pay DRS and DRS has a legal obligation to collect the amount owed. That includes, but is not limited to, amounts owed to trust funds administered by the department of retirement systems;

PERMANENT

(3) "Close of business day" - refers to 5:00 p.m. of a business day;

(4) "Overdue receivable" - refers to a receivable with an unpaid balance at the close of business three business days after the due date;

(5) "Employer receivable" - refers to a receivable which is owed by any one of the employers within the retirement systems and programs administered by the department as defined in RCW 41.50.030;

(6) "Member receivable" - refers to a receivable which is owed by any one of the current or previous members of the retirement systems and programs administered by the department as defined in RCW 41.50.030, or is owed by a member's beneficiary, legal owner payee, or other agent in conjunction with the member's account;

(7) "Administrative receivable" - refers to any receivable owed the department which is not considered an employer receivable or a member receivable.

**AMENDATORY SECTION** (Amending WSR 91-19-062, filed 9/16/91, effective 10/17/91)

**WAC 415-114-400 Assessment of interest charge.**  
~~((1) When a payment is overdue, interest will be charged in the following manner:~~

~~A 1% simple interest charge will be assessed against the employer's balance due on account multiplied by the number of the days past due divided by 30.40 (annual average number of days in a month). The balance due on the account is the total of the obligations owed to the department, less payments received. The interest obligation shall not be compounded.~~

~~(2) Interest charges of less than five dollars will not be billed.~~

~~(3) Interest charges will be based upon the employer's monthly contribution report as received by the department. If the employer's contributions have not been received in a timely manner as stated in WAC 415-114-300, interest charges will be based on an average of contribution reports processed from the prior six months. Such interest charges will then be adjusted when the late contribution report is received and processed.~~

~~(4) Interest will be charged for overdue obligations owed to the department for reports and current obligations which are due on or before June 15, 1991. Current obligations are all obligations except debit balance forwards as defined in WAC 415-114-550.) The first calendar day that the receivable is overdue, interest will be charged, based on the due date.~~

A 1% per month simple interest charge will be assessed against an employer's overdue balance. Interest charges for other receivables will be determined by the director of the department of retirement systems. For member receivables, interest will be based on the long-term investment return assumption adopted under RCW 41.45.030. These rates approximate interest lost to trust funds because the receivables have not been paid in a timely manner.

Assessed interest will appear on the monthly accounts receivable statement issued by the department.

**AMENDATORY SECTION** (Amending WSR 91-19-062, filed 9/16/91, effective 10/17/91)

**WAC 415-114-700 Erroneous charges of interest.** If the department erroneously charges interest (~~(against an employer)~~), the department will credit the ~~((employer's))~~ account ~~((an amount))~~ within sixty days of the date that the erroneous bill is corrected. The credit will equal ((to the)) all erroneous interest ((that was)) charged. ((Employers who believe that they have been erroneously charged interest must submit to the department written proof prior to the department making a determination regarding the cancellation of the interest charge.)) Those who believe they have been charged interest in error must submit written justification of their claim within ninety days of the interest charge.

#### **REPEALER**

The following sections of the Washington Administrative Code are repealed:

WAC 415-114-300	What is considered an overdue payment of an obligation owed to the department.
WAC 415-114-500	Assessment of interest charge on accrued obligations.
WAC 415-114-550	Assessment of interest charge on debit balance forward.
WAC 415-114-600	Billing of interest charges.

#### **WSR 98-24-089**

#### **PERMANENT RULES**

#### **GAMBLING COMMISSION**

[Order 368—Filed December 1, 1998, 2:06 p.m.]

Date of Adoption: November 13, 1998.

Purpose: Rule change allows Class F and above bingo licensees to accrue jackpot prize contribution amounts before they are awarded.

Citation of Existing Rules Affected by this Order: Amending WAC 230-30-045.

Statutory Authority for Adoption: RCW 9.46.070.

Adopted under notice filed as WSR 98-19-083 on September 22, 1998, with a publication of October 7, 1998.

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: Thirty-one days after filing.

December 1, 1998

Susan Arland  
Public Information Officer

**AMENDATORY SECTION** (Amending Order 359, filed 7/15/98, effective 1/1/99)

**WAC 230-30-045 Pull-tab series with carry-over jackpots—Definitions—Requirements.** Operators may utilize pull-tab series that are specifically designed to include carry-over jackpots. The following definitions and requirements shall apply to these series:

(1) Definitions which apply to pull-tab series with carry-over jackpots:

(a) "Carry-over jackpot" means a prize pool that is composed of accumulated contribution amounts from pull-tab series which, if not won, are carried over to other pull-tab series;

(b) "Contribution amount" means the amount from each series which is added to the carry-over jackpot; and

(c) "Guaranteed prizes" means all prizes available to be won, excluding the contribution amount or carry-over jackpot;

(2) The following requirements apply to carry-over jackpot prizes and prize payout calculations:

(a) Guaranteed prizes must be 60% or more of gross receipts available from the pull-tab series;

(b) The contribution amount for each series may not be more than five hundred dollars;

(c) The contribution amount and the method of play shall be determined by the manufacturer and disclosed on the flare;

(d) At no time shall an accumulated carry-over jackpot exceed two thousand dollars. Once it reaches this amount, the two thousand dollars accumulated carry-over jackpot shall be carried over to subsequent series until won; and

(e) The carry-over jackpot must be awarded. Failure to have sufficient funds available, or any attempt by an operator to utilize carry-over jackpots for personal or organizational purposes, shall be *prima facie* evidence of defrauding the players in violation of RCW 9.46.190;

(f) If the jackpot is awarded, the sum of the advance-level prize and the jackpot prize shall not exceed two thousand dollars. If the jackpot is not awarded, the sum of the advance-level prize and the consolation prize shall not exceed five hundred dollars;

(3) The following additional requirements apply to pull-tab series with carry-over jackpots:

(a) If bonus pull-tab series are used:

(i) The odds of winning the carry-over jackpot shall not exceed one winner out of ten chances, or the probability of winning the carry-over jackpot shall be .10 or higher, at the jackpot level;

(ii) There may only be one advance level on the flare;

(iii) There shall be at least one guaranteed chance to win the carry-over jackpot;

(iv) All chances that are included on the flare shall be covered in a manner that prevents determination of the concealed numbers or symbols prior to being opened by the player. If perforated windows are used, the numbers or symbols must be covered by latex, foil, or other approved means; and

(v) Standards for bonus pull-tab flares, as set forth in WAC 230-30-106, shall apply;

(b) The maximum ticket count for pull-tab series with carry-over jackpots shall be six thousand tickets; and

(c) The secondary win codes on pull-tab series with carry-over jackpots must not repeat within a three-year period;

(4) The following operating and recordkeeping requirements apply to pull-tab series with carry-over jackpots:

(a) If the chances of winning the carry-over jackpot are obtained and the carry-over jackpot is not won, the series shall be removed from play within seven operating days;

(b) If a carry-over jackpot is not won prior to removing a series from play, it shall be carried over to a new series within one operating day from when the series was removed from play. The accrued contribution amounts from all previous series shall be added to the contribution amount from the new series, up to two thousand dollars;

(c) The following additional records must be maintained for pull-tab series with carry-over jackpots:

(i) For carry-over jackpots six hundred dollars and over, the winner's full name, address, and Social Security number shall be recorded on a separate form for income tax purposes;

(ii) Each pull-tab series contributing to a specific carry-over jackpot must be retained as one series. The retention period for these series shall be as required by WAC 230-30-072(3): *Provided*, That the retention period shall start on the last day of the month in which the carry-over jackpot was awarded rather than when the series was removed from play; and

(iii) Operators are required to maintain a separate record documenting the flow of carry-over jackpots from one game to another in a format prescribed by the commission;

(d) For the purposes of monthly records set forth in WAC 230-08-010, all operators shall record carry-over jackpots on a cash basis. This means that carry-over jackpot contribution amounts shall not be recorded on monthly records until the prize is awarded: *Provided*, That punch board/pull-tab licensees who also hold a Class F or above bingo license may accrue carry-over jackpot contribution amounts on their monthly records if the following conditions are met:

(i) Prior approval is received from the director;

(ii) The contribution amounts, up to the point where the jackpot reaches the maximum, shall be recorded as prizes paid on the monthly records;

(iii) When the jackpot is awarded, only amounts not previously accrued, if any, shall be recorded as a prize paid;

(iv) No more than five carry-over jackpot series shall be in play at once; and

(v) If the contribution amount is not deposited with the net receipts (required by WAC 230-12-020), a proper audit

trail and adequate security over the funds must be maintained; and

(5) The director shall approve the following aspects of all pull-tab games with carry-over jackpots prior to sale in Washington state:

(a) The design, payout, method of play, and flare for each pull-tab series;

(b) The manufacturing process for the pull-tab series and flares; and

(c) The secondary win code system for the pull-tab series.

### WSR 98-24-090

#### PERMANENT RULES

#### GAMBLING COMMISSION

[Order 369—Filed December 1, 1998, 2:11 p.m.]

Date of Adoption: November 13, 1998.

Purpose: This rules package allows bingo operators to join together to offer joint bingo prizes to their customers.

Citation of Existing Rules Affected by this Order: Amending WAC 230-04-124, 230-08-017, 230-08-040, 230-08-080, 230-12-230, 230-20-102, 230-20-107, and 230-20-246.

Statutory Authority for Adoption: RCW 9.46.070.

Adopted under notice filed as WSR 98-20-090 on October 7, 1998, with a publication of October 21, 1998.

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 8, Amended 8, 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 8, Amended 8, 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.

December 1, 1998

Susan Arland

Public Information Officer

#### NEW SECTION

**WAC 230-02-207 Linked bingo prize provider defined.** A "linked bingo prize provider" is any person who provides bingo licensees the means to link bingo prizes. This person may provide the licensees equipment, linked bingo prize management, and distribute necessary gambling equipment and supplies.

A "linked bingo prize provider" is not a "distributor" if the only gambling equipment and supplies they furnish to

bingo operators is to be used exclusively for bingo games that are played to win the linked bingo prize.

In no circumstances may a linked bingo prize provider assume ultimate responsibility for an operator's bingo game operation.

#### NEW SECTION

**WAC 230-02-218 Linked bingo prize provider representative defined.** A "linked bingo prize provider representative" is any natural person who represents a "linked bingo prize provider" in any of their activities in connection with the management of a linked bingo prize game or distribution of linked bingo prize game supplies.

#### NEW SECTION

**WAC 230-02-255 Linked bingo prize defined.** A linked bingo prize is a prize that is awarded to a player who is competing against players from multiple participating licensed bingo halls. Categories of prizes include:

(1) The main prize, which is the prize paid each time the game is played to the first verified winner(s);

(2) The consolation prize, which is the prize paid at each participating licensed bingo hall after the main prize has been determined; and

(3) The bonus prize, which is a prize awarded when a player achieves the winning pattern in a predetermined number of calls or on a specific predetermined number.

**AMENDATORY SECTION** (Amending Order 362, filed 9/23/98, effective 1/1/99)

**WAC 230-04-124 Licensing of manufacturer, distributor (~~and~~), gambling service supplier, and linked bingo prize provider representatives.** Prior to selling or supplying to any person gambling equipment, paraphernalia or related services in connection with licensed gambling activities, a representative or agent of a licensed manufacturer, distributor, (~~or~~) gambling service supplier, or linked bingo prize provider shall first obtain a license from the commission. The following definitions and restrictions apply:

(1) A sole owner, partner, major officer and/or owner of a substantial interest in an entity licensed as a manufacturer, distributor, (~~or~~) gambling service supplier, or linked bingo prize provider shall not be required to be additionally licensed as a representative to engage in the selling or supplying of the entity's products or services. Office, clerical or warehouse personnel who have contact with the public and potential customers only by telephone or at the manufacturer's, distributor's, (~~or~~) gambling service supplier's, or linked bingo prize provider's own premises when working under the immediate and direct supervision of an owner, partner, or major officer shall also be exempt from this licensing requirement. A manager or supervisor who is not a sole owner, partner or a major officer or owner of a substantial interest and whose duties and responsibilities include the supervision of selling, supplying and/or the promotion of products or services shall be licensed as required by this rule prior to performing such functions. A manufacturer, distribu-

tor, ~~((or))~~ gambling service supplier, or linked bingo prize provider shall not allow an unlicensed person to represent them in such transactions and shall take all measures necessary to prevent an unlicensed person from doing so.

(2) The manufacturer, distributor, ~~((or))~~ gambling service supplier, or linked bingo prize provider for which the representative will work shall sign the application acknowledging that the applicant will be representing them with their full knowledge and consent.

(3) An applicant for a license as a distributor representative ~~((or))~~, gambling service supplier, or linked bingo prize provider representative shall:

(a) Complete a training course for any activity being managed, as required and provided by the commission within thirty days after the first day worked; and

(b) Represent only one licensed distributor ~~((or))~~, gambling service supplier, or linked bingo prize provider at a time and shall not represent a manufacturer: *Provided*, That this rule shall not prevent a licensed representative from representing ~~((both))~~ a manufacturer ~~((and))~~, distributor ~~((when both businesses are owned by the same person))~~, and/or linked bingo prize provider when all businesses are owned by the same person: *Provided further*, That this rule shall not bar the distributor's representative from representing his own distributor who is also licensed as a manufacturer.

(4) If a licensed gambling service supplier representative has any interest in a licensed manufacturer or distributor and they provide services to any punch board, pull-tab, or bingo operator, they shall inform the commission, the operator, and the manufacturer or distributor of the relationship. Such manufacturer or distributor shall be prohibited from selling punch boards, pull-tabs, or disposable bingo cards to such operator.

**NEW SECTION**

**WAC 230-04-126 Licensing of linked bingo prize providers.** Prior to providing any type of gambling related service, gambling related equipment, or gambling related supplies to any licensed bingo operator, a linked bingo prize provider shall first obtain a license from the commission. The following requirements and restrictions apply to licensing of linked bingo prize providers:

(1) For purposes of this Title, a license is required to manage a linked bingo prize or provide bingo game operators with the equipment and supplies to offer linked bingo prize games to their customers;

(2) The applicant shall include upon the application form supplied by the commission, sufficient information to determine the types of services and equipment provided, personal and financial information to determine applicant identity and qualifications, evidence of the obtainment of a bond to cover all linked bingo prize jackpots, as well as all other information and materials required elsewhere in these rules;

(3) The applicant shall comply with all applicable laws of the United States, the state of Washington, and all applicable rules of the Washington state gambling commission; and

(4) If the applicant does not maintain a business office within the state or is incorporated in another state or country, then the applicant must disclose the full name and business

and home address of the resident agent designated by the applicant pursuant to WAC 230-12-300.

**NEW SECTION**

**WAC 230-04-206 Fees—Linked bingo prize providers and linked bingo prize provider representatives.** Linked bingo prize providers and linked bingo prize provider representatives shall submit the following fees to the commission when applying for gambling licenses, permits, miscellaneous charges, or when assessed the cost of special investigation procedures by the commission:

LICENSE TYPE	DEFINITION	FEE
1. LINKED BINGO PRIZE PROVIDER		\$3,693
2. LINKED BINGO PRIZE PROVIDER REPRESENTATIVE	Original	\$219
	Renewal	\$135

In addition to the annual fee, the commission will assess all applicants the actual costs incurred in conducting the investigation and inspection necessary for initial certification.

OTHER FEES		
3. CHANGE OF NAME	(See WAC 230-04-310)	\$26
4. DUPLICATE LICENSE	(See WAC 230-04-290)	\$26
5. REPLACEMENT	(See WAC 230-04-240)	As Required
6. OUT-OF-STATE	(See WAC 230-04-240)	As Required
7. RECORDS INQUIRY	(See WAC 230-04-240)	As Required

**AMENDATORY SECTION** (Amending Order 359, filed 7/15/98, effective 1/1/99)

**WAC 230-08-017 Control of gambling equipment—Use of identification and inspection services stamps.** To ensure gambling equipment is used only as authorized, manufacturers, distributors, linked bingo prize providers, and operators shall maintain close control over all gambling equipment in their possession. Each transfer of such equipment shall be documented by completing an invoice or other written record setting forth the information required by WAC 230-08-040. Identification and inspection services stamps obtained from the commission shall be used to identify gambling equipment and shall be permanently and conspicuously affixed to all equipment and devices designated by the commission. Once attached, identification and inspection services stamps shall not be removed, disfigured, or otherwise tampered with by any person. These stamps shall be attached and controlled in the following manner:

(1) Identification and inspection services stamps shall be attached to the following gambling equipment and devices:

(a) Punch boards and pull-tab series;

(b) Pull-tab dispensing devices;

(c) Disposable bingo cards: *Provided*, That this requirement applies to cards shipped for use in Washington state

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after December 31, 1993. All inventory on hand at the distributor and operator level at the close of business on December 31, 1993, shall be exempt from this requirement;

(d) Coin or token-activated amusement games operated at any Class A amusement game license location;

(e) Electronic bingo card daubers; and

(f) Other gambling equipment or devices, as determined by the director.

(2) Identification and inspection services stamps shall only be sold to and attached by licensed manufacturers or commission staff: *Provided*, That a licensed owner of controlled gambling equipment may purchase and attach stamps as outlined in subsections (7) and (8) of this section;

(3) The fee charged for identification and inspection services stamps shall be set by the commission at a level sufficient to fund regulation and control of gambling equipment. Fees shall be as set out below:

(a) Punch boards and pull-tabs:

(i) Standard - wagers fifty cents and below - twenty-seven cents;

(ii) Standard - wagers over fifty cents - one dollar;

(iii) Progressive jackpot pull-tab series - ten dollars per series;

(iv) Pull-tab series with carry-over jackpots - one dollar;

(b) Pull-tab dispensing devices:

(i) Mechanical and electro-mechanical - twenty-seven cents;

(ii) Electronic - pull-tab dispensing devices that require initial and ongoing evaluation of electronic components or functions, such as reading encoded data on pull-tabs, accounting for income or prizes, and other functions determined by the director - one hundred dollars annually.

(c) Disposable bingo cards:

(i) Sets of individual cards or sheets of cards - twenty-seven cents;

(ii) Collations of cards - one dollar and ten cents;

(iii) Cards used to play for linked bingo prizes - forty cents per two hundred fifty cards.

(d) Coin or token-activated amusement games operated at any Class A amusement game license location - twenty-five dollars annually;

(e) Electronic bingo card daubers - ten dollars annually;

(f) Other equipment or devices - the actual cost of inspection or approval, as determined by the director.

(4) Devices that require identification and inspection services stamps to be installed annually shall have such stamps attached prior to placing any device into play and, on or before December 31 of the year preceding operation for each subsequent year: *Provided*, That annual identification and inspection services stamps shall be purchased and attached to electronic pull-tab dispensing devices, coin operated amusement games, and electronic bingo card daubers located in the state on December 31, 1996, prior to the operation of such devices on or after January 1, 1997.

(5) Identification stamps shall only be affixed to gambling equipment or devices in such a manner as to assure reasonable inspection without obstruction. If equipment is enclosed or packaged within protective materials, the stamps shall be readily visible for inspection without removal of any portion of the protective packaging: *Provided*, That when

more than one device is packed in a shipping carton, this requirement shall not apply if the identification and inspection services stamp numbers of all devices contained in the carton are printed or otherwise noted on the outside of the carton. Stamps and records entry labels shall be affixed in the following manner:

(a) Punch boards - on the reverse side in an area that will not obstruct removal of punches: *Provided*, That if sufficient space is not available on the reverse side, the records entry labels may be wrapped around and/or partially attached to the edge of a punch board in a manner that will not obstruct display of prizes available or other information required by rules of the commission;

(b) Pull-tabs - on the face or reverse side of the flare. If placed on the face, then they must be in an area that will not obstruct prizes available or any other information required by rules of the commission;

(c) Pull-tab dispensing devices - on the outside of the main body, in an area that is not normally removed and replaced, and in a manner that will not obstruct the view of the pull-tabs available for play. The records entry labels shall not be affixed to dispensing devices and may be discarded; and

(d) Disposable bingo cards - on the packing label attached to the outside of the shipping carton. Records entry labels shall be attached to the packing slip: *Provided*, That when a set or collation of cards is packed in more than one shipping carton, the stamp shall be attached to carton number one and the stamp number imprinted on all remaining shipping cartons.

(6) Identification and inspection services stamps shall not be attached to gambling equipment or devices that do not comply with rules of the commission. If a piece of equipment or a device requires specific commission approval, stamps shall not be affixed prior to such approval.

(7) A licensed owner of gambling devices which require annual identifications and inspection services stamps may purchase such from the commission. The licensee shall submit the appropriate fee, along with a form provided by the commission, to obtain the stamps.

(8) A licensed owner of pull-tab dispensing devices may obtain a commission identification and inspection services stamp to replace an identification stamp affixed to a pull-tab dispensing device that has become unidentifiable due to wear. The fee for replacement of the stamp shall be as required by WAC 230-04-202 and/or 230-04-203. The operator or distributor shall furnish the following information to the commission:

(a) A copy of the invoice from the operator, distributor or manufacturer for the purchase of the dispensing device in question; or

(b) A complete description of the pull-tab dispensing device, serial number, manufacturer, and the commission stamp number previously affixed to the device, if known.

(9) Manufacturers shall maintain records that will allow accountability for all identification and inspection services stamps issued to them by the commission for at least three years after they are affixed to devices and sold. This accountability shall be by indefinite retention of unused or damaged stamps or by records as set out in WAC 230-08-025: *Pro-*

vided, That damaged stamps may be returned to the commission and will be replaced with serviceable stamps if they are accompanied by a detailed listing of the damaged stamps and a ten cent per stamp service charge.

#### NEW SECTION

**WAC 230-08-035 Records to be maintained by linked bingo prize providers.** In addition to the accounting records to be maintained by distributors and manufacturers as required by WAC 230-08-025, a linked bingo prize provider must also maintain the following records:

(1) A complete and accurate record for each linked prize offered that includes at least the following:

- (a) The date and time the prize was played for;
- (b) A complete list of names and addresses of each participating licensee;
- (c) The serial number, color, and beginning and ending sheet numbers sold by each licensee;
- (d) The dollar amount of sales for each licensee;
- (e) A reconciliation of the number of bingo cards issued to each participating licensee and the number of cards sold or returned;
- (f) The dollar amount that each licensee contributed to the prize fund;
- (g) The total amount contributed to the prize fund;
- (h) The dollar amount of prizes paid from the prize fund; and

(i) The dollar amount accrued for a bonus prize;

(2) A record of assets installed at participating licensees' locations that includes the following:

- (a) The name and address of the licensee where the asset is installed; and
  - (b) A physical description of the asset and its cost;
- (3) A complete and accurate record that shows where all bingo cards purchased or otherwise obtained have been distributed and the date the cards were used; and
- (4) Video tapes must be maintained for at least one year which record at least the following activities:
- (a) The ball selection process that clearly shows the numbers drawn; and
  - (b) All body movements of the caller.

**AMENDATORY SECTION** (Amending WSR 97-14-012, filed 6/20/97, effective 7/21/97)

**WAC 230-08-040 Sales invoices—Minimum information to be recorded for transfer of gambling equipment and merchandise—Retention—Penalties.** The following requirements apply to sales invoices:

(1) In addition to entries required by WAC 230-08-025, the following information shall be recorded on invoices for sales or transfer of gambling equipment and merchandise:

- (a) Punch boards/pull-tabs - for each board or series:
  - (i) Trade name of device;
  - (ii) Type of device;
  - (iii) Form number or other manufacturer-assigned scheme to specifically identify a device, including the size or number of chances; and
  - (iv) Identification and inspection services stamp number.

- (b) Pull-tab dispensing devices:
  - (i) Trade name of device;
  - (ii) Type of device; and
  - (iii) Identification and inspection services stamp number.

(c) Disposable bingo cards - for each set of cards or collation of packets:

- (i) Type of product, including product line;
- (ii) Description of product, including the number of cards, "series," "on," "cut," and "up";
- (iii) Identification and inspection services stamp number;
- (iv) Serial number or, if packets, serial number of the top page;

(v) Color and border pattern or, if packets, color and border pattern of the top page; ~~(and)~~

(vi) The unit or package number when a series or collation has been divided as authorized in WAC 230-20-192(6); and

(vii) For disposable bingo cards to be sold for linked bingo prizes the beginning and ending sheet numbers sold to or returned from the operator.

(d) Merchandise to be used as prizes for any gambling activity, whether purchased from a licensed distributor or from other than a licensed distributor, must be recorded on a sales invoice or receipt. The following information must be on the sales invoice or receipt provided by the seller:

- (i) The date of purchase;
  - (ii) The company's name and adequate business address;
  - (iii) A full description of each item purchased;
  - (iv) The quantity of items purchased; and
  - (v) The cost per individual items purchased; and
- (e) All other gambling equipment:
- (i) Trade name of device;
  - (ii) Type of device;
  - (iii) Serial number or other identification numbers or characteristics; and
  - (iv) Identification and inspection services stamp number.

(2) All sales invoices and receipts must be maintained by the operator for at least three years.

(3) Any manufacturer, distributor, linked bingo prize provider, or licensed representative of ~~((either))~~ the above, who fails to accurately complete any invoice for the sale or return of a punch board, pull-tab series, pull-tab dispensing device, disposable bingo cards, related merchandise, or other gambling device may be assessed a fee of up to fifty dollars per incomplete invoice. The fee shall be used to defray extra costs incurred by the commission in tracking transfers or other monitoring procedures as a result of errors or omissions.

**AMENDATORY SECTION** (Amending WSR 98-04-024, filed 1/28/98, effective 7/1/98)

**WAC 230-08-080 Daily records—Bingo.** In addition to any other requirement set forth in these rules, licensees for the operation of bingo shall be required to prepare a detailed record covering each bingo session as defined in WAC 230-02-104: *Provided*, That operators of bingo games conducted at qualified agricultural fairs and other special locations shall

be exempt from this rule, but will be required to keep all operator records by location in order to properly report all information as required by WAC 230-08-250. This detailed daily record shall disclose the following information for each separate session conducted during a bingo occasion:

(1) The gross gambling receipts collected for each separate type of sale, of any kind, for bingo games including, but not limited to, regular games, early bird games, blackout games, special games, or pick up games. These gross gambling receipts shall be supported by receipting records required by WAC 230-20-101 and inventory control records required by WAC 230-08-105. Licensees using the combination receipting method shall reconcile the extended value of all disposable cards, packets of cards, and electronically generated cards sold to the amount of sales recorded per the cash register;

(2) The amount paid out or accrued for prizes awarded for each bingo game. Each session record shall contain the following minimum information regarding prizes awarded:

- (a) The game number;
- (b) The dollar amount or the actual cost of each prize;
- (c) A complete description of all noncash prizes;
- (d) The consecutive number of the prize receipt issued for each prize;

(e) The duplicate copy of the prize receipt issued for all prizes awarded during the session or the merchandise prize receipt log as allowed by WAC 230-20-102(4);

(f) The check number of all checks used to pay winners of bingo games: *Provided*, That if the payment must be made by check under the guidelines of WAC 230-20-102 (1)(c), the duplicate copy must be maintained as a part of the session records; ~~(and)~~

(g) Full details of prizes accrued(-); and

(h) For accrued prizes contributed to a linked bingo prize:

(i) The amount of the contribution;

(ii) The amount of any consolation prize paid by the licensee for a linked bingo prize game; and

(iii) The name of the linked bingo prize provider to whom the contribution is made;

(3) The net gambling receipts from each bingo session;

(4) The cash on hand at the commencement and the conclusion of each session;

(5) A reconciliation of cash on hand, net gambling receipts, and the bank deposit of net revenue for each session. The bank deposit shall be supported by a validated copy of the bank deposit receipt. Steps taken to reconcile overages and/or shortages that exceed twenty dollars for any session must be documented;

(6) An attendance record indicating the number of people participating and the time the attendance count was made;

(7) All bingo numbers or symbols selected and called during any game that offers a prize exceeding two hundred dollars. The numbers or symbols shall be recorded in the sequence selected. A computer generated "call sheet" may be used in lieu of a manual record if a print-out of results is made;

(8) The winning card or face number(s) for each individual prize awarded that exceeds two hundred dollars: *Provided*, That if the game is played using disposable bingo

cards, the winning card or sheet of cards may be retained in lieu of the card numbers;

(9) A copy of the schedule of the games to be played and prizes available for the session: *Provided*, That if the record is annotated with the effective dates of each game schedule, it may be maintained separately and updated only when a change occurs. Any changes to the advertised and printed game and prize schedule, that occur during a session, must be noted in the session records and verified by the signature of the gambling manager assigned primary responsibility for supervising the session and another bingo worker on duty during the session;

(10) The gambling manager assigned primary responsibility for supervising the bingo session(s) must review all session records for accuracy, determine that required information is provided, and confirm the required deposit amount(s). After satisfactory completion of this review, the records must be signed by the gambling manager responsible for supervising the session before the gambling manager leaves the premises on the day(s) the session(s) was conducted; and

(11) All records required by this section shall be:

(a) Recorded in a standard format prescribed by the commission;

(b) Recorded during the course of each session; and

(c) Retained for a period of not less than three years.

#### NEW SECTION

**WAC 230-08-165 Quarterly activity reports by linked bingo prize providers.** Each licensed linked bingo prize provider shall submit an activity report to the commission concerning sales and services relating to gambling activities each quarter by completing a report form furnished by the commission. The following requirements shall be followed for completion and filing of activity reports:

(1) Quarterly reporting periods are defined as:

(a) January 1st through March 31st;

(b) April 1st through June 30th;

(c) July 1st through September 30th; and

(d) October 1st through December 31st;

(2) The completed report shall be received in the office of the commission or postmarked no later than thirty days following the end of the period for which it is made;

(3) The report shall be signed by the highest ranking executive officer or their designee. If the report is prepared by someone other than the licensee or their employee, then the preparer's name and business telephone number must be provided;

(4) The report shall include, among other items, the following:

(a) The gross sales of gambling related supplies or equipment or merchandise of any kind which could be used to operate, or in connection with bingo games where such sales are made in the state of Washington or for use or for distribution within this state;

(b) The quantity of each specific type of device, equipment or merchandise sold within this state or for distribution and use within this state by the licensee;

(c) A listing of the name and address of each person who was a linked bingo prize provider's representative for the licensee during the three-month period or who attempted to solicit sales of such devices, equipment or merchandise, either within the state of Washington or for use or distribution within the state;

(d) The number of employees in the state of Washington other than those listed in (c) of this subsection;

(e) The gross prizes disbursed for all linked bingo prizes managed;

(f) The balance of linked bingo prizes accrued; and

(g) A list of bingo licensees participating in linked bingo prizes managed;

(5) Each linked bingo prize provider with an active license must submit a report regardless of the level of activity. If no activity was conducted during the period, a report stating "no activity" shall be submitted; and

(6) If a licensee does not renew their license, then they shall file a report for the period between the previous report filed and the expiration date of the license.

AMENDATORY SECTION (Amending WSR 97-09-073, filed 4/22/97, effective 7/1/97)

**WAC 230-12-230 Agreements restricting freedom to buy and sell—Prohibited.** (1) Except as provided in subsections (3) (~~(and)~~), (4), (5), and (6) of this section, no person shall enter into any agreement, expressly or implied, with any other person which requires any person to purchase exclusively from, or sell exclusively to, any other person, or which prohibits any person from purchasing from or selling to any other person, any devices, materials, products, equipment or services which are used or offered in any way in connection with a gambling activity.

~~((2))~~ (2) No person shall enter into any agreement, express or implied, wherein any person is prohibited from, or required to, make purchases or sales only within a particular geographic area: *Provided*, That such agreements may be entered into between a licensee and its licensed representative.

(3) For amusement games, a person may enter into an agreement with another person for a period up to three years requiring such person to purchase exclusively from or sell exclusively to such other person, amusement games. The agreement may provide that it shall be automatically renewed for another three year period, or successive three year periods, if neither party gives termination notice of the agreement at least thirty days prior to its termination date.

(4) As related exclusively to amusement games, a person may enter into an agreement with another person for a period up to three years requiring such person to purchase exclusively from or sell exclusively to such other person, devices, materials, products, equipment, or services which are used in connection with a particular amusement game. The agreement may provide that it shall be automatically renewed for another three year period, or successive three year periods, if neither party gives termination notice of the agreement at least thirty days prior to its termination date.

(5) A licensed linked bingo prize provider may require a licensee to utilize particular bingo cards for conduct of a

game with a linked bingo prize if such requirement is agreed to in a contract between a licensed linked bingo provider and licensed bingo operator, which is approved by the director.

(6) A linked bingo prize provider may enter into an exclusive agreement with a manufacturer to provide the bingo paper used in the linked bingo game.

AMENDATORY SECTION (Amending Order 364, filed 9/23/98, effective 1/1/99)

**WAC 230-20-102 Bingo prizes—Record of winners.** All payments of prizes for bingo games shall be accounted for and documented in a manner that affords independent verification of the amount paid and the fact of distribution to winners: *Provided*, That Class A and B bingo licensees, organizations conducting bingo under the provisions of RCW 9.46.0321, and bingo activities conducted at a qualified agricultural fair are exempt from all portions of this rule if the requirements of WAC 230-08-015 are followed. Payment of all prizes shall be documented using the following procedures:

(1) A prize receipt shall be completed for each prize awarded at bingo games: *Provided*, That merchandise prizes with a cost or fair market value of fifteen dollars or less may be receipted on a single log sheet as allowed in subsection (4) of this section. The following minimum information shall be recorded for each prize awarded:

(a) The date;

(b) The game number;

(c) The complete name and address of the winner. The following provision does not apply to linked bingo prizes: *Provided*, That an address of the winner is not required if prizes greater than \$300 are paid by check or a combination of cash or check and:

(i) Checks are drawn on the licensee's gambling bank account;

(ii) Checks are made payable only to the winner: *Provided*, That checks for prizes won by players under age eighteen may be made payable to the guardian or immediate family member accompanying the player;

(iii) The game number and prize receipt number are noted on the check;

(iv) Checks used are of a type that provides a duplicate copy. The copies become a part of the daily bingo records and must be maintained as such;

(v) All original checks are returned by the bank to the licensee. Original checks shall be available for inspection upon demand by the commission; and

(vi) Checks drawn on the licensee's gambling account are not cashed or otherwise redeemed by the licensee or on the licensee's premises.

(d) The dollar amount of the prize or the licensee's cost of noncash prizes;

(e) A full description of all noncash prizes;

(f) The check number, if any portion of the prize is paid by check; and

(g) The initials of the bingo worker making the payout and the cashier making the payment.

(2) Prize receipts shall be consecutively issued in an ascending order. Prize receipts bearing a number below the

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highest number issued during a session shall be voided and retained with the daily records.

(3) The original of each prize receipt shall be given to the winner and a duplicate copy shall be retained by the licensee as a part of its records for a period of not less than three years.

(4) Merchandise prizes with a cost or fair market value of fifteen dollars or less may be receipted on a merchandise prize receipt log. A separate merchandise prize receipt log shall be maintained for each session used, and retained as a part of the bingo daily records. At a minimum, the following information must be recorded on the log:

- (a) The date and session;
- (b) The game number;
- (c) The complete name of the winner printed;
- (d) The cost of the prize or fair market value of the prize if donated;
- (e) A full description of the prize;
- (f) The initials of the person distributing the prize; and
- (g) The criteria for awarding the prizes.

(5) Prize receipts shall be printed by a commercial printer and meet the following standards:

- (a) Manufactured of two-part, self-duplicating paper that provides for an original and a duplicate copy;
- (b) Imprinted with the name of the licensee and a consecutive ascending number that does not repeat in at least 100,000 occurrences: Provided, That Class E and smaller licensees may utilize receipts that are not imprinted with the licensee's name and which the consecutive number does not repeat in at least 1,000 occurrences; and

(c) Provide space for the licensee to record the information required by subsection (1) above.

(6) All prize receipts purchased or otherwise obtained must be accounted for by the licensee. Prize receipts purchased or otherwise obtained by the licensee shall be documented on a vendor's invoice. This invoice, or a photo-copy thereof, shall be maintained on the premises and available for inspection by commission staff. The following information shall be documented on the purchase invoice:

- (a) Name of the vendor;
  - (b) Name of the purchasing organization;
  - (c) Date of purchase;
  - (d) Number of receipts purchased; and
  - (e) The beginning and ending receipt number.
- (7) Licensees may establish an accrued prize fund for any game or set of games that have a progressive prize or offer a jackpot prize if special conditions are met during the game. Contributions to the accrued prize fund shall be treated as prizes awarded during the current session if the following conditions are met:

(a) Each game or set of games that offers a prize included in the accrued prize fund must be identified by the licensee prior to making contributions for such games;

(b) The licensee shall maintain a record, in an approved format, of all such games with at least the following information:

- (i) The name of the game or set of games;
- (ii) The sessions at which the game or set of games is played;
- (iii) The game number(s) at each of the sessions the game or set of games is played;

(iv) The amount that will be added to the accrued prize fund each time the game or set of games is played;

(v) A description of how the contribution amount was determined;

(vi) The maximum accrued prize fund balance that will be reached for all games; and

(vii) The date of the most recent changes to this record;

(c) Prize receipts will be issued only when the prize is actually awarded;

(d) Once an election is made to accrue prizes for a particular game or set of games, the predetermined contribution amount must be added to the accrued prize fund each time the game or set of games is played, until the accrued prize fund reaches the maximum balance;

(e) Once the maximum is reached, no contributions will be made until the accrued prize fund balance has been decreased for a prize paid;

(f) Full details of accrued prizes outstanding at the end of each calendar quarter will be furnished on the licensee's activity report;

(g) A reconciliation of the prize fund shall be made on each "Daily summary - Cash control" record;

(h) The amount of prize accrued shall be deposited in the gambling receipts account per WAC 230-12-020;

(i) The balance of the gambling receipts banking account shall not be reduced at any time below the amount of prizes accrued and currently being offered: *Provided*, That accrued prizes may be transferred to a special bank account, for this purpose, if the balance is maintained at a level equal to or greater than the amount of prizes accrued and currently being offered;

(j) At no time shall the total accrued prize balance exceed two times the total amount of prizes available on the games identified in (a) of this subsection; and

(k) The accrued prize fund shall not be utilized for any purpose other than accumulating bingo prizes and the balance shall not be reduced except under the following circumstances:

- (i) When prizes are actually awarded;
- (ii) If management elects to discontinue games for which prizes were accrued. In this event, the operator shall amend all activity reports and tax returns that are affected by the action and which have been filed.

(8) Contributions made to an approved linked bingo prize shall be deposited into a separate account from the licensee's main gambling receipts account and shall be treated as prizes awarded during the session accrued.

(9) Linked bingo main and bonus prizes awarded during a session may not be treated as a prize awarded during the current session.

**AMENDATORY SECTION** (Amending Order 293, filed 6/18/96, effective 7/19/96)

**WAC 230-20-107 Disposable (throwaway) bingo card method for receipting bingo income.** The disposable bingo card method must be used to receipt for bingo income when disposable bingo cards are used. When utilizing the disposable bingo card method, the following requirements must be met:

(1) Cards must meet all requirements of WAC 230-20-192;

(2) The inventory control record required by WAC 230-08-105 must be completed;

(3) Cards or sheets of cards intended for playing a single game, including on-the-way games - the following shall be recorded for each set of cards:

(a) Serial number;

(b) The color and/or border pattern;

(c) The value of each card or sheet;

(d) The lowest consecutive card or sheet number issued as a receipt;

(e) The last card or sheet number issued as a receipt;

(f) Missing cards or sheets per the manufacturer's packing record;

(g) The number of cards returned and not issued;

(h) The number of cards issued as receipts; and

(i) The total gross gambling receipts from all cards issued as receipts;

(4) Packets sold and intended for playing a defined set of games within a session - the following shall be recorded for each set or collation of packs or packets of cards:

(a) The serial number of the top sheet or page of the packet;

(b) The color and/or border pattern of the top sheet or page of the packet;

(c) The lowest consecutive card, sheet, or packet number for the first packet issued as a receipt;

(d) The card, sheet, or packet number of the last or highest packet issued as a receipt;

(e) The number of packets issued as receipts;

(f) The number of packets returned and not issued;

(g) Missing packets per the manufacturer's packing record;

(h) The value of each packet; and

(i) The total gross receipts from all packets issued as receipts;

(5) Each disposable card, or sheet or packet of cards, from the same set or collation shall be consecutively issued at each individual sales point. Each card, or sheet or packet of cards, which were not issued consecutively during a session, and the audit number is lower than the highest audit number issued as a receipt, shall be retained by the licensee for a period of not less than one year: *Provided*, That cards, or sheets or packets of cards, required by this subsection to be retained may be sold at the next bingo session that the specific set of cards is used: *Provided further*, That unsold cards issued to an operator for the purpose of being sold for a linked bingo prize may be returned to the linked bingo prize provider and stored for a period of six months or until they have been examined and approved by commission staff for destruction, whichever is less: *Provided further*, That unopened blocks of two hundred fifty cards may be reissued; and

(6) Disposable cards issued for each type of sale shall be recorded separately as required by WAC 230-08-080. When more than one card or sheet number appears on a sheet of cards, the audit system designated by the manufacturer shall be used to determine the beginning and ending number sold.

Each time the numbering of the sheets breaks in the set, a separate entry shall be made in the records.

AMENDATORY SECTION (Amending Order 293, filed 6/18/96, effective 7/19/96)

**WAC 230-20-246 Manner of conducting bingo.** ~~((The conducting of a bingo game shall include, but is not limited to, the following rules:))~~ In addition to all other requirements set forth in this Title, the following limitations and procedures shall be utilized for conducting bingo games:

(1) For purposes of this Title, a bingo game shall be deemed conducted at the premises at which cards are sold and winners are determined;

(2) All sales of bingo cards shall take place upon the licensed premises during or immediately preceding the session for which the card is being sold;

~~((2))~~ (3) Bingo cards shall be sold and paid for prior to selection of the first symbol or number for a specified game or specified number of games: *Provided*, That cards may be sold after the start of a game, or number of games, if the late sale does not allow any player an advantage over any other player. Hard cards purchased or exchanged after the first symbol or number is selected may only be used during subsequent games. Any sales method that allows a player to select a specific disposable or throwaway card shall be deemed to allow the player an advantage;

~~((3))~~ (4) No operator shall reserve, or allow to be reserved, any bingo card for use by players: *Provided*, That braille cards or other cards for use by visually impaired or disabled players may be reserved. Visually impaired players may use their personal braille cards when a licensee does not provide such cards. The licensee shall have the right to inspect, and to reject, any personal braille card. A visually impaired or disabled person may use a braille card or reserved hard card in place of a purchased throwaway;

~~((4))~~ (5) All cards sold to participate for a specific prize or set of prizes shall be sold for the same price and be distinct and readily distinguished from all other cards in play: *Provided*, That similar cards used to participate for the same prize or set of prizes may be sold at a discount which is based solely on volume if each separate discount price is recorded using a separate sales identification code and records provide for an audit trail;

~~((5))~~ (6) All symbols or numbers shall be selected on the premises and in the presence of players paying to participate in the game. Immediately following the drawing of each ball in a bingo game, the caller shall display the symbol or number on the ball to the participants: *Provided*, That this subsection does not apply to games being played for a linked bingo prize, as long as the drawing of the balls can be viewed by all participants;

~~((6))~~ (7) The symbol or number on the ball shall be called out prior to the drawing of any other ball;

~~((7))~~ (8) After the symbol or number is called, the corresponding symbol or number on the licensee's flashboard, if any, shall be lit for participant viewing. In a game where a symbol or number on the ball is not applicable to the game being played, it is not necessary to call that symbol or number

to the participants before placing it for viewing on the flash-board;

~~((8))~~ (9) A game ends when a specific pattern has been achieved by a player or a specific number of symbols or numbers has been called. Each game shall be played using a separate selection process: *Provided*, That the same or a continuing selection process may be used to play the following games:

(a) Interim or "on-the-way" games, including "instant winner" games in which winners are determined by matching a predetermined number of symbols or numbers to balls called, or by matching a predetermined pattern within an established number of calls;

(b) Games for which cards are sold for different prices and players win a different prize depending on the price they pay to play; and

(c) Bonus games which are games played concurrently with other bingo games and the winner is determined by a player calling a valid bingo which includes a predetermined or preselected number or symbol;

~~((9))~~ (10) No bingo game shall be conducted to include a prize determined other than by the matching of symbols or numbers on a bingo card with symbols or numbers called by the licensee, except as authorized by WAC 230-20-242. All persons who have paid to participate in the game are competing for a specific prize or a portion of a prize pool. If a prize pool has been designated and more than one player achieves a winning pattern at the same time, all such players shall be considered the winner and a portion of the prize pool shall be equally divided among all players achieving the same winning pattern;

~~((10))~~ (11) The minimum amount of an individual prize, prize pool, or portion of a prize pool available for each bingo game shall be established and disclosed to bingo game players prior to their purchase of a chance to participate in a bingo game. The minimum prize may be increased by the gambling manager before the start of a game or through the following schemes during the game:

(a) Schemes using standard bingo equipment and cards such as:

- (i) Number of symbols or numbers called before a player achieving a winning combination;
- (ii) The specific symbol or number called;
- (iii) The specific letter called;
- (iv) Position of winning combinations on the card;
- (v) Position of the card on the sheet of cards;
- (vi) Odd or even symbol or numbers; and
- (vii) The number of symbols or numbers matched within a specific number of calls;

(b) Schemes preprinted on disposable cards that rely on a number or symbol called during a game; or

(c) Second element of chance schemes authorized by WAC 230-20-242(4).

~~((11))~~ (12) Immediately upon a bingo player declaring a winning combination of symbols or numbers, the winning card shall be verified by a game employee and at least one neutral player: *Provided*, That games played as "instant winners" and awarding fifty dollars or less do not need to be verified by a neutral player if an audit trail is maintained including a method which identifies the winning combination of

numbers, symbols, or patterns and the numbers, symbols, or patterns called;

~~((12))~~ (13) Upon a bingo player declaring a winning bingo, the next ball out of the machine shall be removed from the machine prior to shutting the machine off and shall be the next ball to be called in the event the declared winning bingo is not valid;

~~((13))~~ (14) After a winning bingo is validated, the prize shall be awarded using the following procedures:

(a) Each winner shall be required to provide proof that they have purchased the winning bingo card. The licensee shall review the prize winner's income receipt and determine that the player has properly purchased all cards played during the games, including the winning card;

(b) Each prize winner shall be positively identified. The licensee shall require such proof of identification as is necessary to establish the prize winner's identity prior to paying any prize. The winner is responsible for furnishing proof to the licensee that all information required by this rule is true and accurate. Prizes may be withheld until the winner has provided adequate identification;

(c) The prize shall be awarded and a record made by completing a prize receipt as required by WAC 230-08-080 and 230-20-102. A complete address and tax payer identification number should be recorded for each prize valued at \$1,200 or more;

(d) All prizes for a particular game must be available prior to starting the game and shall be awarded by the end of the related session: *Provided, That linked main and bonus prizes must be paid within forty-eight hours;*

(e) All merchandise offered as prizes to bingo players shall have been paid in full, without lien or interest of others, prior to the merchandise being offered as a prize: *Provided*, That the licensee may enter into a contract to immediately purchase the merchandise when it is awarded as a prize, with the contract revocable if prize winners are allowed to exercise an option to receive a cash prize or the prize is no longer offered; and

~~((14))~~ (15) No operator shall engage in any act, practice, or course of operation as would operate as a fraud to affect the outcome of any bingo game.

#### NEW SECTION

**WAC 230-20-255 Linked bingo prizes—Approval—Manner of conducting.** A linked bingo prize provider must request and receive approval from the director prior to allowing a bingo operator to participate in a game that offers a linked bingo prize. A bingo operator shall not be approved to offer more than one linked bingo game per session or no more than three linked bingo games per day, unless approved by the commission. Additionally, the provider must notify the commission within seven days when an operator stops participating in a game that offers a linked bingo prize.

The conducting of a linked bingo prize shall include, but is not limited to, the following rules:

(1) All numbers selected for a linked bingo prize shall be selected on the premises of a licensee participating in the linked bingo prize and in the presence of players paying to participate in the game. Immediately following the drawing



of each ball in a bingo game, the caller shall display the number to all participants;

(2) Immediately upon a bingo player declaring a winning bingo for the main or bonus prize, the winning card shall be verified by at least a licensed gambling manager, a neutral player, and the game caller with the winning combination disclosed to all players participating in the game;

(3) The machine used for the mixing and selection of the numbers must remain in operation until all balls are removed from the machine and recorded in the order they were removed;

(4) A bingo licensee will have up to forty-eight hours to award a main or bonus prize to the player or players who have been deemed the winner(s);

(5) If a linked bingo prize provider fails to distribute cards in a manner that ensures duplicate cards are not in play, then the linked bingo prize provider shall be responsible for the increases to the prize pool as required by WAC 230-30-240(7);

(6) It is the responsibility of the linked bingo prize provider to establish procedures for participating operators to follow that reduce the possibility of operator error;

(7) Prior to beginning a game for a linked bingo prize, each participating operator must disclose to their players the serial numbers and sheet numbers for all cards sold at the premises;

(8) A linked bingo prize provider may not restrict which licensed bingo operators may participate in a linked bingo prize: *Provided*, That a linked bingo prize provider may establish a minimum card sales volume by an operator for that operator to receive equipment to conduct the game without compensation for that equipment;

(9) A linked bingo prize provider may establish the consolation prize amount to be paid at each participating location: *Provided*, That participating operators whose sales volume does not meet the minimum as set forth in subsection (8) of this section shall be allowed to pay a consolation prize that is less than this amount;

(10) If hidden face bingo cards are used, a linked bingo prize provider may, as part of the game rules, allow players to mark all odd or even numbers based on the calendar date;

(11) Class A, B, or C bingo licensees participating in a linked bingo prize must maintain all records required for a class D bingo licensee. These records shall be maintained for all bingo operations;

(12) All card sales must stop prior to the drawing of the first ball;

(13) The licensee may not require a player to call bingo on the last number called; and

(14) For all games with a linked bingo prize, a winner must be determined at each premises which sells cards to participate in the game.

## WSR 98-24-092

## PERMANENT RULES

## GAMBLING COMMISSION

[Order 367-A—Filed December 1, 1998, 2:54 p.m.]

Date of Adoption: October 9, 1998.

Purpose: This filing is to correct a typographical error in the version filed as WSR 98-21-011. In subsection (2)(a) the word "case" should have been the word "cash." The version adopted by the commission was the correct version.

Citation of Existing Rules Affected by this Order: Amending WAC 230-30-080.

Statutory Authority for Adoption: RCW 9.46.070.

Adopted under notice filed as WSR 98-18-081 on September 1, 1998.

Changes Other than Editing from Proposed to Adopted Version: Language was removed from this rule so that ticket manufacturers will not be required to include secondary verification codes on tickets.

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: Thirty-one days after filing.

December 1, 1998

Susan Arland

Public Information Officer

**AMENDATORY SECTION** (Amending Order 359, filed 7/15/98, effective 1/1/99)

**WAC 230-30-080 Punch board and pull-tab series restrictions—Prizes, size of game, and location of winners.** No operator, distributor, or manufacturer, or representative thereof shall possess, display, put out for play, sell, or otherwise transfer to any person in this state, or for use in this state, any punch board or pull-tab series which:

(1) Does not offer prizes that are equal to or greater than sixty percent of the total gross receipts available from the punch board or pull-tab series. The following applies to the sixty percent calculation:

(a) For the purposes of determining the percentage of prizes offered on any punch board, or in any pull-tab series, total merchandise prizes shall be computed at the amount actually paid by the licensed operator plus fifty percent of that actual cost. For any merchandise prize with an actual cost over five hundred dollars, the total cost plus markup in



this subsection shall not exceed seven hundred fifty dollars;  
and

(b) Prize and percentage requirements for progressive pull-tab series shall be calculated as set forth in WAC 230-30-025;

(2) Offers a single prize that exceeds:

(a) Five hundred dollars in cash: *Provided*, That progressive jackpot pull-tab prizes, as authorized in WAC 230-30-025, and pull-tab series with carry-over jackpots, as authorized in WAC 230-30-045 shall be exempt from this requirement and shall be subject to the limits defined in those rules: *Provided further*, That the cash limit may be increased from five hundred dollars to seven hundred fifty dollars only on pull-tab series with a cost per tab of one dollar after approval by the director; or

(b) A merchandise prize(~~(— or combination cash merchandise prize.)~~) for which the operator has expended more than five hundred dollars: *Provided*, That operators may expend more than five hundred dollars, not to exceed seven hundred fifty dollars, subject to the limitations set forth in subsection (1)(a) of this section;

(3) Has multiple winners on an individual pull-tab or punch that combined values exceed the single cash or merchandise prize limit in subsection (2) of this section;

(4) Offers prizes for purchasing the last ticket or last punch that exceeds:

(a) One hundred dollars cash; or

(b) Merchandise for which the licensee has expended more than one hundred dollars; or

(c) The highest prize offered, whichever is less;

(5) Contains more than ten thousand individual pull-tabs: *Provided*, That progressive jackpot pull-tab series, as authorized by WAC 230-30-025, may contain up to fifty thousand individual pull-tabs;

(6) Utilizes a flare which does not meet the requirements of WAC 230-30-106;

(7) The winning punches or tabs have not been randomly distributed and mixed among all other punches or tabs in the board or series;

(8) The location, or approximate location, of any winning punches or tabs can be determined in advance of punching the punch board or opening the tabs in any manner or by any device, by markings on the board, tabs, or container, or by use of a light;

(9) There exists a key to any winning numbers or symbols; or

(10) Does not conform in any other respect to the requirements of WAC rules as to the manufacture, assembly, or packaging of punch boards or pull-tabs.

Purpose: Adopt January 1, 1999, rate and experience rating plan revisions including a 2.3% general rate reduction for all industry classifications.

Citation of Existing Rules Affected by this Order: Amending WAC 296-17-855, 296-17-875, 296-17-880, 296-17-885, 296-17-890, 296-17-895, 296-17-89502, 296-17-919, and 296-17-920.

Statutory Authority for Adoption: RCW 51.04.020, 51.16.035, 51.32.073.

Adopted under notice filed as WSR 98-19-150 on September 23, 1998.

Changes Other than Editing from Proposed to Adopted Version: WAC 296-17-885, the expected loss rate listed for class 4301 in 1995 is corrected to .6441 from .6641.

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 9, 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: The department annually revises its industrial insurance rates. Businesses report premiums on a quarterly basis beginning January 1 of each year. The new rates must become effective January 1, 1999, to minimize administrative costs to the department and to minimize the burden on business (i.e., businesses would be required to report 1998 insurance rates for January 1 and 1999 insurance rates for the remainder of the quarter, January 2-March 31, 1999).

Effective Date of Rule: Thirty-one days after filing.

December 1, 1998

Gary Moore

Director

AMENDATORY SECTION (Amending WSR 97-24-062, filed 12/1/97, effective 1/1/98)

**WAC 296-17-855 Experience modification.** The basis of the experience modification shall be a comparison of the actual losses charged to an employer during the experience period with the losses which would be expected for an average employer reporting the same exposures in each classification. The comparison shall contain actuarial refinements designed to mitigate the effects of losses which may be considered catastrophic or of doubtful statistical significance, due consideration being given to the volume of the employer's experience. Except for those employers who qualify for an adjusted experience modification as specified in

**WSR 98-24-094**  
**PERMANENT RULES**  
**DEPARTMENT OF**  
**LABOR AND INDUSTRIES**

[Filed December 1, 1998, 3:17 p.m.]

Date of Adoption: December 1, 1998.

WAC 296-17-860 or 296-17-865, the experience modification shall be calculated from the formula:

$$\text{MODIFICATION} = \frac{\text{Ap} + \text{WAe} + (1-\text{W}) \text{Ee} + \text{B}}{\text{E} + \text{B}}$$

The components Ap, WAe, and (1-W) Ee are values which shall be charged against an employer's experience record. The component, E, shall be the expected value of these charges for an average employer reporting the same exposures in each classification. The meaning and function of each symbol in the formula is specified below.

"Ap" signifies "primary actual losses." For each claim the primary actual loss is defined as that portion of the claim which is considered completely rateable for all employers and which is to enter the experience modification calculation at its full value. For each claim in excess of \$((10,195)) 10,072 the primary actual loss shall be determined from the formula:

$$\text{PRIMARY LOSS} = \frac{((25,487)) 25,180}{\text{Total loss} + ((15,292)) 15,108} \times \text{total loss}$$

Primary actual losses for selected claim values are shown in Table I. For each claim less than \$((10,195)) 10,072 the full value of the claim shall be considered a primary loss.

"Ae" signifies "excess actual losses." For each claim the excess actual loss is defined as that portion of the claim which is not considered completely rateable for all employers. The excess actual loss for each claim shall be determined by subtracting the primary loss from the total loss.

"W" signifies "W value." For each employer, the W value determines the portion of the actual excess losses which shall be included in the calculation of his experience modification, due consideration being given to the volume of his experience. This amount is represented by the symbol "WAe" in the experience modification formula. W values are set forth in Table II.

"E" signifies "expected losses." An employer's expected losses shall be determined by multiplying his reported exposure in each classification during the experience period by the classification expected loss rate. Expected loss rates are set forth in Table III.

"Ee" signifies "expected excess losses." Expected losses in each classification shall be multiplied by the classification "D-Ratio" to obtain "expected primary losses." Expected excess losses shall then be calculated by subtracting expected primary losses from expected total losses. Each employer shall have a statistical charge included in the calculation of his experience modification, said charge to be actuarially equivalent to the amount forgiven an average employer because of the exclusion of a portion of his excess actual losses. This charge is represented by "(1-W) Ee" in the experience modification formula. D-Ratios are set forth in Table III.

"B" signifies "B value" or "ballast." In order to limit the effect of a single severe accident on the modification of a small employer, a stabilizing element (B value) shall be added to both actual and expected losses. B values are set forth in Table II.

AMENDATORY SECTION (Amending WSR 97-24-062, filed 12/1/97, effective 1/1/98)

WAC 296-17-875 Table I.

~~((Primary Losses for Selected Claim Values~~

CLAIM VALUE	PRIMARY LOSS
10,195	10,195
11,611	11,000
13,606	12,000
15,920	13,000
18,637	14,000
25,790	16,000
36,765	18,000
55,739	20,000
96,479	22,000
161,286*	23,280
254,870**	24,044))

Primary Losses for Selected Claim Values

CLAIM VALUE	PRIMARY LOSS
10,072	10,072
11,720	11,000
13,755	12,000
16,125	13,000
18,919	14,000
26,332	16,000
37,875	18,000
58,332	20,000
104,521	22,000
168,469*	23,108
251,800**	23,755

\* Average death value  
\*\* Maximum claim value

AMENDATORY SECTION (Amending WSR 97-24-062, filed 12/1/97, effective 1/1/98)

WAC 296-17-880 Table II.

~~(( "B" and "W" Values~~

Maximum Claim Value = \$254,870  
Average Death Value = \$161,286

Expected Losses	B	W
5,521 & Under	48,088	0.00
5,522 - 11,126	47,607	0.01

PERMANENT

11,127	-	16,814	47,126	0.02	440,813	-	455,373	24,044	0.50
16,815	-	22,589	46,645	0.03	455,374	-	470,319	23,563	0.51
22,590	-	28,451	46,164	0.04	470,320	-	485,668	23,082	0.52
28,452	-	34,405	45,684	0.05	485,669	-	501,435	22,601	0.53
34,406	-	40,451	45,203	0.06	501,436	-	517,639	22,120	0.54
40,452	-	46,592	44,722	0.07	517,640	-	534,299	21,640	0.55
46,593	-	52,830	44,241	0.08	534,300	-	551,434	21,159	0.56
52,831	-	59,169	43,760	0.09	551,435	-	569,067	20,678	0.57
59,170	-	65,610	43,279	0.10	569,068	-	587,220	20,197	0.58
65,611	-	72,157	42,798	0.11	587,221	-	605,916	19,716	0.59
72,158	-	78,813	42,317	0.12	605,917	-	625,182	19,235	0.60
78,814	-	85,579	41,837	0.13	625,183	-	645,043	18,754	0.61
85,580	-	92,460	41,356	0.14	645,044	-	665,531	18,273	0.62
92,461	-	99,459	40,875	0.15	665,532	-	686,674	17,793	0.63
99,460	-	106,578	40,394	0.16	686,675	-	708,505	17,312	0.64
106,579	-	113,821	39,913	0.17	708,506	-	731,061	16,831	0.65
113,822	-	121,191	39,432	0.18	731,062	-	754,377	16,350	0.66
121,192	-	128,693	38,951	0.19	754,378	-	778,495	15,869	0.67
128,694	-	136,330	38,470	0.20	778,496	-	803,458	15,388	0.68
136,331	-	144,106	37,990	0.21	803,459	-	829,310	14,907	0.69
144,107	-	152,025	37,509	0.22	829,311	-	856,102	14,426	0.70
152,026	-	160,091	37,028	0.23	856,103	-	883,887	13,946	0.71
160,092	-	168,309	36,547	0.24	883,888	-	912,722	13,465	0.72
168,310	-	176,683	36,066	0.25	912,723	-	942,669	12,984	0.73
176,684	-	185,219	35,585	0.26	942,670	-	973,795	12,503	0.74
185,220	-	193,920	35,104	0.27	973,796	-	1,006,171	12,022	0.75
193,921	-	202,793	34,623	0.28	1,006,172	-	1,039,876	11,541	0.76
202,794	-	211,842	34,142	0.29	1,039,877	-	1,074,996	11,060	0.77
211,843	-	221,074	33,662	0.30	1,074,997	-	1,111,621	10,579	0.78
221,075	-	230,494	33,181	0.31	1,111,622	-	1,149,853	10,098	0.79
230,495	-	240,108	32,700	0.32	1,149,854	-	1,189,800	9,618	0.80
240,109	-	249,923	32,219	0.33	1,189,801	-	1,231,583	9,137	0.81
249,924	-	259,945	31,738	0.34	1,231,584	-	1,275,333	8,656	0.82
259,946	-	270,182	31,257	0.35	1,275,334	-	1,321,194	8,175	0.83
270,183	-	280,640	30,776	0.36	1,321,195	-	1,369,324	7,694	0.84
280,641	-	291,328	30,295	0.37	1,369,325	-	1,419,897	7,213	0.85
291,329	-	302,253	29,815	0.38	1,419,898	-	1,473,107	6,732	0.86
302,254	-	313,424	29,334	0.39	1,473,108	-	1,529,167	6,251	0.87
313,425	-	324,849	28,853	0.40	1,529,168	-	1,588,314	5,771	0.88
324,850	-	336,538	28,372	0.41	1,588,315	-	1,650,814	5,290	0.89
336,539	-	348,501	27,891	0.42	1,650,815	-	1,716,963	4,809	0.90
348,502	-	360,747	27,410	0.43	1,716,964	-	1,787,091	4,328	0.91
360,748	-	373,287	26,929	0.44	1,787,092	-	1,861,572	3,847	0.92
373,288	-	386,133	26,448	0.45	1,861,573	-	1,940,827	3,366	0.93
386,134	-	399,295	25,968	0.46	1,940,828	-	2,025,334	2,885	0.94
399,296	-	412,787	25,487	0.47	2,025,335	-	2,115,635	2,404	0.95
412,788	-	426,621	25,006	0.48	2,115,636	-	2,212,353	1,924	0.96
426,622	-	440,812	24,525	0.49	2,212,354	-	2,316,199	1,443	0.97

2,316,200	-	2,427,996	962	0.98	287.820	=	298.613	29.456	0.38
2,427,997	-	2,548,699	481	0.99	298.614	=	309.649	28.981	0.39
-2,548,700 & Over			0	1.00))	309.650	=	320.937	28.506	0.40

**"B" and "W" Values**

Maximum Claim Value= \$251,800

Average Death Value= \$168,469

Expected Losses		B	W						
<u>5.455 &amp; Under</u>		<u>47.510</u>	<u>0.00</u>	<u>407.816</u>	=	<u>407.815</u>	<u>25.180</u>	<u>0.47</u>	
<u>5.456</u>	=	<u>10.992</u>	<u>47.035</u>	<u>0.01</u>	<u>421.484</u>	=	<u>421.483</u>	<u>24.705</u>	<u>0.48</u>
<u>10.993</u>	=	<u>16.612</u>	<u>46.560</u>	<u>0.02</u>	<u>435.503</u>	=	<u>449.888</u>	<u>23.755</u>	<u>0.50</u>
<u>16.613</u>	=	<u>22.317</u>	<u>46.085</u>	<u>0.03</u>	<u>449.889</u>	=	<u>464.654</u>	<u>23.280</u>	<u>0.51</u>
<u>22.318</u>	=	<u>28.109</u>	<u>45.610</u>	<u>0.04</u>	<u>464.655</u>	=	<u>479.818</u>	<u>22.805</u>	<u>0.52</u>
<u>28.110</u>	=	<u>33.990</u>	<u>45.135</u>	<u>0.05</u>	<u>479.819</u>	=	<u>495.395</u>	<u>22.330</u>	<u>0.53</u>
<u>33.991</u>	=	<u>39.963</u>	<u>44.659</u>	<u>0.06</u>	<u>495.396</u>	=	<u>511.404</u>	<u>21.855</u>	<u>0.54</u>
<u>39.964</u>	=	<u>46.030</u>	<u>44.184</u>	<u>0.07</u>	<u>511.405</u>	=	<u>527.863</u>	<u>21.380</u>	<u>0.55</u>
<u>46.031</u>	=	<u>52.194</u>	<u>43.709</u>	<u>0.08</u>	<u>527.864</u>	=	<u>544.793</u>	<u>20.904</u>	<u>0.56</u>
<u>52.195</u>	=	<u>58.456</u>	<u>43.234</u>	<u>0.09</u>	<u>544.794</u>	=	<u>562.213</u>	<u>20.429</u>	<u>0.57</u>
<u>58.457</u>	=	<u>64.820</u>	<u>42.759</u>	<u>0.10</u>	<u>562.214</u>	=	<u>580.147</u>	<u>19.954</u>	<u>0.58</u>
<u>64.821</u>	=	<u>71.288</u>	<u>42.284</u>	<u>0.11</u>	<u>580.148</u>	=	<u>598.618</u>	<u>19.479</u>	<u>0.59</u>
<u>71.289</u>	=	<u>77.864</u>	<u>41.809</u>	<u>0.12</u>	<u>598.619</u>	=	<u>617.652</u>	<u>19.004</u>	<u>0.60</u>
<u>77.865</u>	=	<u>84.549</u>	<u>41.334</u>	<u>0.13</u>	<u>617.653</u>	=	<u>637.274</u>	<u>18.529</u>	<u>0.61</u>
<u>84.550</u>	=	<u>91.347</u>	<u>40.859</u>	<u>0.14</u>	<u>637.275</u>	=	<u>657.514</u>	<u>18.054</u>	<u>0.62</u>
<u>91.348</u>	=	<u>98.261</u>	<u>40.384</u>	<u>0.15</u>	<u>657.515</u>	=	<u>678.403</u>	<u>17.579</u>	<u>0.63</u>
<u>98.262</u>	=	<u>105.294</u>	<u>39.908</u>	<u>0.16</u>	<u>678.404</u>	=	<u>699.972</u>	<u>17.104</u>	<u>0.64</u>
<u>105.295</u>	=	<u>112.450</u>	<u>39.433</u>	<u>0.17</u>	<u>699.973</u>	=	<u>722.255</u>	<u>16.629</u>	<u>0.65</u>
<u>112.451</u>	=	<u>119.732</u>	<u>38.958</u>	<u>0.18</u>	<u>722.256</u>	=	<u>745.291</u>	<u>16.153</u>	<u>0.66</u>
<u>119.733</u>	=	<u>127.143</u>	<u>38.483</u>	<u>0.19</u>	<u>745.292</u>	=	<u>769.119</u>	<u>15.678</u>	<u>0.67</u>
<u>127.144</u>	=	<u>134.688</u>	<u>38.008</u>	<u>0.20</u>	<u>769.120</u>	=	<u>793.780</u>	<u>15.203</u>	<u>0.68</u>
<u>134.689</u>	=	<u>142.371</u>	<u>37.533</u>	<u>0.21</u>	<u>793.781</u>	=	<u>819.321</u>	<u>14.728</u>	<u>0.69</u>
<u>142.372</u>	=	<u>150.194</u>	<u>37.058</u>	<u>0.22</u>	<u>819.322</u>	=	<u>845.790</u>	<u>14.253</u>	<u>0.70</u>
<u>150.195</u>	=	<u>158.163</u>	<u>36.583</u>	<u>0.23</u>	<u>845.791</u>	=	<u>873.241</u>	<u>13.778</u>	<u>0.71</u>
<u>158.164</u>	=	<u>166.282</u>	<u>36.108</u>	<u>0.24</u>	<u>873.242</u>	=	<u>901.728</u>	<u>13.303</u>	<u>0.72</u>
<u>166.283</u>	=	<u>174.555</u>	<u>35.633</u>	<u>0.25</u>	<u>901.729</u>	=	<u>931.315</u>	<u>12.828</u>	<u>0.73</u>
<u>174.556</u>	=	<u>182.988</u>	<u>35.157</u>	<u>0.26</u>	<u>931.316</u>	=	<u>962.065</u>	<u>12.353</u>	<u>0.74</u>
<u>182.989</u>	=	<u>191.585</u>	<u>34.682</u>	<u>0.27</u>	<u>962.066</u>	=	<u>994.052</u>	<u>11.878</u>	<u>0.75</u>
<u>191.586</u>	=	<u>200.350</u>	<u>34.207</u>	<u>0.28</u>	<u>994.053</u>	=	<u>1,027.351</u>	<u>11.402</u>	<u>0.76</u>
<u>200.351</u>	=	<u>209.291</u>	<u>33.732</u>	<u>0.29</u>	<u>1,027.352</u>	=	<u>1,062.047</u>	<u>10.927</u>	<u>0.77</u>
<u>209.292</u>	=	<u>218.411</u>	<u>33.257</u>	<u>0.30</u>	<u>1,062.048</u>	=	<u>1,098.231</u>	<u>10.452</u>	<u>0.78</u>
<u>218.412</u>	=	<u>227.717</u>	<u>32.782</u>	<u>0.31</u>	<u>1,098.232</u>	=	<u>1,136.003</u>	<u>9.977</u>	<u>0.79</u>
<u>227.718</u>	=	<u>237.216</u>	<u>32.307</u>	<u>0.32</u>	<u>1,136.004</u>	=	<u>1,175.469</u>	<u>9.502</u>	<u>0.80</u>
<u>237.217</u>	=	<u>246.912</u>	<u>31.832</u>	<u>0.33</u>	<u>1,175.470</u>	=	<u>1,216.749</u>	<u>9.027</u>	<u>0.81</u>
<u>246.913</u>	=	<u>256.814</u>	<u>31.357</u>	<u>0.34</u>	<u>1,216.750</u>	=	<u>1,259.972</u>	<u>8.552</u>	<u>0.82</u>
<u>256.815</u>	=	<u>266.927</u>	<u>30.882</u>	<u>0.35</u>	<u>1,259.973</u>	=	<u>1,305.280</u>	<u>8.077</u>	<u>0.83</u>
<u>266.928</u>	=	<u>277.260</u>	<u>30.406</u>	<u>0.36</u>	<u>1,305.281</u>	=	<u>1,352.830</u>	<u>7.602</u>	<u>0.84</u>
<u>277.261</u>	=	<u>287.819</u>	<u>29.931</u>	<u>0.37</u>	<u>1,352.831</u>	=	<u>1,402.794</u>	<u>7.126</u>	<u>0.85</u>

PERMANENT

					Class	1994	1995	1996	D-Ratio
<u>1,402,795</u>	=	<u>1,455,363</u>	<u>6,651</u>	<u>0.86</u>					
<u>1,455,364</u>	=	<u>1,510,748</u>	<u>6,176</u>	<u>0.87</u>					
<u>1,510,749</u>	=	<u>1,569,183</u>	<u>5,701</u>	<u>0.88</u>	0403	1.3217	1.1666	1.0224	0.453
<u>1,569,184</u>	=	<u>1,630,930</u>	<u>5,226</u>	<u>0.89</u>	0502	1.2872	1.1329	0.9871	0.421
<u>1,630,931</u>	=	<u>1,696,282</u>	<u>4,751</u>	<u>0.90</u>	0504	1.2647	1.1175	0.9785	0.404
<u>1,696,283</u>	=	<u>1,765,565</u>	<u>4,276</u>	<u>0.91</u>	0506	3.9607	3.4963	3.0532	0.379
<u>1,765,566</u>	=	<u>1,839,149</u>	<u>3,801</u>	<u>0.92</u>	0507	2.8965	2.5584	2.2412	0.424
<u>1,839,150</u>	=	<u>1,917,449</u>	<u>3,326</u>	<u>0.93</u>	0508	2.8356	2.5017	2.1792	0.347
<u>1,917,450</u>	=	<u>2,000,938</u>	<u>2,851</u>	<u>0.94</u>	0509	1.5018	1.3261	1.1599	0.402
<u>2,000,939</u>	=	<u>2,090,152</u>	<u>2,375</u>	<u>0.95</u>	0510	1.2892	1.1370	0.9950	0.449
<u>2,090,153</u>	=	<u>2,185,705</u>	<u>1,900</u>	<u>0.96</u>	0511	1.0237	0.9002	0.7867	0.509
<u>2,185,706</u>	=	<u>2,288,300</u>	<u>1,425</u>	<u>0.97</u>	0512	1.3688	1.2046	1.0513	0.461
<u>2,288,301</u>	=	<u>2,398,750</u>	<u>950</u>	<u>0.98</u>	0513	0.6329	0.5566	0.4860	0.482
<u>2,398,751</u>	=	<u>2,517,999</u>	<u>475</u>	<u>0.99</u>	0514	1.2710	1.1202	0.9815	0.492
<u>2,518,000 &amp; Over</u>			<u>0</u>	<u>1.00</u>	0515	2.7116	2.3891	2.0829	0.402

AMENDATORY SECTION (Amending WSR 97-24-062, filed 12/1/97, effective 1/1/98)

WAC 296-17-885 Table III.

Expected Loss Rates and D-Ratios  
for Indicated Fiscal Year

Expected Loss Rates in Dollars Per Worker Hour

((Class	1994	1995	1996	D-Ratio					
					0516	1.2892	1.1370	0.9950	0.449
					0517	1.5096	1.3317	1.1680	0.488
					0518	1.4979	1.3207	1.1524	0.396
					0519	1.6772	1.4826	1.3009	0.433
					0520	1.4701	1.2937	1.1265	0.408
					0521	1.2647	1.1175	0.9785	0.404
					0601	0.5630	0.4953	0.4329	0.503
					0602	0.3797	0.3333	0.2911	0.541
					0603	0.8188	0.7230	0.6323	0.400
					0604	1.1120	0.9837	0.8652	0.470
0101	1.2466	1.1000	0.9613	0.403	0606	0.2746	0.2416	0.2122	0.601
0102	1.1733	1.0355	0.9056	0.399	0607	0.3141	0.2767	0.2427	0.532
0103	1.4475	1.2718	1.1087	0.485	0608	0.2793	0.2472	0.2180	0.506
0104	0.8593	0.7578	0.6622	0.424	0701	1.8706	1.6468	1.4293	0.339
0105	1.1912	1.0501	0.9203	0.487	0803	0.3210	0.2824	0.2474	0.555
0106	1.2466	1.1000	0.9613	0.380	0804	0.6590	0.5816	0.5089	0.426
0107	1.0964	0.9653	0.8420	0.434	0901	1.4979	1.3207	1.1524	0.396
0108	0.8593	0.7578	0.6622	0.424	1002	0.7089	0.6245	0.5478	0.535
0109	1.4979	1.3207	1.1524	0.396	1003	0.7050	0.6217	0.5454	0.503
0112	0.6590	0.5816	0.5089	0.426	1004	0.4723	0.4170	0.3658	0.465
0201	2.5760	2.2771	1.9911	0.363	1005	5.4160	4.7851	4.1820	0.365
0202	2.5760	2.2771	1.9911	0.363	1007	0.3238	0.2849	0.2490	0.495
0210	0.8654	0.7638	0.6678	0.409	1101	0.5043	0.4445	0.3904	0.545
0212	0.8654	0.7638	0.6678	0.409	1102	1.1467	1.0110	0.8843	0.446
0214	1.0974	0.9666	0.8443	0.449	1103	0.5765	0.5076	0.4447	0.517
0217	1.1733	1.0355	0.9056	0.417	1104	0.4306	0.3808	0.3361	0.550
0219	1.0422	0.9203	0.8053	0.412	1105	0.6303	0.5548	0.4863	0.539
0301	0.6237	0.5505	0.4839	0.513	1106	0.2653	0.2348	0.2076	0.560
0302	1.7171	1.5135	1.3198	0.391	1108	0.3894	0.3438	0.3026	0.542
0303	1.5225	1.3399	1.1675	0.421	1109	0.7059	0.6237	0.5497	0.539
0306	0.8816	0.7766	0.6783	0.447	1301	0.3668	0.3237	0.2844	0.518
0307	0.6672	0.5875	0.5141	0.496	1303	0.1586	0.1396	0.1224	0.553
0308	0.5334	0.4696	0.4121	0.557	1304	0.0206	0.0181	0.0160	0.540

PERMANENT

Class	1994	1995	1996	D-Ratio	Class	1994	1995	1996	D-Ratio
1305	0.3648	0.3222	0.2834	0.513	3404	0.3917	0.3453	0.3035	0.562
1401	0.5168	0.4571	0.4025	0.490	3405	0.2299	0.2026	0.1777	0.530
1404	0.4942	0.4347	0.3806	0.531	3406	0.2135	0.1884	0.1659	0.574
1405	0.3820	0.3384	0.2984	0.471	3407	0.3115	0.2740	0.2401	0.565
1501	0.3563	0.3134	0.2745	0.542	3408	0.0995	0.0880	0.0775	0.523
1507	0.3100	0.2726	0.2391	0.574	3409	0.0928	0.0818	0.0721	0.590
1701	0.6740	0.5962	0.5236	0.435	3410	0.1967	0.1738	0.1537	0.600
1702	1.5412	1.3618	1.1908	0.379	3411	0.3418	0.3016	0.2648	0.510
1703	0.2958	0.2606	0.2280	0.486	3412	0.3437	0.3026	0.2650	0.530
1704	0.6740	0.5962	0.5236	0.435	3413	0.4775	0.4211	0.3697	0.520
1801	0.8102	0.7167	0.6285	0.399	3414	0.4405	0.3891	0.3419	0.497
1802	0.8688	0.7662	0.6711	0.467	3415	0.4609	0.4069	0.3575	0.503
2002	0.5156	0.4550	0.4003	0.553	3501	0.7988	0.7061	0.6203	0.454
2004	0.5744	0.5053	0.4426	0.594	3503	0.2687	0.2380	0.2111	0.593
2005	0.3048	0.2694	0.2375	0.547	3506	0.8200	0.7196	0.6256	0.469
2007	0.4205	0.3714	0.3267	0.505	3509	0.3517	0.3092	0.2716	0.517
2008	0.2465	0.2177	0.1913	0.514	3510	0.3807	0.3355	0.2949	0.566
2009	0.3048	0.2694	0.2375	0.547	3511	0.5319	0.4692	0.4128	0.552
2101	0.5388	0.4754	0.4175	0.506	3512	0.3386	0.2993	0.2645	0.593
2102	0.3938	0.3476	0.3062	0.555	3513	0.3869	0.3414	0.3004	0.559
2104	0.2363	0.2086	0.1840	0.591	3602	0.1113	0.0982	0.0866	0.596
2105	0.5279	0.4637	0.4055	0.546	3603	0.4156	0.3669	0.3224	0.572
2106	0.3014	0.2667	0.2353	0.517	3604	1.1753	1.0337	0.9064	0.578
2201	0.2273	0.2005	0.1762	0.519	3605	0.4184	0.3686	0.3225	0.540
2202	0.5107	0.4489	0.3938	0.600	3701	0.2260	0.1997	0.1759	0.517
2203	0.3018	0.2659	0.2238	0.594	3702	0.3842	0.3378	0.2960	0.573
2204	0.1559	0.1375	0.1209	0.519	3707	0.5050	0.4501	0.4002	0.456
2401	0.3539	0.3135	0.2773	0.533	3708	0.3737	0.3297	0.2901	0.550
2903	0.5758	0.5080	0.4472	0.566	3801	0.1642	0.1450	0.1278	0.563
2904	0.6928	0.6136	0.5410	0.484	3802	0.1642	0.1450	0.1278	0.563
2905	0.4317	0.3803	0.3345	0.594	3808	0.3183	0.2809	0.2465	0.503
2906	0.2980	0.2626	0.2302	0.529	3901	0.1525	0.1349	0.1194	0.607
2907	0.4653	0.4105	0.3609	0.545	3902	0.3633	0.3208	0.2825	0.547
2908	0.8630	0.7608	0.6674	0.507	3903	1.0603	0.9402	0.8316	0.511
2909	0.4054	0.3576	0.3147	0.562	3905	0.1525	0.1349	0.1194	0.607
3101	0.6780	0.5998	0.5266	0.427	3906	0.3943	0.3478	0.3058	0.541
3102	0.2260	0.1997	0.1759	0.517	3909	0.1621	0.1431	0.1262	0.588
3103	0.7195	0.6365	0.5592	0.437	4002	0.7520	0.6600	0.5758	0.528
3104	0.4508	0.3965	0.3463	0.488	4101	0.2046	0.1803	0.1586	0.562
3105	0.7006	0.6165	0.5405	0.548	4103	0.2494	0.2190	0.1924	0.664
3303	0.2227	0.1967	0.1732	0.547	4107	0.1324	0.1167	0.1028	0.572
3304	0.5016	0.4432	0.3906	0.552	4108	0.1480	0.1308	0.1152	0.510
3309	0.3570	0.3151	0.2776	0.560	4109	0.2034	0.1796	0.1581	0.561
3401	0.3418	0.3016	0.2648	0.510	4201	0.3554	0.3113	0.2710	0.544
3402	0.4031	0.3552	0.3118	0.537	4301	0.6614	0.5853	0.5165	0.519
3403	0.1857	0.1644	0.1446	0.463	4302	0.4942	0.4344	0.3799	0.525

Permanent

Class	1994	1995	1996	D-Ratio	Class	1994	1995	1996	D-Ratio
4304	0.6057	0.5343	0.4697	0.539	5208	0.7399	0.6524	0.5725	0.519
4305	0.7998	0.7028	0.6141	0.530	5209	0.6211	0.5473	0.4802	0.537
4401	0.3882	0.3442	0.3039	0.468	5301	0.0287	0.0253	0.0223	0.569
4402	0.6103	0.5387	0.4741	0.552	5305	0.0421	0.0371	0.0327	0.628
4404	0.3688	0.3263	0.2876	0.505	5306	0.0416	0.0367	0.0324	0.552
4501	0.1274	0.1128	0.0997	0.538	5307	0.3032	0.2668	0.2338	0.541
4502	0.0383	0.0339	0.0298	0.550	6103	0.0635	0.0562	0.0498	0.631
4504	0.0867	0.0766	0.0676	0.632	6104	0.2394	0.2111	0.1859	0.593
4601	0.5595	0.4944	0.4354	0.526	6105	0.1706	0.1507	0.1326	0.528
4802	0.2025	0.1791	0.1579	0.531	6107	0.1027	0.0910	0.0806	0.592
4803	0.1855	0.1640	0.1448	0.576	6108	0.4194	0.3705	0.3269	0.581
4804	0.4761	0.4200	0.3698	0.574	6109	0.0618	0.0546	0.0481	0.517
4805	0.2793	0.2469	0.2176	0.520	6110	0.3668	0.3235	0.2844	0.555
4806	0.0522	0.0462	0.0408	0.514	6201	0.2646	0.2332	0.2044	0.512
4808	0.4093	0.3614	0.3173	0.480	6202	0.5467	0.4842	0.4269	0.483
4809	0.2254	0.1986	0.1748	0.595	6203	0.0710	0.0626	0.0555	0.656
4810	0.1321	0.1172	0.1038	0.555	6204	0.1423	0.1258	0.1113	0.593
4811	0.2125	0.1879	0.1659	0.570	6205	0.1930	0.1702	0.1501	0.590
4812	0.2853	0.2515	0.2212	0.544	6206	0.1614	0.1424	0.1254	0.595
4813	0.1782	0.1581	0.1400	0.498	6207	1.2029	1.0678	0.9488	0.578
4900	0.4339	0.3829	0.3355	0.452	6208	0.2575	0.2291	0.2038	0.553
4901	0.0440	0.0387	0.0340	0.557	6209	0.2290	0.2026	0.1791	0.569
4902	0.0648	0.0570	0.0500	0.590	6301	0.1219	0.1078	0.0947	0.436
4903	0.0509	0.0449	0.0393	0.562	6302	0.1477	0.1309	0.1157	0.506
4904	0.0229	0.0211	0.0187	0.594	6303	0.0635	0.0561	0.0495	0.517
4905	0.2529	0.2225	0.1975	0.605	6304	0.1759	0.1556	0.1375	0.602
4906	0.0701	0.0617	0.0542	0.571	6305	0.0680	0.0601	0.0530	0.592
4907	0.0562	0.0497	0.0438	0.531	6306	0.2471	0.2180	0.1917	0.557
4908	0.1076	0.0961	0.0863	0.642	6308	0.0451	0.0398	0.0350	0.568
4909	0.0489	0.0438	0.0392	0.604	6309	0.1218	0.1077	0.0951	0.577
4910	0.3542	0.3129	0.2757	0.534	6402	0.2459	0.2165	0.1903	0.584
5001	4.0070	3.5355	3.0856	0.379	6403	0.1775	0.1570	0.1389	0.562
5002	0.4430	0.3897	0.3414	0.554	6404	0.1588	0.1403	0.1239	0.586
5003	1.2631	1.1147	0.9740	0.402	6405	0.4947	0.4365	0.3835	0.515
5004	1.2376	1.0952	0.9642	0.472	6406	0.0645	0.0645	0.0502	0.635
5005	0.9987	0.8821	0.7716	0.394	6407	0.1999	0.1765	0.1557	0.567
5006	1.2562	1.1066	0.9658	0.425	6408	0.2902	0.2552	0.2239	0.590
5101	0.7334	0.6452	0.5671	0.617	6409	0.4775	0.4211	0.3697	0.520
5103	0.6624	0.5843	0.5146	0.582	6501	0.1479	0.1308	0.1155	0.543
5108	0.5017	0.4432	0.3900	0.531	6502	0.0259	0.0229	0.0202	0.545
5109	0.5959	0.5257	0.4607	0.476	6503	0.0605	0.0534	0.0467	0.480
5201	0.2822	0.2485	0.2177	0.540	6504	0.3565	0.3157	0.2797	0.593
5204	0.8022	0.7086	0.6223	0.474	6505	0.0912	0.0810	0.0718	0.540
5206	0.4339	0.3829	0.3355	0.452	6506	0.0750	0.0663	0.0586	0.548
5207	0.1491	0.1316	0.1163	0.640	6508	0.3045	0.2695	0.2380	0.543

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Class	1994	1995	1996	D-Ratio	Class	1994	1995	1996	D-Ratio
6509	0.2308	0.2042	0.1806	0.562	7118	1.7351	1.5296	1.3446	0.569
6601	0.1683	0.1490	0.1319	0.565	7119	1.6187	1.4225	1.2455	0.567
6602	0.4087	0.3609	0.3177	0.541	7120	4.2908	3.8002	3.3528	0.500
6603	0.2921	0.2580	0.2271	0.558	7121	4.5012	3.9769	3.4986	0.508
6604	0.0566	0.0503	0.0446	0.499	7201	0.8716	0.7651	0.6676	0.523
6605	0.2883	0.2539	0.2242	0.692	7202	0.0395	0.0350	0.0308	0.498
6607	0.1287	0.1136	0.1002	0.603	7203	0.1122	0.0997	0.0886	0.565
6608	0.2548	0.2244	0.1965	0.495	7204	0.0000	0.0000	0.0000	0.500
6620	1.0541	0.9282	0.8149	0.569	7301	0.4802	0.4233	0.3712	0.510
6704	0.1058	0.0934	0.0825	0.566	7302	0.5918	0.5235	0.4621	0.541
6705	0.6722	0.5947	0.5265	0.611	7307	0.5426	0.4792	0.4226	0.569
6706	0.3468	0.3074	0.2723	0.568	7308	0.1941	0.1712	0.1512	0.651
6707	1.4847	1.3105	1.1563	0.601	7309	0.1673	0.1478	0.1307	0.640))
6708	5.5467	4.9618	4.4312	0.456					
6709	0.1673	0.1478	0.1307	0.640	<u>Class</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>D-Ratio</u>
6801	0.2157	0.1898	0.1665	0.564	0101	1.2089	1.0530	0.9338	0.407
6802	0.3797	0.3354	0.2963	0.609	0102	1.0608	0.9347	0.8389	0.445
6803	0.7304	0.6441	0.5599	0.339	0103	1.4254	1.2595	1.1338	0.455
6804	0.1877	0.1652	0.1449	0.596	0104	0.8625	0.7561	0.6753	0.429
6809	4.2268	3.7523	3.3374	0.605	0105	1.0865	0.9724	0.8868	0.495
6901	0.0370	0.0335	0.0308	0.716	0106	1.2089	1.0530	0.9338	0.407
6902	0.7066	0.6231	0.5437	0.395	0107	1.0068	0.8875	0.7972	0.450
6903	3.6518	3.2407	2.8433	0.334	0108	0.8625	0.7561	0.6753	0.429
6904	0.1990	0.1745	0.1527	0.603	0109	1.4947	1.2960	1.1443	0.393
6905	0.2501	0.2199	0.1929	0.590	0112	0.5877	0.5213	0.4711	0.467
6906	0.1165	0.1058	0.0972	0.683	0201	2.3324	2.0138	1.7697	0.378
6907	0.9630	0.8477	0.7430	0.533	0202	2.3324	2.0138	1.7697	0.378
6908	0.4092	0.3609	0.3172	0.545	0210	0.7859	0.6901	0.6175	0.436
6909	0.0889	0.0785	0.0691	0.593	0212	0.8038	0.7008	0.6224	0.410
7101	0.0268	0.0237	0.0210	0.490	0214	0.9807	0.8678	0.7827	0.462
7102	3.4640	3.0938	2.7727	0.585	0217	1.0608	0.9347	0.8389	0.445
7103	0.2711	0.2391	0.2096	0.504	0219	0.9766	0.8538	0.7602	0.417
7104	0.0229	0.0202	0.0178	0.604	0301	0.5601	0.5059	0.4658	0.524
7105	0.0229	0.0202	0.0178	0.618	0302	1.6414	1.4199	1.2501	0.386
7106	0.1301	0.1149	0.1011	0.551	0303	1.5420	1.3419	1.1892	0.406
7107	0.2250	0.1985	0.1749	0.583	0306	0.8814	0.7750	0.6947	0.441
7108	0.1743	0.1540	0.1362	0.645	0307	0.6661	0.5941	0.5405	0.488
7109	0.1508	0.1334	0.1179	0.594	0308	0.4887	0.4472	0.4172	0.570
7110	0.2580	0.2274	0.1992	0.505	0403	1.3030	1.1525	1.0390	0.455
7111	0.3597	0.3179	0.2801	0.543	0502	1.2426	1.0885	0.9714	0.429
7112	0.5052	0.4451	0.3909	0.560	0504	1.2224	1.0652	0.9450	0.404
7113	0.5133	0.4519	0.3963	0.550	0506	3.7331	3.2321	2.8478	0.385
7114	0.6847	0.6032	0.5324	0.666	0507	2.8413	2.4918	2.2255	0.427
7115	0.4596	0.4048	0.3558	0.598	0508	2.7879	2.3853	2.0757	0.347
7116	0.4297	0.3794	0.3339	0.541	0509	1.5341	1.3334	1.1797	0.397
7117	0.9950	0.8765	0.7718	0.605					

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<u>Class</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>D-Ratio</u>	<u>Class</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>D-Ratio</u>
0510	1.2508	1.1054	0.9955	0.455	1702	1.4931	1.2934	1.1406	0.387
0511	1.0283	0.9191	0.8379	0.496	1703	0.2939	0.2612	0.2368	0.475
0512	1.2064	1.0711	0.9695	0.473	1704	0.6155	0.5479	0.4969	0.476
0513	0.6226	0.5557	0.5058	0.492	1801	0.7675	0.6685	0.5931	0.403
0514	1.1527	1.0310	0.9407	0.494	1802	0.7431	0.6619	0.6006	0.478
0515	2.6517	2.3092	2.0474	0.407	2002	0.5152	0.4700	0.4375	0.557
0516	1.2508	1.1054	0.9955	0.455	2004	0.5361	0.4957	0.4671	0.603
0517	1.4465	1.2903	1.1733	0.484	2007	0.4108	0.3681	0.3362	0.497
0518	1.4947	1.2960	1.1443	0.393	2008	0.2336	0.2107	0.1938	0.520
0519	1.6199	1.4271	1.2810	0.442	2009	0.2832	0.2584	0.2405	0.556
0520	1.3963	1.2176	1.0814	0.414	2101	0.5281	0.4743	0.4341	0.504
0521	1.1763	1.0246	0.9085	0.404	2102	0.3754	0.3430	0.3196	0.560
0601	0.5051	0.4545	0.4170	0.517	2104	0.2239	0.2066	0.1943	0.591
0602	0.3786	0.3436	0.3181	0.548	2105	0.5125	0.4650	0.4301	0.544
0603	0.7746	0.6768	0.6024	0.419	2106	0.2895	0.2613	0.2407	0.519
0604	0.9704	0.8666	0.7892	0.486	2201	0.2071	0.1865	0.1713	0.514
0606	0.2679	0.2468	0.2319	0.591	2202	0.4547	0.4171	0.3903	0.579
0607	0.3157	0.2849	0.2624	0.526	2203	0.2830	0.2613	0.2461	0.598
0608	0.2478	0.2233	0.2053	0.516	2204	0.1912	0.1721	0.1581	0.514
0701	1.7727	1.5135	1.3147	0.347	2401	0.3339	0.3045	0.2832	0.551
0803	0.3138	0.2854	0.2647	0.551	2903	0.5565	0.5086	0.4741	0.563
0804	0.5877	0.5213	0.4711	0.467	2904	0.6371	0.5722	0.5241	0.502
0901	1.4947	1.2960	1.1443	0.393	2905	0.4151	0.3845	0.3632	0.610
1002	0.6871	0.6211	0.5725	0.529	2906	0.2937	0.2661	0.2461	0.539
1003	0.6868	0.6166	0.5647	0.506	2907	0.4443	0.4033	0.3733	0.540
1004	0.4392	0.3905	0.3541	0.474	2908	0.7846	0.7067	0.6491	0.517
1005	5.6608	4.8673	4.2552	0.360	2909	0.3562	0.3250	0.3026	0.558
1007	0.2938	0.2635	0.2411	0.507	3101	0.6247	0.5498	0.4930	0.437
1101	0.4676	0.4262	0.3962	0.557	3102	0.2117	0.1918	0.1772	0.534
1102	1.1068	0.9764	0.8773	0.448	3103	0.6829	0.5996	0.5365	0.428
1103	0.5663	0.5092	0.4668	0.513	3104	0.4464	0.3976	0.3610	0.483
1104	0.3758	0.3447	0.3223	0.572	3105	0.6629	0.6062	0.5654	0.569
1105	0.6398	0.5775	0.5316	0.524	3303	0.2178	0.1988	0.1850	0.558
1106	0.2669	0.2427	0.2253	0.542	3304	0.4629	0.4232	0.3944	0.561
1108	0.3907	0.3550	0.3290	0.545	3309	0.3257	0.2990	0.2798	0.576
1109	0.6978	0.6339	0.5874	0.542	3401	0.3333	0.2997	0.2749	0.511
1301	0.3686	0.3332	0.3069	0.526	3402	0.3595	0.3277	0.3047	0.557
1303	0.1464	0.1335	0.1243	0.560	3403	0.1729	0.1537	0.1394	0.471
1304	0.0201	0.0183	0.0169	0.537	3404	0.3567	0.3267	0.3054	0.573
1305	0.3569	0.3198	0.2921	0.494	3405	0.1988	0.1809	0.1681	0.555
1401	0.4877	0.4379	0.4008	0.502	3406	0.2062	0.1886	0.1759	0.565
1404	0.4636	0.4207	0.3892	0.544	3407	0.3156	0.2877	0.2675	0.559
1405	0.3406	0.3048	0.2785	0.493	3408	0.0992	0.0903	0.0837	0.546
1501	0.3493	0.3176	0.2945	0.550	3409	0.0892	0.0825	0.0777	0.601
1507	0.3247	0.2967	0.2765	0.567	3410	0.1791	0.1654	0.1558	0.593
1701	0.6155	0.5479	0.4969	0.476	3411	0.3333	0.2997	0.2749	0.511

PERMANENT

<u>Class</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>D-Ratio</u>	<u>Class</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>D-Ratio</u>
<u>3412</u>	<u>0.3445</u>	<u>0.3109</u>	<u>0.2861</u>	<u>0.525</u>	<u>4601</u>	<u>0.5336</u>	<u>0.4824</u>	<u>0.4447</u>	<u>0.525</u>
<u>3413</u>	<u>0.4197</u>	<u>0.3816</u>	<u>0.3539</u>	<u>0.549</u>	<u>4802</u>	<u>0.1896</u>	<u>0.1717</u>	<u>0.1586</u>	<u>0.531</u>
<u>3414</u>	<u>0.4156</u>	<u>0.3749</u>	<u>0.3449</u>	<u>0.521</u>	<u>4803</u>	<u>0.1700</u>	<u>0.1564</u>	<u>0.1470</u>	<u>0.586</u>
<u>3415</u>	<u>0.4580</u>	<u>0.4135</u>	<u>0.3806</u>	<u>0.524</u>	<u>4804</u>	<u>0.4453</u>	<u>0.4075</u>	<u>0.3803</u>	<u>0.565</u>
<u>3501</u>	<u>0.7601</u>	<u>0.6742</u>	<u>0.6092</u>	<u>0.462</u>	<u>4805</u>	<u>0.2532</u>	<u>0.2294</u>	<u>0.2120</u>	<u>0.532</u>
<u>3503</u>	<u>0.2389</u>	<u>0.2218</u>	<u>0.2098</u>	<u>0.605</u>	<u>4806</u>	<u>0.0477</u>	<u>0.0431</u>	<u>0.0397</u>	<u>0.523</u>
<u>3506</u>	<u>0.8275</u>	<u>0.7308</u>	<u>0.6582</u>	<u>0.461</u>	<u>4808</u>	<u>0.3828</u>	<u>0.3425</u>	<u>0.3124</u>	<u>0.493</u>
<u>3509</u>	<u>0.3241</u>	<u>0.3010</u>	<u>0.2849</u>	<u>0.618</u>	<u>4809</u>	<u>0.2186</u>	<u>0.2022</u>	<u>0.1907</u>	<u>0.604</u>
<u>3510</u>	<u>0.3492</u>	<u>0.3188</u>	<u>0.2968</u>	<u>0.560</u>	<u>4810</u>	<u>0.1190</u>	<u>0.1085</u>	<u>0.1009</u>	<u>0.548</u>
<u>3511</u>	<u>0.5104</u>	<u>0.4641</u>	<u>0.4303</u>	<u>0.545</u>	<u>4811</u>	<u>0.1909</u>	<u>0.1760</u>	<u>0.1656</u>	<u>0.591</u>
<u>3512</u>	<u>0.3150</u>	<u>0.2908</u>	<u>0.2738</u>	<u>0.593</u>	<u>4812</u>	<u>0.2751</u>	<u>0.2502</u>	<u>0.2321</u>	<u>0.549</u>
<u>3513</u>	<u>0.3592</u>	<u>0.3278</u>	<u>0.3053</u>	<u>0.559</u>	<u>4813</u>	<u>0.1545</u>	<u>0.1393</u>	<u>0.1282</u>	<u>0.514</u>
<u>3602</u>	<u>0.1017</u>	<u>0.0941</u>	<u>0.0888</u>	<u>0.602</u>	<u>4900</u>	<u>0.3833</u>	<u>0.3397</u>	<u>0.3070</u>	<u>0.464</u>
<u>3603</u>	<u>0.4142</u>	<u>0.3779</u>	<u>0.3516</u>	<u>0.557</u>	<u>4901</u>	<u>0.0466</u>	<u>0.0421</u>	<u>0.0390</u>	<u>0.536</u>
<u>3604</u>	<u>1.0359</u>	<u>0.9497</u>	<u>0.8881</u>	<u>0.577</u>	<u>4902</u>	<u>0.0630</u>	<u>0.0577</u>	<u>0.0539</u>	<u>0.571</u>
<u>3605</u>	<u>0.3951</u>	<u>0.3588</u>	<u>0.3322</u>	<u>0.544</u>	<u>4903</u>	<u>0.0515</u>	<u>0.0470</u>	<u>0.0438</u>	<u>0.563</u>
<u>3701</u>	<u>0.2117</u>	<u>0.1918</u>	<u>0.1772</u>	<u>0.534</u>	<u>4904</u>	<u>0.0238</u>	<u>0.0219</u>	<u>0.0206</u>	<u>0.583</u>
<u>3702</u>	<u>0.3451</u>	<u>0.3174</u>	<u>0.2978</u>	<u>0.588</u>	<u>4905</u>	<u>0.2525</u>	<u>0.2331</u>	<u>0.2194</u>	<u>0.592</u>
<u>3707</u>	<u>0.4870</u>	<u>0.4338</u>	<u>0.3933</u>	<u>0.461</u>	<u>4906</u>	<u>0.0681</u>	<u>0.0622</u>	<u>0.0581</u>	<u>0.569</u>
<u>3708</u>	<u>0.3769</u>	<u>0.3402</u>	<u>0.3132</u>	<u>0.521</u>	<u>4907</u>	<u>0.0525</u>	<u>0.0476</u>	<u>0.0441</u>	<u>0.537</u>
<u>3801</u>	<u>0.1469</u>	<u>0.1351</u>	<u>0.1267</u>	<u>0.582</u>	<u>4908</u>	<u>0.1045</u>	<u>0.0986</u>	<u>0.0952</u>	<u>0.656</u>
<u>3802</u>	<u>0.1469</u>	<u>0.1351</u>	<u>0.1267</u>	<u>0.582</u>	<u>4909</u>	<u>0.0464</u>	<u>0.0433</u>	<u>0.0412</u>	<u>0.612</u>
<u>3808</u>	<u>0.3202</u>	<u>0.2884</u>	<u>0.2649</u>	<u>0.517</u>	<u>4910</u>	<u>0.3248</u>	<u>0.2956</u>	<u>0.2746</u>	<u>0.550</u>
<u>3901</u>	<u>0.1394</u>	<u>0.1294</u>	<u>0.1224</u>	<u>0.608</u>	<u>5001</u>	<u>3.9466</u>	<u>3.4100</u>	<u>2.9976</u>	<u>0.380</u>
<u>3902</u>	<u>0.3279</u>	<u>0.2994</u>	<u>0.2789</u>	<u>0.559</u>	<u>5002</u>	<u>0.4206</u>	<u>0.3829</u>	<u>0.3555</u>	<u>0.555</u>
<u>3903</u>	<u>1.0106</u>	<u>0.9121</u>	<u>0.8397</u>	<u>0.516</u>	<u>5003</u>	<u>1.2397</u>	<u>1.0758</u>	<u>0.9504</u>	<u>0.393</u>
<u>3905</u>	<u>0.1394</u>	<u>0.1294</u>	<u>0.1224</u>	<u>0.608</u>	<u>5004</u>	<u>1.0961</u>	<u>0.9780</u>	<u>0.8894</u>	<u>0.481</u>
<u>3906</u>	<u>0.3719</u>	<u>0.3379</u>	<u>0.3130</u>	<u>0.543</u>	<u>5005</u>	<u>0.8641</u>	<u>0.7536</u>	<u>0.6689</u>	<u>0.409</u>
<u>3909</u>	<u>0.1502</u>	<u>0.1387</u>	<u>0.1307</u>	<u>0.596</u>	<u>5006</u>	<u>1.2281</u>	<u>1.0758</u>	<u>0.9595</u>	<u>0.426</u>
<u>4002</u>	<u>0.7544</u>	<u>0.6842</u>	<u>0.6323</u>	<u>0.545</u>	<u>5101</u>	<u>0.6779</u>	<u>0.6288</u>	<u>0.5945</u>	<u>0.613</u>
<u>4101</u>	<u>0.2046</u>	<u>0.1876</u>	<u>0.1754</u>	<u>0.575</u>	<u>5103</u>	<u>0.6406</u>	<u>0.5904</u>	<u>0.5549</u>	<u>0.589</u>
<u>4103</u>	<u>0.2240</u>	<u>0.2110</u>	<u>0.2024</u>	<u>0.664</u>	<u>5106</u>	<u>0.6406</u>	<u>0.5904</u>	<u>0.5549</u>	<u>0.589</u>
<u>4107</u>	<u>0.1169</u>	<u>0.1068</u>	<u>0.0997</u>	<u>0.564</u>	<u>5108</u>	<u>0.4938</u>	<u>0.4505</u>	<u>0.4195</u>	<u>0.559</u>
<u>4108</u>	<u>0.1386</u>	<u>0.1247</u>	<u>0.1146</u>	<u>0.514</u>	<u>5109</u>	<u>0.5713</u>	<u>0.5075</u>	<u>0.4598</u>	<u>0.471</u>
<u>4109</u>	<u>0.1931</u>	<u>0.1767</u>	<u>0.1648</u>	<u>0.565</u>	<u>5201</u>	<u>0.2645</u>	<u>0.2399</u>	<u>0.2220</u>	<u>0.544</u>
<u>4201</u>	<u>0.3613</u>	<u>0.3273</u>	<u>0.3023</u>	<u>0.544</u>	<u>5204</u>	<u>0.7193</u>	<u>0.6418</u>	<u>0.5841</u>	<u>0.485</u>
<u>4301</u>	<u>0.6441</u>	<u>0.5814</u>	<u>0.5353</u>	<u>0.518</u>	<u>5206</u>	<u>0.3833</u>	<u>0.3397</u>	<u>0.3070</u>	<u>0.464</u>
<u>4302</u>	<u>0.4644</u>	<u>0.4201</u>	<u>0.3876</u>	<u>0.535</u>	<u>5207</u>	<u>0.1368</u>	<u>0.1283</u>	<u>0.1228</u>	<u>0.646</u>
<u>4304</u>	<u>0.5873</u>	<u>0.5327</u>	<u>0.4928</u>	<u>0.538</u>	<u>5208</u>	<u>0.7123</u>	<u>0.6414</u>	<u>0.5893</u>	<u>0.517</u>
<u>4305</u>	<u>0.7517</u>	<u>0.6782</u>	<u>0.6240</u>	<u>0.526</u>	<u>5209</u>	<u>0.6010</u>	<u>0.5434</u>	<u>0.5011</u>	<u>0.530</u>
<u>4401</u>	<u>0.3685</u>	<u>0.3283</u>	<u>0.2981</u>	<u>0.472</u>	<u>5301</u>	<u>0.0270</u>	<u>0.0247</u>	<u>0.0232</u>	<u>0.575</u>
<u>4402</u>	<u>0.5869</u>	<u>0.5345</u>	<u>0.4966</u>	<u>0.552</u>	<u>5305</u>	<u>0.0420</u>	<u>0.0393</u>	<u>0.0375</u>	<u>0.642</u>
<u>4404</u>	<u>0.3389</u>	<u>0.3042</u>	<u>0.2784</u>	<u>0.500</u>	<u>5306</u>	<u>0.0386</u>	<u>0.0354</u>	<u>0.0330</u>	<u>0.565</u>
<u>4501</u>	<u>0.1227</u>	<u>0.1118</u>	<u>0.1040</u>	<u>0.552</u>	<u>5307</u>	<u>0.2856</u>	<u>0.2601</u>	<u>0.2416</u>	<u>0.556</u>
<u>4502</u>	<u>0.0379</u>	<u>0.0344</u>	<u>0.0319</u>	<u>0.543</u>	<u>6103</u>	<u>0.0627</u>	<u>0.0583</u>	<u>0.0554</u>	<u>0.620</u>
<u>4504</u>	<u>0.0812</u>	<u>0.0758</u>	<u>0.0722</u>	<u>0.632</u>	<u>6104</u>	<u>0.2255</u>	<u>0.2089</u>	<u>0.1975</u>	<u>0.610</u>

PERMANENT

<u>Class</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>D-Ratio</u>	<u>Class</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>D-Ratio</u>
6105	0.1610	0.1459	0.1349	0.536	6607	0.1312	0.1215	0.1145	0.602
6107	0.0943	0.0873	0.0824	0.599	6608	0.2675	0.2382	0.2161	0.480
6108	0.3669	0.3389	0.3192	0.596	6620	1.2146	1.1144	1.0427	0.582
6109	0.0582	0.0527	0.0486	0.527	6704	0.0983	0.0902	0.0844	0.576
6110	0.3305	0.3002	0.2781	0.543	6705	0.6228	0.5814	0.5536	0.630
6201	0.2556	0.2291	0.2095	0.503	6706	0.3268	0.3004	0.2819	0.577
6202	0.5204	0.4667	0.4269	0.497	6707	1.3699	1.2678	1.1966	0.602
6203	0.0657	0.0618	0.0593	0.656	6708	5.5217	4.9151	4.4626	0.459
6204	0.1319	0.1221	0.1154	0.606	6709	0.1644	0.1543	0.1476	0.646
6205	0.1817	0.1676	0.1577	0.594	6801	0.2210	0.2018	0.1880	0.567
6206	0.1575	0.1455	0.1371	0.597	6802	0.3454	0.3198	0.3023	0.604
6207	1.1722	1.0818	1.0180	0.585	6803	0.6935	0.5942	0.5184	0.353
6208	0.2372	0.2165	0.2018	0.549	6804	0.1761	0.1623	0.1526	0.595
6209	0.2095	0.1930	0.1814	0.587	6809	4.0833	3.7922	3.5938	0.608
6301	0.1180	0.1038	0.0932	0.440	6901	0.0402	0.0392	0.0390	0.741
6302	0.1411	0.1274	0.1173	0.519	6902	0.6820	0.5929	0.5247	0.401
6303	0.0401	0.0534	0.0493	0.524	6903	3.9732	3.3781	2.9254	0.327
6304	0.1739	0.1620	0.1679	0.622	6904	0.1904	0.1765	0.1666	0.615
6305	0.0647	0.0598	0.0583	0.595	6905	0.2352	0.2167	0.2036	0.594
6306	0.1355	0.1931	0.1813	0.587	6906	0.1102	0.1059	0.1038	0.688
6308	0.0460	0.0421	0.0393	0.568	6907	0.9003	0.8184	0.7584	0.548
6309	0.1141	0.1048	0.1137	0.579	6908	0.4165	0.3788	0.3515	0.550
6402	0.2154	0.1992	0.1948	0.604	6909	0.0880	0.0812	0.0763	0.594
6403	0.1400	0.1280	0.1367	0.559	7002	0.0000	0.0000	0.0000	0.500
6404	0.1526	0.1411	0.1395	0.597	7101	0.0255	0.0230	0.0209	0.490
6405	0.3415	0.4355	0.3991	0.507	7102	3.2856	3.0428	2.8758	0.590
6406	0.0579	0.0542	0.0553	0.641	7103	0.2707	0.2437	0.2237	0.515
6407	0.1242	0.1745	0.1629	0.565	7104	0.0214	0.0198	0.0187	0.603
6408	0.2664	0.2461	0.2317	0.600	7105	0.0208	0.0193	0.0184	0.625
6409	0.4197	0.3816	0.3539	0.549	7106	0.1272	0.1164	0.1088	0.569
6410	0.1482	0.1342	0.1242	0.533	7107	0.2158	0.1991	0.1874	0.594
6501	0.0913	0.0853	0.0812	0.639	7108	0.1756	0.1648	0.1577	0.648
6502	0.0236	0.0214	0.0199	0.549	7109	0.1353	0.1255	0.1186	0.607
6503	0.0577	0.0516	0.0472	0.499	7110	0.2618	0.2337	0.2127	0.488
6504	0.3230	0.2998	0.2837	0.608	7111	0.3417	0.3117	0.2899	0.555
6505	0.0863	0.0787	0.0733	0.549	7112	0.4854	0.4440	0.4141	0.567
6506	0.0692	0.0629	0.0618	0.547	7113	0.4865	0.4435	0.4127	0.559
6508	0.2871	0.2610	0.2420	0.541	7114	0.6096	0.5749	0.5526	0.664
6509	0.2274	0.2079	0.1939	0.560	7115	0.4298	0.3973	0.3748	0.604
6510	0.2871	0.2610	0.2420	0.541	7116	0.4121	0.3746	0.3472	0.543
6511	0.2871	0.2610	0.2420	0.541	7117	0.8708	0.8079	0.7634	0.611
6601	0.1553	0.1429	0.1342	0.582	7118	1.3687	1.2527	1.1704	0.571
6602	0.3700	0.3385	0.3157	0.565	7119	1.5742	1.4433	1.3492	0.579
6603	0.2822	0.2565	0.2378	0.545	7120	4.1969	3.7761	3.4668	0.509
6604	0.0537	0.0483	0.0443	0.503	7121	4.2770	3.8504	3.5356	0.513
6605	0.2652	0.2526	0.2449	0.693	7201	0.8348	0.7550	0.6959	0.536

PERMANENT

<u>Class</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>D-Ratio</u>	<u>Class</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>D-Ratio</u>
7202	0.0366	0.0327	0.0298	0.485	7901	0.0078	0.0068	0.0061	0.415
7203	0.1063	0.0976	0.0915	0.571					
7204	0.0000	0.0000	0.0000	0.500					
7301	0.4684	0.4190	0.3821	0.494					
7302	0.5614	0.5123	0.4768	0.556					
7307	0.4842	0.4451	0.4174	0.580					
7308	0.1944	0.1821	0.1740	0.639					
7309	0.1644	0.1543	0.1476	0.646					

**AMENDATORY SECTION** (Amending WSR 97-24-062, filed 12/1/97, effective 1/1/98)

WAC 296-17-890 Table IV.

Maximum experience modifications  
for firms with no compensable accidents:

Expected Loss Rates in Dollars Per Sq. Ft.  
of Wallboard Installed

((Expected  
Loss Range

Maximum  
Experience  
Modification

<u>Class</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>D-Ratio</u>		
0522	0.0195	0.0172	0.0150	0.402	2,412 & Lower	0.90
0523	0.0123	0.0108	0.0094	0.408	2,413 - 2,581	0.89
0524	0.0116	0.0102	0.0089	0.402	2,582 - 2,763	0.88
0525	0.0081	0.0071	0.0062	0.408	2,764 - 2,961	0.87
0526	0.0075	0.0066	0.0058	0.408	2,962 - 3,175	0.86
0527	0.0005	0.0005	0.0004	0.408	3,176 - 3,408	0.85
0528	0.0019	0.0017	0.0015	0.402	3,409 - 3,661	0.84
0529	0.0013	0.0011	0.0010	0.402	3,662 - 3,935	0.83
0530	0.0176	0.0155	0.0135	0.402	3,936 - 4,235	0.82
0531	0.0114	0.0101	0.0088	0.408	4,236 - 4,561	0.81
0532	0.0008	0.0007	0.0006	0.408	4,562 - 4,917	0.80
0533	0.0029	0.0026	0.0022	0.402	4,918 - 5,305	0.79
0534	0.0019	0.0017	0.0015	0.402	5,306 - 5,730	0.78
7900	0.0129	0.0113	0.0099	0.402	5,731 - 6,195	0.77
7901	0.0081	0.0071	0.0062	0.408))	6,196 - 6,705	0.76
					6,706 - 7,265	0.75
					7,266 - 7,879	0.74
					7,880 - 8,555	0.73
					8,556 - 9,300	0.72
					9,301 - 10,122	0.71
0522	0.0185	0.0161	0.0143	0.407	10,123 - 11,029	0.70
0523	0.0120	0.0104	0.0093	0.414	11,030 - 12,033	0.69
0524	0.0115	0.0101	0.0090	0.441	12,034 - 13,145	0.68
0525	0.0081	0.0070	0.0063	0.420	13,146 - 14,378	0.67
0526	0.0071	0.0063	0.0055	0.406	14,379 - 15,749	0.66
0527	0.0005	0.0004	0.0004	0.364	15,750 - 17,275	0.65
0528	0.0018	0.0016	0.0014	0.416	17,276 - 18,976	0.64
0529	0.0012	0.0011	0.0010	0.410	18,977 - 20,875	0.63
0530	0.0166	0.0144	0.0128	0.403	20,876 - 23,000	0.62
0531	0.0108	0.0094	0.0083	0.414	23,001 - 25,381	0.61
0532	0.0009	0.0008	0.0006	0.403	25,382 & Higher	0.60))
0533	0.0028	0.0025	0.0022	0.401		
0534	0.0018	0.0016	0.0014	0.416		
7900	0.0127	0.0110	0.0099	0.408		

PERMANENT

<u>Expected Loss Range</u>	<u>Maximum Experience Modification</u>	<u>Class</u>	<u>Base Rates Effective January 1, 1998</u>	
			<u>Accident Fund</u>	<u>Medical Aid Fund</u>
<u>2.383 &amp; Lower</u>	<u>0.90</u>			
<u>2.384</u> - <u>2.550</u>	<u>0.89</u>	0104	1.0933	0.3245
<u>2.551</u> - <u>2.730</u>	<u>0.88</u>	0105	1.3874	0.5243
<u>2.731</u> - <u>2.925</u>	<u>0.87</u>	0107	1.4267	0.3972
<u>2.926</u> - <u>3.137</u>	<u>0.86</u>	0108	1.0933	0.3245
<u>3.138</u> - <u>3.367</u>	<u>0.85</u>	0112	0.8229	0.2575
<u>3.368</u> - <u>3.617</u>	<u>0.84</u>	0201	3.3774	0.9111
<u>3.618</u> - <u>3.888</u>	<u>0.83</u>	0202	3.3774	0.9111
<u>3.889</u> - <u>4.184</u>	<u>0.82</u>	0210	1.1029	0.3252
<u>4.185</u> - <u>4.506</u>	<u>0.81</u>	0212	1.1029	0.3252
<u>4.507</u> - <u>4.858</u>	<u>0.80</u>	0214	1.3827	0.4230
<u>4.859</u> - <u>5.241</u>	<u>0.79</u>	0217	1.4818	0.4490
<u>5.242</u> - <u>5.661</u>	<u>0.78</u>	0219	1.3064	0.4042
<u>5.662</u> - <u>6.121</u>	<u>0.77</u>	0301	0.6772	0.3016
<u>6.122</u> - <u>6.625</u>	<u>0.76</u>	0302	2.3045	0.5805
<u>6.626</u> - <u>7.177</u>	<u>0.75</u>	0303	2.0291	0.5249
<u>7.178</u> - <u>7.784</u>	<u>0.74</u>	0306	1.1146	0.3373
<u>7.785</u> - <u>8.452</u>	<u>0.73</u>	0307	0.7917	0.2849
<u>8.453</u> - <u>9.188</u>	<u>0.72</u>	0308	0.5771	0.2602
<u>9.189</u> - <u>10.000</u>	<u>0.71</u>	0403	1.5775	0.5574
<u>10.001</u> - <u>10.896</u>	<u>0.70</u>	0502	1.7171	0.4424
<u>10.897</u> - <u>11.888</u>	<u>0.69</u>	0504	1.5798	0.4930
<u>11.889</u> - <u>12.986</u>	<u>0.68</u>	0506	5.2406	1.3770
<u>12.987</u> - <u>14.205</u>	<u>0.67</u>	0507	3.5434	1.1731
<u>14.206</u> - <u>15.559</u>	<u>0.66</u>	0508	3.9663	0.8627
<u>15.560</u> - <u>17.067</u>	<u>0.65</u>	0509	1.9123	0.5650
<u>17.068</u> - <u>18.747</u>	<u>0.64</u>	0510	1.5777	0.5226
<u>18.748</u> - <u>20.623</u>	<u>0.63</u>	0511	1.2325	0.4282
<u>20.624</u> - <u>22.723</u>	<u>0.62</u>	0512	1.7355	0.5221
<u>22.724</u> - <u>25.075</u>	<u>0.61</u>	0513	0.7873	0.2504
<u>25.076 &amp; Higher</u>	<u>0.60</u>	0514	1.4829	0.5566
		0515	3.6223	0.9275
		0516	1.5777	0.5226
		0517	1.7320	0.6778
		0518	1.9875	0.5183
		0519	1.9882	0.7142
		0520	1.9963	0.4853
		0521	1.5798	0.4930
		0601	0.6761	0.2363
		0602	0.4525	0.1620
		0603	1.0471	0.3055
		0604	1.2275	0.5245
		0606	0.2819	0.1426
		0607	0.3494	0.1473

**AMENDATORY SECTION** (Amending WSR 98-18-042, filed 8/28/98, effective 10/1/98)

**WAC 296-17-895 Industrial insurance accident fund base rates and medical aid base rates by class of industry.** Industrial insurance accident fund and medical aid fund base rates by class of industry shall be as set forth below.

((Base Rates Effective  
January 1, 1998

<u>Class</u>	<u>Accident Fund</u>	<u>Medical Aid Fund</u>
0101	1.6071	0.4584
0103	1.8351	0.5549

PERMANENT

Base Rates Effective  
January 1, 1998

Base Rates Effective  
January 1, 1998

Class	Base Rates Effective January 1, 1998		Base Rates Effective January 1, 1998	
	Accident Fund	Medical Aid Fund	Class	Accident Fund Medical Aid Fund
0608	0.2859	0.1445	2202	0.5350 0.22504
0701	2.7641	0.4866	2203	0.3038 0.1599
0803	0.3574	0.1508	2204	0.1687 0.0757
0901	1.9875	0.5183	2401	0.3349 0.1985
1002	0.7837	0.3358	2903	0.5826 0.3029
1003	0.7984	0.3224	2904	0.7225 0.3505
1004	0.5504	0.2067	2905	0.4304 0.2309
1005	7.1440	1.8946	2906	0.3346 0.1380
1007	0.3916	0.1343	2907	0.4882 0.2348
1101	0.5399	0.2486	2908	0.9739 0.3970
1102	1.4183	0.4572	2909	0.4137 0.2111
1103	0.6601	0.2607	3101	0.7987 0.2912
1104	0.4163	0.2370	3102	0.2363 0.1142
1105	0.7044	0.2947	3103	0.8335 0.3169
1106	0.2475	0.1509	3104	0.5547 0.1819
1108	0.4014	0.1999	3105	0.7748 0.3320
1109	0.7135	0.3709	3303	0.2273 0.1156
1301	0.3972	0.1783	3304	0.4970 0.2693
1303	0.1747	0.0756	3309	0.3577 0.1899
1304	0.0206	0.0109	3402	0.4396 0.1940
1305	0.3898	0.1799	3403	0.2054 0.0871
1401	0.5514	0.2549	3404	0.4086 0.1991
1404	0.5673	0.2228	3405	0.2559 0.1077
1405	0.4040	0.1894	3406	0.2107 0.1149
1501	0.4020	0.1644	3407	0.3416 0.1495
1507	0.3343	0.1518	3408	0.1010 0.0519
1701	0.7855	0.2945	3409	0.0901 0.0509
1702	1.9988	0.5581	3410	0.1772 0.1156
1703	0.3545	0.1245	3411	0.3785 0.1609
1704	0.7855	0.2945	3412	0.3913 0.1565
1801	0.9945	0.3244	3413	0.5270 0.2261
1802	1.0362	0.3682	3414	0.4856 0.2085
2002	0.5301	0.2663	3415	0.5075 0.2187
2004	0.5979	0.2937	3501	0.9144 0.3594
2007	0.4532	0.2051	3503	0.2242 0.1679
2008	0.2661	0.1199	3506	1.0939 0.2832
2009	0.3035	0.1626	3509	0.3560 0.1857
2101	0.5968	0.2541	3510	0.3964 0.1940
2102	0.3980	0.2070	3511	0.5503 0.2730
2104	0.2229	0.1329	3512	0.3069 0.1978
2105	0.6125	0.2246	3513	0.3961 0.2007
2106	0.3038	0.1583	3602	0.1061 0.0622
2201	0.2459	0.1104	3603	0.4065 0.2264

PERMANENT

Base Rates Effective  
January 1, 1998

Base Rates Effective  
January 1, 1998

Class	Base Rates Effective January 1, 1998		Class	Base Rates Effective January 1, 1998	
	Accident Fund	Medical Aid Fund		Accident Fund	Medical Aid Fund
3604	1.2653	0.5772	4900	0.5219	0.1808
3605	0.4585	0.2005	4901	0.0489	0.0207
3701	0.2363	0.1142	4902	0.0687	0.0324
3702	0.4202	0.1849	4903	0.0548	0.0249
3707	0.4514	0.2969	4904	0.0228	0.0134
3708	0.3857	0.1919	4905	0.2252	0.1500
3802	0.1629	0.0881	4906	0.0737	0.0353
3808	0.3562	0.1478	4907	0.0574	0.0292
3901	0.1317	0.0926	4908	0.0572	0.0847
3902	0.3682	0.1905	4909	0.0286	0.0371
3903	1.0189	0.5842	4910	0.3621	0.1836
3905	0.1317	0.0926	5001	5.3508	1.3677
3906	0.4147	0.1984	5002	0.4919	0.2089
3909	0.1542	0.0907	5003	1.6322	0.4623
4002	0.9145	0.3110	5004	1.3436	0.5964
4101	0.2127	0.1045	5005	1.2765	0.3733
4103	0.2408	0.1385	5006	1.6270	0.4598
4107	0.1317	0.0708	5101	0.7303	0.3937
4108	0.1555	0.0741	5103	0.6538	0.3576
4109	0.2049	0.1074	5106	0.6538	0.3576
4201	0.4422	0.1418	5108	0.5240	0.2536
4301	0.6635	0.3496	5109	0.6986	0.2587
4302	0.5826	0.2142	5201	0.3163	0.1312
4304	0.6394	0.3038	5204	0.9080	0.3662
4305	0.9470	0.3447	5206	0.5219	0.1808
4401	0.3995	0.1990	5207	0.1289	0.0907
4402	0.6263	0.3155	5208	0.8234	0.3465
4404	0.3812	0.1883	5209	0.6803	0.2976
4501	0.1231	0.0700	5301	0.0287	0.0152
4502	0.0387	0.0201	5305	0.0390	0.0242
4504	0.0767	0.0517	5306	0.0412	0.0223
4601	0.5782	0.2869	5307	0.3396	0.1413
4802	0.2047	0.1064	6103	0.0529	0.0397
4803	0.1743	0.1049	6104	0.2233	0.1312
4804	0.4751	0.2542	6105	0.1800	0.0854
4805	0.2870	0.1439	6107	0.0883	0.0624
4806	0.0517	0.0279	6108	0.3969	0.2358
4808	0.4642	0.1864	6109	0.0641	0.0315
4809	0.2229	0.1211	6110	0.3812	0.1874
4810	0.1173	0.0783	6201	0.3014	0.1201
4811	0.2001	0.1199	6202	0.5730	0.2749
4812	0.3017	0.1426	6203	0.0591	0.0444
4813	0.1716	0.0981	6204	0.1284	0.0834

PERMANENT

Base Rates Effective  
January 1, 1998

Base Rates Effective  
January 1, 1998

Class	Base Rates Effective January 1, 1998		Base Rates Effective January 1, 1998		
	Accident Fund	Medical Aid Fund	Class	Accident Fund	Medical Aid Fund
6205	0.1867	0.1063	6618	79.0000*	79.0000*
6206	0.1564	0.0889	6620	1.1163	0.5271
6207	0.9751	0.7654	6704	0.1026	0.0580
6208	0.2087	0.1632	6705	0.5747	0.4118
6209	0.2111	0.1314	6706	0.3038	0.2076
6301	0.1426	0.0529	6707	1.3843	0.8472
6302	0.1442	0.0800	6708	4.4763	3.5090
6303	0.0651	0.0327	6709	0.1414	0.1035
6304	0.1710	0.1155	6801	0.2337	0.1047
6305	0.0656	0.0402	6802	0.3428	0.2222
6306	0.2547	0.1272	6803	1.0538	0.2027
6308	0.0521	0.0267	6804	0.1957	0.0956
6309	0.1348	0.0829	6809	3.2414	2.7886
6402	0.2712	0.1362	6901	0.0000	0.0399
6403	0.1718	0.1067	6902	0.9373	0.2451
6404	0.1604	0.0994	6903	4.6292	1.3618
6405	0.5424	0.2360	6904	0.2188	0.0954
6406	0.0622	0.0406	6905	0.2642	0.1256
6407	0.1950	0.1090	6906	0.0000	0.1256
6408	0.3073	0.1456	6907	1.0827	0.4467
6409	0.5270	0.2261	6908	0.4326	0.2047
6410	0.1438	0.0806	6909	0.0866	0.0487
6501	0.0962	0.0491	7002	0.0000	0.0000
6502	0.0253	0.0141	7101	0.0264	0.0144
6503	0.0728	0.0252	7102	2.1732	2.5468
6504	0.3039	0.2187	7103	0.3091	0.1232
6505	0.0798	0.0545	7104	0.0204	0.0135
6506	0.0737	0.0441	7105	0.0210	0.0132
6508	0.2925	0.1685	7106	0.1334	0.0673
6509	0.2135	0.1322	7107	0.2202	0.1226
6510	0.2925	0.1685	7108	0.1487	0.1072
6511	0.2925	0.1685	7109	0.1350	0.0890
6601	0.1525	0.0981	7110	0.2958	0.1160
6602	0.4193	0.2114	7111	0.3619	0.1902
6603	0.2957	0.1532	7112	0.5361	0.2518
6604	0.0523	0.0323	7113	0.5638	0.2450
6605	0.2417	0.1805	7114	0.5968	0.4148
6607	0.1198	0.0735	7115	0.4644	0.2423
6608	0.2993	0.1107	7116	0.4441	0.2204
6614	399.0000*	460.0000*	7117	0.9669	0.5481
6615	147.0000*	167.0000*	7118	1.7933	0.8898
6616	125.0000*	144.0000*	7119	1.8051	0.7607
6617	44.0000*	50.0000*	7120	4.3722	2.2248

PERMANENT

Permanent



Base Rates Effective  
January 1, 1998

Base Rates Effective  
January 1, 1999

<u>Class</u>	<u>Accident Fund</u>	<u>Medical Aid Fund</u>
7121	4.8163	2.2131
7201	1.0637	0.3586
7202	0.0414	0.0199
7203	0.0914	0.0709
7204	0.0000	0.0000
7301	0.5428	0.2204
7302	0.5759	0.3230
7307	0.5278	0.2969
7308	0.1680	0.1181
7309	0.1414	0.1035

<u>Class</u>	<u>Accident Fund</u>	<u>Medical Aid Fund</u>
0509	1.8957	0.5981
0510	1.5063	0.5304
0511	1.2412	0.4448
0512	1.4816	0.4997
0513	0.7619	0.2629
0514	1.3096	0.5473
0516	1.5063	0.5304
0517	1.6510	0.6797
0518	1.9184	0.5365
0519	1.8909	0.7171
0521	1.4291	0.4755
0601	0.5971	0.2294
0602	0.4516	0.1728
0603	0.9792	0.2926
0604	1.0582	0.4854
0606	0.2767	0.1511
0607	0.3588	0.1526
0608	0.2626	0.1306
0701	2.4974	0.4790
0803	0.3504	0.1577
0901	1.9184	0.5365
1002	0.7639	0.3433
1003	0.7629	0.3390
1004	0.5042	0.2030
1005	7.1860	2.0386
1007	0.3495	0.1312
1101	0.5047	0.2462
1102	1.3476	0.4593
1103	0.6578	0.2642
1104	0.3701	0.2211
1105	0.7115	0.3190
1106	0.2557	0.1589
1108	0.4199	0.2054
1109	0.7200	0.3846
1301	0.4049	0.1876
1303	0.1613	0.0752
1304	0.0207	0.0111
1305	0.3775	0.1867
1401	0.5209	0.2533
1404	0.5319	0.2240
1405	0.3558	0.1799
1501	0.3975	0.1713
1507	0.3663	0.1628

\* These rates are calculated on a per license basis for parimutuel race tracks and are base rated:-))

Base Rates Effective  
January 1, 1999

<u>Class</u>	<u>Accident Fund</u>	<u>Medical Aid Fund</u>
0101	1.5203	0.4584
0103	1.7561	0.5816
0104	1.0744	0.3380
0105	1.2392	0.5152
0107	1.2724	0.3893
0108	1.0744	0.3380
0112	0.7012	0.2552
0201	3.0120	0.8173
0202	3.0120	0.8173
0210	0.9815	0.3077
0212	0.9933	0.3155
0214	1.2178	0.3955
0217	1.2946	0.4373
0219	1.1908	0.3957
0301	0.6081	0.2879
0302	2.1719	0.5481
0303	1.9927	0.5514
0306	1.1049	0.3435
0307	0.7890	0.2955
0308	0.5297	0.2582
0403	1.4958	0.5961
0502	1.5896	0.4618
0504	1.4679	0.5049
0506	4.6762	1.4043
0507	3.4005	1.1975
0508	3.6793	0.9062

PERMANENT

Base Rates Effective  
January 1, 1999

Base Rates Effective  
January 1, 1999

<u>Class</u>	<u>Accident Fund</u>	<u>Medical Aid Fund</u>	<u>Class</u>	<u>Accident Fund</u>	<u>Medical Aid Fund</u>
<u>1701</u>	<u>0.7029</u>	<u>0.2878</u>	<u>3409</u>	<u>0.0896</u>	<u>0.0521</u>
<u>1702</u>	<u>1.8741</u>	<u>0.5600</u>	<u>3410</u>	<u>0.1656</u>	<u>0.1127</u>
<u>1703</u>	<u>0.3520</u>	<u>0.1272</u>	<u>3411</u>	<u>0.3697</u>	<u>0.1651</u>
<u>1704</u>	<u>0.7029</u>	<u>0.2878</u>	<u>3412</u>	<u>0.3910</u>	<u>0.1668</u>
<u>1801</u>	<u>0.9120</u>	<u>0.3213</u>	<u>3413</u>	<u>0.4638</u>	<u>0.2137</u>
<u>1802</u>	<u>0.8596</u>	<u>0.3418</u>	<u>3414</u>	<u>0.4553</u>	<u>0.2106</u>
<u>2002</u>	<u>0.5378</u>	<u>0.2826</u>	<u>3415</u>	<u>0.5064</u>	<u>0.2301</u>
<u>2004</u>	<u>0.5669</u>	<u>0.2970</u>	<u>3501</u>	<u>0.8562</u>	<u>0.3604</u>
<u>2007</u>	<u>0.4514</u>	<u>0.2051</u>	<u>3503</u>	<u>0.2067</u>	<u>0.1602</u>
<u>2008</u>	<u>0.2520</u>	<u>0.1205</u>	<u>3506</u>	<u>1.0930</u>	<u>0.2933</u>
<u>2009</u>	<u>0.2807</u>	<u>0.1638</u>	<u>3509</u>	<u>0.3364</u>	<u>0.1845</u>
<u>2101</u>	<u>0.5813</u>	<u>0.2643</u>	<u>3510</u>	<u>0.3685</u>	<u>0.1893</u>
<u>2102</u>	<u>0.3815</u>	<u>0.2122</u>	<u>3511</u>	<u>0.5354</u>	<u>0.2768</u>
<u>2104</u>	<u>0.2157</u>	<u>0.1358</u>	<u>3512</u>	<u>0.3007</u>	<u>0.1925</u>
<u>2105</u>	<u>0.5967</u>	<u>0.2422</u>	<u>3513</u>	<u>0.3685</u>	<u>0.2005</u>
<u>2106</u>	<u>0.2938</u>	<u>0.1605</u>	<u>3602</u>	<u>0.0981</u>	<u>0.0618</u>
<u>2201</u>	<u>0.2248</u>	<u>0.1060</u>	<u>3603</u>	<u>0.4283</u>	<u>0.2295</u>
<u>2202</u>	<u>0.4890</u>	<u>0.2433</u>	<u>3604</u>	<u>1.1141</u>	<u>0.5536</u>
<u>2203</u>	<u>0.2899</u>	<u>0.1616</u>	<u>3605</u>	<u>0.4356</u>	<u>0.2013</u>
<u>2204</u>	<u>0.2129</u>	<u>0.1004</u>	<u>3701</u>	<u>0.2230</u>	<u>0.1134</u>
<u>2401</u>	<u>0.3235</u>	<u>0.1977</u>	<u>3702</u>	<u>0.3745</u>	<u>0.1836</u>
<u>2903</u>	<u>0.5774</u>	<u>0.3081</u>	<u>3707</u>	<u>0.4379</u>	<u>0.2981</u>
<u>2904</u>	<u>0.6584</u>	<u>0.3437</u>	<u>3708</u>	<u>0.3985</u>	<u>0.1997</u>
<u>2905</u>	<u>0.4303</u>	<u>0.2356</u>	<u>3802</u>	<u>0.1497</u>	<u>0.0839</u>
<u>2906</u>	<u>0.3282</u>	<u>0.1463</u>	<u>3808</u>	<u>0.3566</u>	<u>0.1584</u>
<u>2907</u>	<u>0.4717</u>	<u>0.2366</u>	<u>3901</u>	<u>0.1246</u>	<u>0.0908</u>
<u>2908</u>	<u>0.8793</u>	<u>0.3852</u>	<u>3902</u>	<u>0.3378</u>	<u>0.1828</u>
<u>2909</u>	<u>0.3658</u>	<u>0.1987</u>	<u>3903</u>	<u>0.9803</u>	<u>0.5866</u>
<u>3101</u>	<u>0.7236</u>	<u>0.2792</u>	<u>3905</u>	<u>0.1246</u>	<u>0.0908</u>
<u>3102</u>	<u>0.2230</u>	<u>0.1134</u>	<u>3906</u>	<u>0.3952</u>	<u>0.1983</u>
<u>3103</u>	<u>0.7667</u>	<u>0.3178</u>	<u>3909</u>	<u>0.1436</u>	<u>0.0917</u>
<u>3104</u>	<u>0.5417</u>	<u>0.1904</u>	<u>4002</u>	<u>0.9166</u>	<u>0.3348</u>
<u>3105</u>	<u>0.7318</u>	<u>0.3418</u>	<u>4101</u>	<u>0.2160</u>	<u>0.1118</u>
<u>3303</u>	<u>0.2251</u>	<u>0.1205</u>	<u>4103</u>	<u>0.2227</u>	<u>0.1364</u>
<u>3304</u>	<u>0.4615</u>	<u>0.2676</u>	<u>4107</u>	<u>0.1189</u>	<u>0.0660</u>
<u>3309</u>	<u>0.3293</u>	<u>0.1871</u>	<u>4108</u>	<u>0.1468</u>	<u>0.0728</u>
<u>3402</u>	<u>0.3921</u>	<u>0.1869</u>	<u>4109</u>	<u>0.1999</u>	<u>0.1074</u>
<u>3403</u>	<u>0.1892</u>	<u>0.0852</u>	<u>4201</u>	<u>0.4525</u>	<u>0.1518</u>
<u>3404</u>	<u>0.3737</u>	<u>0.1962</u>	<u>4301</u>	<u>0.6507</u>	<u>0.3593</u>
<u>3405</u>	<u>0.2161</u>	<u>0.1032</u>	<u>4302</u>	<u>0.5417</u>	<u>0.2179</u>
<u>3406</u>	<u>0.2115</u>	<u>0.1155</u>	<u>4304</u>	<u>0.6216</u>	<u>0.3142</u>
<u>3407</u>	<u>0.3543</u>	<u>0.1584</u>	<u>4305</u>	<u>0.8822</u>	<u>0.3475</u>
<u>3408</u>	<u>0.1022</u>	<u>0.0549</u>	<u>4401</u>	<u>0.3756</u>	<u>0.1990</u>

PERMANENT

Base Rates Effective  
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Base Rates Effective  
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<u>Class</u>	<u>Accident Fund</u>	<u>Medical Aid Fund</u>
<u>4402</u>	<u>0.6147</u>	<u>0.3191</u>
<u>4404</u>	<u>0.3501</u>	<u>0.1823</u>
<u>4501</u>	<u>0.1209</u>	<u>0.0713</u>
<u>4502</u>	<u>0.0388</u>	<u>0.0211</u>
<u>4504</u>	<u>0.0761</u>	<u>0.0512</u>
<u>4601</u>	<u>0.5567</u>	<u>0.2881</u>
<u>4802</u>	<u>0.1956</u>	<u>0.1041</u>
<u>4803</u>	<u>0.1647</u>	<u>0.1020</u>
<u>4804</u>	<u>0.4430</u>	<u>0.2581</u>
<u>4805</u>	<u>0.2582</u>	<u>0.1406</u>
<u>4806</u>	<u>0.0472</u>	<u>0.0272</u>
<u>4808</u>	<u>0.4268</u>	<u>0.1868</u>
<u>4809</u>	<u>0.2226</u>	<u>0.1261</u>
<u>4810</u>	<u>0.1075</u>	<u>0.0748</u>
<u>4811</u>	<u>0.1826</u>	<u>0.1163</u>
<u>4812</u>	<u>0.2942</u>	<u>0.1458</u>
<u>4813</u>	<u>0.1514</u>	<u>0.0888</u>
<u>4900</u>	<u>0.4505</u>	<u>0.1698</u>
<u>4901</u>	<u>0.0518</u>	<u>0.0233</u>
<u>4902</u>	<u>0.0684</u>	<u>0.0333</u>
<u>4903</u>	<u>0.0563</u>	<u>0.0267</u>
<u>4904</u>	<u>0.0233</u>	<u>0.0141</u>
<u>4905</u>	<u>0.2339</u>	<u>0.1586</u>
<u>4906</u>	<u>0.0724</u>	<u>0.0367</u>
<u>4907</u>	<u>0.0538</u>	<u>0.0290</u>
<u>4908</u>	<u>0.0600</u>	<u>0.0890</u>
<u>4909</u>	<u>0.0293</u>	<u>0.0375</u>
<u>4910</u>	<u>0.3354</u>	<u>0.1794</u>
<u>5001</u>	<u>5.0974</u>	<u>1.3877</u>
<u>5002</u>	<u>0.4712</u>	<u>0.2110</u>
<u>5003</u>	<u>1.5547</u>	<u>0.4681</u>
<u>5004</u>	<u>1.1885</u>	<u>0.5519</u>
<u>5005</u>	<u>1.0777</u>	<u>0.3344</u>
<u>5006</u>	<u>1.5419</u>	<u>0.4746</u>
<u>5101</u>	<u>0.6905</u>	<u>0.3926</u>
<u>5103</u>	<u>0.6268</u>	<u>0.3820</u>
<u>5106</u>	<u>0.6268</u>	<u>0.3820</u>
<u>5108</u>	<u>0.5083</u>	<u>0.2741</u>
<u>5109</u>	<u>0.6538</u>	<u>0.2649</u>
<u>5201</u>	<u>0.2988</u>	<u>0.1302</u>
<u>5204</u>	<u>0.8059</u>	<u>0.3468</u>
<u>5206</u>	<u>0.4505</u>	<u>0.1698</u>
<u>5207</u>	<u>0.1224</u>	<u>0.0905</u>

<u>Class</u>	<u>Accident Fund</u>	<u>Medical Aid Fund</u>
<u>5208</u>	<u>0.7941</u>	<u>0.3516</u>
<u>5209</u>	<u>0.6687</u>	<u>0.3001</u>
<u>5301</u>	<u>0.0272</u>	<u>0.0154</u>
<u>5305</u>	<u>0.0415</u>	<u>0.0254</u>
<u>5306</u>	<u>0.0391</u>	<u>0.0220</u>
<u>5307</u>	<u>0.3216</u>	<u>0.1426</u>
<u>6103</u>	<u>0.0559</u>	<u>0.0411</u>
<u>6104</u>	<u>0.2279</u>	<u>0.1315</u>
<u>6105</u>	<u>0.1706</u>	<u>0.0856</u>
<u>6107</u>	<u>0.0834</u>	<u>0.0615</u>
<u>6108</u>	<u>0.3524</u>	<u>0.2233</u>
<u>6109</u>	<u>0.0612</u>	<u>0.0312</u>
<u>6110</u>	<u>0.3495</u>	<u>0.1773</u>
<u>6201</u>	<u>0.2944</u>	<u>0.1195</u>
<u>6202</u>	<u>0.5352</u>	<u>0.2814</u>
<u>6203</u>	<u>0.0563</u>	<u>0.0450</u>
<u>6204</u>	<u>0.1244</u>	<u>0.0818</u>
<u>6205</u>	<u>0.1818</u>	<u>0.1062</u>
<u>6206</u>	<u>0.1574</u>	<u>0.0923</u>
<u>6207</u>	<u>0.9789</u>	<u>0.7988</u>
<u>6208</u>	<u>0.1943</u>	<u>0.1610</u>
<u>6209</u>	<u>0.1950</u>	<u>0.1304</u>
<u>6301</u>	<u>0.1365</u>	<u>0.0528</u>
<u>6302</u>	<u>0.1398</u>	<u>0.0802</u>
<u>6303</u>	<u>0.0604</u>	<u>0.0326</u>
<u>6304</u>	<u>0.1737</u>	<u>0.1221</u>
<u>6305</u>	<u>0.0628</u>	<u>0.0416</u>
<u>6306</u>	<u>0.2153</u>	<u>0.1189</u>
<u>6308</u>	<u>0.0472</u>	<u>0.0258</u>
<u>6309</u>	<u>0.1271</u>	<u>0.0793</u>
<u>6402</u>	<u>0.2376</u>	<u>0.1230</u>
<u>6403</u>	<u>0.1474</u>	<u>0.0999</u>
<u>6404</u>	<u>0.1529</u>	<u>0.0982</u>
<u>6405</u>	<u>0.5284</u>	<u>0.2453</u>
<u>6406</u>	<u>0.0581</u>	<u>0.0393</u>
<u>6407</u>	<u>0.1880</u>	<u>0.1115</u>
<u>6408</u>	<u>0.2845</u>	<u>0.1457</u>
<u>6409</u>	<u>0.4638</u>	<u>0.2137</u>
<u>6410</u>	<u>0.1474</u>	<u>0.0843</u>
<u>6501</u>	<u>0.0962</u>	<u>0.0517</u>
<u>6502</u>	<u>0.0237</u>	<u>0.0134</u>
<u>6503</u>	<u>0.0679</u>	<u>0.0259</u>
<u>6504</u>	<u>0.2831</u>	<u>0.2138</u>

PERMANENT

Base Rates Effective  
January 1, 1999

Base Rates Effective  
January 1, 1999

<u>Class</u>	<u>Accident Fund</u>	<u>Medical Aid Fund</u>
6505	0.0765	0.0551
6506	0.0702	0.0435
6508	0.2839	0.1657
6509	0.2175	0.1367
6510	0.2925	0.1685
6511	0.2925	0.1685
6601	0.1457	0.0959
6602	0.3823	0.2063
6603	0.2920	0.1548
6604	0.0497	0.0323
6605	0.2233	0.1878
6607	0.1281	0.0789
6608	0.3166	0.1185
6614	642.0000*	432.0000*
6615	236.0000*	158.0000*
6616	200.0000*	134.0000*
6617	71.0000*	48.0000*
6618	89.0000*	60.0000*
6620	1.4333	0.6288
6704	0.0976	0.0572
6705	0.5642	0.4053
6706	0.2936	0.2089
6707	1.3170	0.8361
6708	4.5520	3.6000
6709	0.1473	0.1088
6801	0.2491	0.1103
6802	0.3230	0.2157
6803	0.8957	0.2366
6804	0.1857	0.0971
6809	3.3699	2.8255
6901	0.0000	0.0464
6902	0.8703	0.2499
6903	5.1134	1.3322
6904	0.2155	0.0976
6905	0.2545	0.1260
6906	0.0000	0.1260
6907	1.0104	0.4501
6908	0.4571	0.2141
6909	0.0893	0.0506
7002	0.0000	0.0000
7101	0.0254	0.0143
7102	2.2096	2.5571
7103	0.3072	0.1307

<u>Class</u>	<u>Accident Fund</u>	<u>Medical Aid Fund</u>
7104	0.0199	0.0135
7105	0.0197	0.0129
7106	0.1296	0.0719
7107	0.2133	0.1276
7108	0.1583	0.1155
7109	0.1232	0.0867
7110	0.2981	0.1235
7111	0.3503	0.1912
7112	0.5197	0.2596
7113	0.5302	0.2529
7114	0.5520	0.4031
7115	0.4436	0.2438
7116	0.4249	0.2276
7117	0.8839	0.5078
7118	1.4517	0.7396
7119	1.7754	0.7946
7120	4.3170	2.2787
7121	4.5816	2.2210
7201	1.0205	0.3646
7202	0.0389	0.0190
7203	0.0905	0.0708
7204	0.0000	0.0000
7301	0.5283	0.2247
7302	0.5680	0.3184
7307	0.4746	0.2869
7308	0.1686	0.1315
7309	0.1473	0.1088

\* These rates are calculated on a per license basis for parimutuel race tracks and are base rated.

AMENDATORY SECTION (Amending WSR 97-24-062, filed 12/1/97, effective 1/1/98)

**WAC 296-17-89502 Industrial insurance accident fund, medical aid and supplemental pension rates by class of industry for nonhourly rated classifications.** The base rates as set forth below are for classifications whose premium rates are based on units other than hours worked.

((Base Rates Effective  
January 1, 1998

<u>Class</u>	<u>Accident Fund</u>	<u>Medical Aid Fund</u>	<u>Supplemental Pension Fund</u>
0524	0.0155	0.0040	0.0004

PERMANENT



Size Group Number	Standard Premium Range
7	8,920,631 - 13,143,844
6	13,143,845 - 20,442,550
5	20,442,551 - 32,269,999
4	32,270,000 - & Over))

Size Group Number	Standard Premium Range
26	193,581 - 215,200
25	215,201 - 240,009
24	240,010 - 269,056
23	269,057 - 303,293
22	303,294 - 343,309
21	343,310 - 391,206
20	391,207 - 449,043
19	449,044 - 518,289
18	518,290 - 603,643
17	603,644 - 710,112
16	710,113 - 841,852
15	841,853 - 1,075,432
14	1,075,433 - 1,373,822
13	1,373,823 - 1,755,003
12	1,755,004 - 2,241,946
11	2,241,947 - 2,863,974
10	2,863,975 - 4,116,867
9	4,116,868 - 6,042,030
8	6,042,031 - 8,590,567
7	8,590,568 - 12,657,522
6	12,657,523 - 19,686,176
5	19,686,177 - 31,076,009
4	31,076,010 - & Over

Size Group Number	Standard Premium Range
63	\$ 3,264 - \$ 3,943
62	3,944 - 4,734
61	4,735 - 5,634
60	5,635 - 6,667
59	6,668 - 7,846
58	7,847 - 9,175
57	9,176 - 10,685
56	10,686 - 12,398
55	12,399 - 14,307
54	14,308 - 16,460
53	16,461 - 18,881
52	18,882 - 20,947
51	20,948 - 22,730
50	22,731 - 24,463
49	24,464 - 26,356
48	26,357 - 28,448
47	28,449 - 30,761
46	30,762 - 33,302
45	33,303 - 36,129
44	36,130 - 39,277
43	39,278 - 42,758
42	42,759 - 46,656
41	46,657 - 51,035
40	51,036 - 55,912
39	55,913 - 61,421
38	61,422 - 67,665
37	67,666 - 74,679
36	74,680 - 82,147
35	82,148 - 90,362
34	90,363 - 99,398
33	99,399 - 109,338
32	109,339 - 120,272
31	120,273 - 131,694
30	131,695 - 144,292
29	144,293 - 158,650
28	158,651 - 174,889
27	174,890 - 193,580

**AMENDATORY SECTION** (Amending WSR 97-24-062, filed 12/1/97, effective 1/1/98)

**WAC 296-17-920 Assessment for supplemental pension fund.** The amount of ((22-8)) 24.6 mills (\$((0228)) .0246) shall be retained by each employer from the earnings of each worker for each hour or fraction thereof the worker is employed. The amount of money so retained from the employee shall be matched in an equal amount by each employer, except as otherwise provided in these rules, all such moneys shall be remitted to the department on or before the last day of January, April, July and October of each year for the preceding calendar quarter, provided self-insured employers shall remit to the department as provided under WAC 296-15-060. All such moneys shall be deposited in the supplemental pension fund.

**WSR 98-24-095**  
**PERMANENT RULES**  
**DEPARTMENT OF**  
**LABOR AND INDUSTRIES**  
 [Filed December 1, 1998, 3:17 p.m.]

Date of Adoption: December 1, 1998.

PERMANENT

Purpose: To amend this rule as a result of being selected as a priority by stakeholders. The rule was rewritten to more clearly outline the conditions under which independent assessments can be requested and the information required on reports.

Citation of Existing Rules Affected by this Order: Amending WAC 296-31-069.

Statutory Authority for Adoption: RCW 7.68.030, 7.68.070, 51.32.110, 51.04.020(1), 51.04.030.

Adopted under notice filed as WSR 98-19-149 on September 23, 1998.

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.

November 25, 1998

Gary Moore  
Director

**AMENDATORY SECTION** (Amending WSR 95-15-004, filed 7/5/95, effective 8/5/95)

**WAC 296-31-069 ((Independent assessments.)) For what reasons may independent mental health or independent medical assessments be obtained?** (((1) Independent assessments may be ordered by the department or requested of the department by the attending provider. Such assessments are usually ordered or requested after consultations for one of the following purposes:

(a) To establish a diagnosis. Prior diagnoses may be controversial or ill defined.

(b) To outline the treatment rationale, where treatment or progress is vague or controversial.

(c) To establish therapeutic data to determine if the condition requiring treatment is related to conditions sustained and allowed by the department as a result of a specific criminal act.

(d) To determine the extent and duration of aggravation of any preexisting mental health condition.

(e) To establish when the claimant has reached maximum benefit from treatment.

(f) To establish a percentage rating of any permanent impairment, for mental health conditions when maximum recovery is reached.

(g) To determine indications for reopening of a claim for further treatment on basis of the aggravation of the accepted condition.

~~(h) To determine eligibility qualifications of claimants applying under RCW 7.68.060(3), the repressed memory provision of the Crime Victims Act.~~

~~(2) Independent assessments for mental health conditions may be ordered by claims adjudicators without supervisory approval to rate permanent impairment when treatment has been completed, to determine the department's responsibility for treatment that has been rendered retroactively where significant causal relationship questions exist and to determine eligibility qualifications of claimants applying under RCW 7.68.060(3), the repressed memory provision of the Crime Victims Act. All other reasons for ordering independent assessments for mental health conditions require supervisory approval.~~

~~(3) The following shall be reported by the assessing practitioner:~~

~~(a) Independent assessments must be specific and factual.~~

~~(b) The claimant's medical and mental health history must be checked for accuracy, variation or exaggeration compared to documented history provided to the examiner for this assessment.~~

~~(c) Diagnosis: Must be specific and describe the mental health condition and symptomatology found using DSM III-R, or DSM IV, and be substantiated by history.~~

~~(d) Conclusions: Must be specific and must definitely express an opinion concerning the purpose for which the assessment was requested, and should be consistent with the history and diagnosis reported.~~

~~(e) Permanent disability: Ratings must be supported by sufficient data to establish the category disability rating; also the report must demonstrate and articulate a definite causal relationship to the accepted condition(s) on a more probable than not basis.) **What is required in independent assessment reports?**~~

~~(1) Independent medical and mental health assessments may be obtained when requested by the provider, or on the department's initiative, for the following reasons:~~

~~(a) To rate permanent impairment when treatment has been concluded; or~~

~~(b) To evaluate an application to reopen a claim; or~~

~~(c) To determine if there are conditions related to the effects of the crime or preexisting conditions aggravated by the crime for which the claim was filed and if treatment remains necessary for those conditions; or~~

~~(d) To determine if crime-related treatment is still necessary and if present treatment is effective; or~~

~~(e) To determine if treatment is still leading to recovery;~~

~~or~~

~~(f) To obtain other information that may be necessary for the department to make decisions on the victim's claim.~~

~~(2) Practitioners participating in an independent mental health assessment ordered by the department must provide us with a report within thirty days following the last assessment date. The report must:~~

~~(a) Be identified as an independent assessment report;~~

~~(b) Be specific and factual;~~

~~(c) Specify the mental health condition(s) and symptoms found and their relationship to the crime for which the claim~~

was filed. Use the codes contained in the currently accepted DSM;

(d) Provide specific conclusions drawn from the assessment and state opinions that respond to the questions included in the examination request;

(e) If applicable, include the category of permanent impairment that the assessor finds most nearly describes his or her findings.

(3) Independent medical assessment reports are governed by WAC 296-23-260.

**WSR 98-24-096**  
**PERMANENT RULES**  
**DEPARTMENT OF**  
**LABOR AND INDUSTRIES**

[Filed December 1, 1998, 3:20 p.m., effective March 1, 1999]

Date of Adoption: December 1, 1998.

**Purpose:** 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 99-01 issue of the Register.

**Citation of Existing Rules Affected by this Order:** 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 99-01 issue of the Register.

**Statutory Authority for Adoption:** RCW 49.17.040.

Adopted under notice filed as WSR 98-16-100 on August 5, 1998.

**Changes Other than Editing from Proposed to Adopted Version:** 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 99-01 issue of the Register.

**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 2, 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 5, Amended 196, 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 7, Amended 202, Repealed 3.

**Effective Date of Rule:** March 1, 1999.

December 1, 1998

Gary Moore  
Director

**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 99-01 issue of the Register.

**WSR 98-24-120**  
**PERMANENT RULES**  
**DEPARTMENT OF**  
**LABOR AND INDUSTRIES**

[Filed December 2, 1998, 11:02 a.m., effective October 1, 1999]

**Purpose:** Chapters 296-24 and 296-301 WAC, amendments to these previously adopted rules were made to clearly write the regulation. No new requirements were imposed on employers, and protection for employees is equal to current protection. WISHA planned to develop a users guide to assist small business owners who felt the performance-based standard would be more difficult to comply with. Development of the user guide has taken longer than expected. Because the guide will benefit small business owners by giving them more specific compliance advice, WISHA is extending the effective date of the standard to ensure the user guide is available to employers before the standard becomes effective.

**Statutory Authority for Adoption:** RCW 49.17.040.

Adopted under notice filed as WSR [98-21-146 on October 22, 1997] and original CR-103 as WSR 98-10-073 on May 20 [4], 1998.

**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:** October 1, 1999.

December 2, 1998

Gary Moore  
Director

**WSR 98-24-121**  
**PERMANENT RULES**  
**DEPARTMENT OF**  
**LABOR AND INDUSTRIES**

[Filed December 2, 1998, 11:03 a.m.]

Date of Adoption: December 2, 1998.

**Purpose:** 1997 legislation required rule revision to eliminate conflicts, and the rules are rewritten per the Governor's Executive Order 97-02.

**Citation of Existing Rules Affected by this Order:** Repealing WAC 296-15-02606, 296-15-070, 296-15-072, 296-15-100, 296-15-160, 296-15-180, 296-15-190, 296-15-



21002, 296-15-230, 296-15-240, 296-15-250, and 296-15-265.

Statutory Authority for Adoption: RCW 51.32.190(6), 51.32.055 (8)(a) and (9)(a).

Adopted under notice filed as WSR 98-19-148 on September 23, 1998.

Changes Other than Editing from Proposed to Adopted Version: Two subsections were revised in response to comments, minor housekeeping changes have been made, and the rules are renumbered.

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 3.

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 8, Amended 0, Repealed 12.

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 8, Amended 0, Repealed 12.

Effective Date of Rule: Thirty-one days after filing.

November 30, 1998

Gary Moore  
Director

**NEW SECTION**

**WAC 296-15-001 Definitions.** "Substantially similar" means:

- (1) The text of the department's document has not been altered or deleted; and
- (2) The self insurer's document has the text:
  - (a) In approximately the same font size;
  - (b) With the same emphasis (bolding, italics, underlining, etc.); and
  - (c) In approximately the same location on the page as the department's document.

**NEW SECTION**

**WAC 296-15-400 Self insured workers' rights and obligations. How must a self insurer notify its workers of**

**their rights and obligations under the industrial insurance laws?**

Self insurers must notify workers of their industrial insurance rights and obligations at the following times:

(1) Within thirty days of hire, provide a form substantially similar to the one page Workers' Compensation Filing Information L&I form F207-155-000.

(2) When a worker files a claim, provide the following information in writing:

(a) The current edition of the department's pamphlet Employees of Self Insured Businesses Guide to Industrial Insurance Benefits L&I pamphlet P207-085-000 or this same information in substantially similar format; and

(b) The name, address, and phone number of the person or organization handling the worker's claim.

**NEW SECTION**

**WAC 296-15-405 Filing a self insured claim. (1) What form is used to report a self insured worker's industrial injury or occupational illness?**

The reporting form for a self insured worker's industrial injury or occupational illness is the Self Insurer Accident Report (SIF-2) L&I form F207-002-000. Self insurers must obtain these forms from the department and must report their workers' industrial injuries and illnesses to the department with SIF-2s. The department tracks the claim numbers assigned to self insurers.

When notified of injury or illness, the self insurer must provide the worker with this prenumbered form and assistance in filing a claim. The self insurer must provide the worker the designated copy of the completed SIF-2 (which includes an explanation of the worker's rights and responsibilities) within five working days of completion.

**(2) What form does a doctor use to report a self insured worker's industrial accident or occupational illness?**

Physicians should report a self insured claim with a Physician's Initial Report (PIR) L&I form F207-028-000 when a self insured worker has an industrial injury or is notified of an occupational illness. Replacements are acceptable.

**NEW SECTION**

**WAC 296-15-420 After a self insured claim is filed.**

**(1) What must a self insurer do when beginning time loss (TL) benefits on a claim?**

When beginning time loss payments, a self insurer must:

	Send to the worker	Send to the department	The department will
At the same time as the first TL payment.	A complete and accurate SIF-5 <sup>1</sup> and SIF-5A <sup>2</sup> .		
Within 5 working days of first TL payment.		Copies of the SIF-2, SIF-5, and SIF-5A.	Allow the claim UNLESS a request for interlocutory order (see subsection (2)) or denial (see subsection (3)) has been received.

<sup>1</sup> The SIF-5 is the Self Insurer's Report on Occupational Injury or Disease. Use a form substantially similar to L&I form F207-005-000.

<sup>2</sup> The SIF-5A is the Time Loss Calculation Rate Notice. Use a form substantially similar to L&I form F207-156-000.

PERMANENT

**(2) How must a self insurer request an interlocutory<sup>1</sup> order?**

When requesting an interlocutory order from the department, a self insurer must:

	Send to the worker	Send to the department	The department will	And the self insurer pays
Within 60 <sup>2</sup> days of claim filing.	A complete and accurate SIF-5 and SIF-5A if TL was paid.	Copies of the SIF-2, SIF-5 (with the interlocutory order box checked), SIF-5A, AND all medical and other pertinent information AND a reasonable explanation why an investigation is needed.	If it agrees, issue an interlocutory order.	Provisional TL if the worker is eligible AND other benefits as entitled. Ongoing medical treatment and vocational services are NOT PAYABLE unless the claim is allowed.
			If it disagrees, issue an allowance order if the facts show the claim should be allowed.	TL if the worker is eligible, and other entitled benefits.

<sup>1</sup> An interlocutory order places a claim in provisional status while the self insurer investigates the validity of the claim.  
<sup>2</sup> When not specified, time is in calendar days.

**(3) How must a self insurer request claim denial from the department?**

When requesting claim denial from the department, a self insurer must:

	Send to the worker	Send to the department	The department will	And the self insurer pays
Within 60 days of claim filing.	SIF-4.*  Copy to the attending or treating doctor.	SIF-4 AND all medical and other pertinent information supporting denial.	If it agrees, issue a denial order.  The denial order will restate the self insurer's right to request reimbursement of provisional TL from the worker.	For all medical evaluations and diagnostic studies used to make the determination.
			If it finds insufficient information to make a decision, issue an interlocutory order AND direct the employer to obtain the necessary information.	Provisional TL if the worker is eligible and other benefits as entitled.  Ongoing medical treatment and vocational services are NOT PAYABLE unless the claim is allowed.
			If it disagrees, issue an allowance order if the facts show the claim should be allowed.	TL if the worker is eligible AND other entitled benefits.

\* The SIF-4 is the Self Insured Employer's Notice of Denial of Claim. Use a form substantially similar to L&I form F207-163-000.

**(4) What if a self insurer does not request allowance, denial, or an interlocutory order for a claim within sixty days?**

If a self insurer does not request allowance, denial, or an interlocutory order within sixty days, the department will intervene and adjudicate the claim. The department may obtain additional medical information to make the determination. The claim remains in provisional status until the department makes the determination.

The exception to this requirement is the allowance of medical only claims. Self insurers are not required to request allowance for medical only claims.

**(5) Must a self insurer submit an SIF-5 each time the department requests one?**

A self insurer must submit a complete and accurate SIF-5 within ten working days of receipt of a written request from the department.

**(6) What must a self insurer do when the department requests information on a claim by certified mail?**

A self insurer must submit all information in its possession concerning the claim within ten working days of receipt of the department's request by certified mail.

**(7) How long does a self insurer have to provide a copy of the claim file to the worker or worker's representative?**

A self insurer must provide a copy of the claim file within fifteen days of receiving a written request from the worker or worker's representative. Unless the worker or representative requests a particular portion of the file, the self insurer must provide a copy of the entire file.

**(8) When may a self insurer charge a worker or his/her representative for a copy of the claim file?**

A self insurer must provide the first copy of a claim file free of charge. Upon receipt of a subsequent written request, the self insurer must provide any material not previously supplied free of charge. The self insurer may charge the worker or any representative a reasonable fee for any material previously supplied.

PERMANENT

**(9) What must a self insurer do when it terminates time loss because it has found the worker ineligible for vocational services?**

Within five working days of time loss termination, a self insurer must notify the department it has found the worker ineligible for vocational services. Use an Employability Assessment Report (EAR) substantially similar to L&I form F207-121-000.

**NEW SECTION**

**WAC 296-15-450 Closure of self insured claims. (1) Who closes self insured claims?**

The department has the authority to close all self insured claims. Self insurers have the authority to close certain claims.

Within two years of claim closure, the department may require a self insurer to pay additional benefits on a claim the self insurer closed if the self insurer:

- (a) Made an error in benefits paid; or
- (b) Violated the conditions of claim closure.

**(2) What claims may a self insurer close?**

A self insurer may close	If the	With time loss?	Other requirements?	With PPD?	If a previous determinative order was issued?
Medical only (MO) claims	Claim was filed on or after 07/26/81	Without	None.	Without <sup>1</sup>	May not be closed by the employer.
Time loss (TL) claims	Injury/illness occurred on or after 07/01/86	With	1. Not if the department issued an order resolving a dispute; AND 2. Only if the worker returned to work with the employer of record at the same job or at a job with comparable wages and benefits. <sup>2</sup>	Without <sup>1</sup>	May be closed by the employer if the order did not resolve a dispute
Permanent partial disability (PPD) claims	Injury/illness occurred on or after 08/01/97	With or without	1. Not if the department issued an order resolving a dispute; AND 2. Only if the worker returned to work with the employer of record at the same job or at a job with comparable wages and benefits; <sup>2</sup> AND 3. Only if the closing medical report was sent to the attending or treating doctor and 14 <sup>3</sup> days allowed for response.	With	May be closed by the employer if the order did not resolve a dispute.

<sup>1</sup> A self insurer may not close a claim with PPD if the injury or illness occurred before 08/01/97.

<sup>2</sup> Comparable means the wages and benefits are at least ninety-five percent of the wages and benefits received by the worker at the time of injury.

<sup>3</sup> When not specified, time is in calendar days.

**(3) When a self insurer is closing a PPD claim, what must it do with the closing medical report?**

When a self insurer is closing a PPD claim, it must send the closing medical report to the attending or treating doctor, and the doctor must be allowed fourteen days to respond. When the attending or treating doctor responds:

Within 14 days	And the doctor AGREES with	And the doctor DISAGREES with	Then the self insurer	
Within	Fixed and stable and PPD rating		MAY	Close the claim.
Does not respond			MAY	Close the claim
Within or before the order is issued		Fixed and stable	MUST	1. Obtain a supplemental medical opinion from (an) examiner(s) listed on the department's approved examiner's list; OR 2. Forward the claim to department for closure. The department may require additional medical examinations.
Within or before the order issued	Fixed and stable	PPD rating	MUST	1. Obtain a supplemental medical opinion from (an) examiner(s) listed on the department's approved examiner's list; OR 2. Forward the claim to department for closure. The department may require additional medical examinations.
Not within, after the order is issued, but before the order is final		Fixed and stable and/or PPD rating	MUST	Forward the claim including the doctor's response to the department as a protest within five working days of receipt.

**(4) What must a self insurer do with a closing medical report, regardless of who is closing the claim?**

A self insurer must send the closing medical report to the attending or treating doctor. If the doctor responds that he/she does not concur with the results, the self insurer must:

(a) Obtain a supplemental medical opinion from (an) examiner(s) listed on the department's approved examiner's list in order to do the closing action itself; OR

(b) Forward the claim to department for closure. The department may require additional medical examinations.

PERMANENT

**(5) When a self insurer is closing a claim, what written notice must it provide to the worker and attending or treating doctor?**

At claim closure, a self insurer must send the closing order to the worker and attending or treating doctor.

(a) For a MO claim, use a Self Insurer's Claim Closure Order and Notice substantially similar to F207-020-111.

(b) For a TL claim, use a Self Insured Employers' Time Loss Claim Closure Order and Notice substantially similar to F207-070-000. Include a complete and accurate SIF-5 substantially similar to L&I form F207-005-000 with the worker's copy.

(c) For a PPD claim:

(i) When no TL or loss of earning power (LOEP) was paid, use a form substantially similar to L&I form F207-165-000 (MO with PPD). Include a complete and accurate SIF-5 with the worker's copy.

(ii) When TL or LOEP was paid, use a form substantially similar to L&I form F207-164-000 (TL with PPD). Include a complete and accurate SIF-5 with the worker's copy.

**(6) When a self insurer is closing a claim, what information must it submit to the department?**

A self insurer must submit to the department:

(a) MO claim closures by the end of the month following closure. These may be transferred electronically or reported by paper.

(i) Closures transferred electronically must be in the department's format.

(ii) Closures submitted in paper must include the SIF-2 L&I form F207-002-000 showing the date of closure and any vocational services provided.

(b) TL and PPD claim closures at the time of closure.

Include copies of each of the following:

(i) SIF-2 if not previously submitted.

(ii) Closure order.

Note: If no one protests the self insurer's closure order, it will become final and binding in sixty days, just like a department order.

(iii) A PPD Payment Schedule, if necessary, substantially similar to L&I form F207-162-000.

(A) A payment schedule is required when the amount of the award is more than three times the state's average monthly wage at the date of injury. At initial/down payment, send copies to the worker and the department.

(B) The first payment of the PPD award must be paid within five working days of claim closure. Continuing payments must be paid according to the established payment schedule.

(iv) A complete and accurate SIF-5 (with the Rehabilitation Outcome Report (ROR) portion completed if vocational services were provided) showing all requirements for closure have been met, any TL or LOEP paid, period of payment, and total amount paid.

**(7) When the department is closing a claim, what must the self insurer submit when requesting claim closure?**

When a self insurer is asking the department to close the claim, it must submit:

(a) A complete and accurate SIF-5 (with the ROR portion completed if vocational services were provided); and

(b) All medical and other pertinent information (not previously submitted to the department).

**(8) When the department has closed a PPD claim, when must the self insurer create a payment schedule?**

When the department has closed a PPD claim, the self insurer must create a PPD Payment Schedule substantially similar to L&I form F207-162-000 when the amount of the award is more than three times the state's average monthly wage at the date of injury. At initial/down payment, send copies to the worker and the department.

**(9) When the department has closed a PPD claim, when must the self insurer make the first payment of the award?**

When the department has closed a PPD claim, the self insurer must make the first payment of the award without delay. Continuing payments must be paid according to the established payment schedule.

**NEW SECTION**

**WAC 296-15-480 After a self insured claim is closed.**

**(1) When must a self insurer submit a worker's written protest or appeal to the department?**

A self insurer must submit a written protest or appeal by a worker to the department within five working days of receipt. The date the protest or appeal is received by the self insurer is considered the date the protest or appeal is received by the department.

**(2) When must a self insurer forward an application to reopen a claim to the department?**

A self insurer must forward an application to reopen a claim to the department within five working days of receipt.

**NEW SECTION**

**WAC 296-15-490 When a self insured claim is on appeal. (1) How may department orders be defended in self insured appeals?**

The department may ask the office of the attorney general to represent the department at the board of industrial insurance appeals.

**(2) What must a self insurer send to the department when any party appeals a claim to superior or appellate court?**

When any party appeals a claim to superior or appellate court, the self insurer must promptly send to the department copies of the notice of appeal, judgment, and all other relevant information.

**NEW SECTION**

**WAC 296-15-495 Third party action on a self insured claim. What must a self insurer send to the department when there is a third party action?**

When there is a third party action, in addition to fulfilling the statutory requirements, the self insurer must send the department copies of:

When	What
Upon notification	Written indication of the worker's election.
After recovery of damages	1. Signed settlement agreement or court order; and 2. Total amount of attorney fees and costs; and 3. Total amount of benefits paid, including TL, PPD, and medical, excluding payments for IMEs.

PERMANENT



**WSR 98-24-001**  
**EMERGENCY RULES**  
**FOREST PRACTICES BOARD**

[Filed November 18, 1998, 12:04 p.m.]

Date of Adoption: November 10, 1998.

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.

This emergency rule replaces the one filed under WSR 98-20-010 on September 25, 1998.

Citation of Existing Rules Affected by this Order: Amending WAC 222-12-090 and 222-16-030.

Statutory Authority for Adoption: RCW 76.09.040 and chapter 34.05 RCW.

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: The Forest Practices Board (FPB) and the Department of Ecology (DOE) find good cause for an emergency to modify the water typing rules. This document organizes and summarizes information presented to and discussed by the board in public meetings.

The reasons for findings are as follows:

New data has shown that the physical characteristics of streams, as defined in the current forest practices rules, are no longer accurate. Accurate water typing is critical to public resource protection. This emergency rule updates those physical characteristics based on current knowledge so that appropriate resource protection can be provided to fish habitat and water quality.

This emergency rule establishes presumptions for determining fish use in the absence of field verification and is necessary during permanent rule making updating the water type rules and associated riparian protection. Because water typing triggers riparian protection through the forest practices rules, watershed analysis, and some local land use decisions, the definitions used to determine water types must reflect current knowledge about fish use and habitat. 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 (see WAC 222-16-030). In addition, the 303(d) water quality and actual and potential ESA listings cause increased pressure on the forest practices regulation system that will result in increased cost and complexities for all participants. If the water typing system isn't upgraded immediately, it will contribute to potential listings and increase the associated burdens of such listings.

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 these studies indicated that 72% 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.

The intent of the Forest Practices Act is to meet water quality standards under the Clean Water Act. As indicated by the number of water bodies listed under section 303(d) of the Clean Water Act, water quality standards are not being met. The number of water bodies included on the Department of Ecology'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. The state has water quality antidegradation regulatory requirements. These requirements demand that the beneficial in-stream uses, such as salmonid habitat, be fully protected. Changes in water quality are not allowed that violate the standards set to fully protect these uses. Further, degradation of water quality, even where it does not cause a violation of the standards, is not allowed unless all known, available, and reasonable best management practices are being used to reduce the affect on water quality; and the activity has been found to be in the overriding public interest. Water quality standards cannot be met if inaccurate stream typing information is used in assessing the impacts of forest practices.

The public has a strong interest in protecting public resources, including water, and fish, especially those listed as endangered and threatened species. Immediate action is necessary to ensure that impacts from forest practices near water are carefully evaluated while the board is in the process of adopting permanent rules. Without an emergency rule, public resources, including the habitat of threatened and endangered species, could be significantly impacted by forest practices because of incorrect water typing.

The FPB and DOE maintain rule-making files for this emergency rule that have detailed background information supporting these findings. Please contact Judith Holter, DNR, at (360) 902-1412 or Doug Rushton, DOE, at (360) 407-6180 if you would like to inspect these files.

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 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: Immediately.

November 15, 1998

Jennifer M. Belcher

Commissioner of Public Lands

**AMENDATORY SECTION** (Amending WSR 97-24-091, filed 12/3/97, effective 1/3/98)

**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 fish and 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.**

(14) **Survey protocol for marbled murrelets.** The Pacific seabird survey protocol in effect March 1, 1997, shall be used when surveying for marbled murrelets in a stand. Surveys conducted before the effective date of this rule are valid if they were conducted in substantial compliance with generally accepted survey protocols in effect at the beginning of the season in which they were conducted.

(15) The department shall, in consultation with the department of fish and wildlife, develop **platform protocols** for use by applicants in estimating the number of platforms, and by the department in reviewing and classifying forest

practices under WAC 222-16-050. These protocols shall include:

(a) A sampling method to determine platforms per acre in the field;

(b) A method to predict the number of platforms per acre based on information measurable from typical forest inventories. The method shall be derived from regression models or other accepted statistical methodology, and incorporate the best available data; and

(c) Other methods determined to be reliable by the department, in consultation with the department of fish and wildlife.

**AMENDATORY SECTION** (Amending WSR 97-24-091, filed 12/3/97, effective 1/3/98)

**WAC 222-16-030 Water typing system.** \*The department in cooperation with the departments of fish and 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 fish and 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. The department may allow additional harvest beyond the requirements of Type 2 Water designation provided the department determines after a landowner-requested on-site assessment by the department of fish and wildlife, department of ecology, the affected tribes and interested parties that:



(i) The management practices proposed by the landowner will adequately protect water quality for the fish hatchery; and

(ii) Such additional harvest meets the requirements of the water type designation that would apply in the absence of the hatchery;

(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;

((e)) (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; or

((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:

((d)) (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.

((d)) (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.

((e) 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.

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

((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.

### WSR 98-24-002

#### EMERGENCY RULES

#### FOREST PRACTICES BOARD

[Filed November 18, 1998, 12:06 p.m.]

Date of Adoption: November 10, 1998.

Purpose: To modify forest practices rules to provide greater protection for threatened and endangered salmonids that have been listed by the federal government. This is a procedural rule that classifies forest practices in mapped areas as Class IV-Special, requiring additional environmental review.

This emergency rule replaces the one filed under WSR 98-20-011 on September 25, 1998.

Citation of Existing Rules Affected by this Order: Amending WAC 222-10-040, 222-16-010, 222-16-050, 222-16-080, 222-24-050, and 222-30-040; and new sections WAC 222-16-088, 222-10-020, and 222-10-043.

Statutory Authority for Adoption: RCW 76.09.040 and [76.09.]050; and chapter 34.05 RCW.

Other Authority: Chapter 43.21C RCW.

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 per-

manent 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: This document combines the findings prepared individually for listed steelhead and bull trout. The Forest Practices Board and the Department of Ecology find good cause for an emergency for salmonids, including bull trout. This document organizes and summarizes information presented to and discussed by the board in public meetings. The reasons for this finding are as follows:

#### 1. SALMONID NEEDS.

**Salmonid Biology - General:** The family *Salmonidae* includes many individual species of salmon, steelhead and trout. Salmonids have several life history phases which include spawning, rearing and migration. Fertilized salmonid eggs require sediment-free and cool water in order to incubate and hatch. Once the eggs hatch, the juvenile salmonids require rearing habitat which includes forage, clean cool water, and cover provided by rocks, banks and large woody debris. Finally, salmonids need to be able to have stream passage at all life history stages.

**Bull Trout Biology:** Bull trout (*Salvelinus confluentus*), a native char, are a cold water species that moved north and into higher elevations after the last glacial period. Bull trout exhibit both migratory and nonmigratory life history forms (Brown 1994). Resident populations generally spend their entire lives in small headwater streams, whereas migratory populations spawn and rear in headwater tributary streams for several years before migrating to either larger river systems (fluvial), lakes and reservoirs (adfluvial), or the ocean (anadromous) for adult rearing. Bull trout generally concentrate in reaches influenced by groundwater where temperature and flow conditions may be more stable (Baxter and Hauer, in prep; Baxter et al., to be published; MBTSG 1998).

**Bull Trout vs Dolly Varden:** Dolly Varden (*Salvelinus malma*) and bull trout (*Salvelinus confluentus*) were considered to be the same species until the late 1970's when Cavender (1978) provided evidence to suggest that there was a dichotomy. The American Fisheries Society accepted Cavender's work in 1980 and recognized the separation of the two species (Mongillo 1993). However, the two species are difficult to differentiate in the field; extensive and costly genetic work must be done in the laboratory. Furthermore, their life histories and habitat requirements are similar, if not identical (Mongillo 1993, Brown 1994). Therefore, from a management and recovery perspective, they are currently considered the same species. As pertains to an emergency rule, while coastal and Puget Sound populations can be either species or a combination of Dolly Varden and bull trout, all populations in eastern Washington and the Columbia River drainage are assumed to be bull trout.

#### **How Bull Trout Habitat Requirements Differ from Other Salmonids:**

- Temperature requirements for bull trout are colder than for other salmonids (especially for spawning and juvenile rearing); in some cases, so cold as to exclude other salmonids, which would otherwise compete for habitat and food. When living within the same habitat with other salmonids, colder tem-

peratures can give bull trout the competitive advantage (MBTSG 1998).

- Bull trout will often stratify higher in the watershed than other salmonids (especially resident life forms and for spawning and rearing). (Adams 1994.)
- Because bull trout spawn higher in the headwaters, they can be more vulnerable to fish passage problems.
- Bull trout spend a longer time period in the gravels before emergence (220+ days) and thus are more vulnerable to sediment and scouring peak flows.

**Factors Limiting Habitat of all Salmonids:** In order to provide cool, clean water and habitat that includes pools, clean gravel and stable channels, the following habitat requirements are necessary in order to provide for healthy salmonids: Shade, stable stream banks, large woody debris, and fish passage.

**Shade and Stream Temperature.** Shade is needed to provide cool water temperatures. To achieve this, trees along the riparian zones of fish-bearing streams and along contributing nonfish-bearing streams must be retained to assure that the solar radiation does not heat the streams to a point that limits the productivity, or in some severe cases, the mortality of salmonids. High temperatures can also block or delay fish migration.

The current state water quality standard for stream temperature is intended to fully protect salmonids. Shade must be retained, in order to keep water temperatures below 16° centigrade.

Other factors can increase temperature such as sediment deposition and resultant stream widening. Shade removal in nonfish-bearing streams can also contribute to downstream temperature increases in fish-bearing waters. Shade removal can also impact cold groundwater sources and microclimate.

**Stream Bank Stability and Forest Roads.** Fine sediment in spawning gravel reduces the survival of salmonid eggs. Sediment can also limit the ability for juvenile and adult salmonids to feed. Stream bank instability is a major contributor of sediment to streams. Stability of stream banks is necessary to this as a source of sediment (if banks are disturbed they can introduce sediment). Forest roads can also contribute sediment laden water to streams from ditches and water crossings. Roads can also change hydrologic regime of the stream causing higher peak flows which can cause more sedimentation.

**Large Woody Debris.** Rearing or juvenile salmonids need pools and cover for refuge and desired feeding conditions. Stream morphology that contains adequate pools requires large woody debris (LWD) on a continuous basis. The LWD provides structure in the streams for the formation of pools and cover. It also moderates the movement of sediment. Trees from the adjacent riparian stand are an important source of LWD.

**Fish Passage.** Adult fish need to move upstream to access spawning areas. Juvenile fish need to move upstream and downstream to find desirable feeding conditions or take refuge from undesirable environmental conditions. Forest road stream crossings often block fish passage.

**Summary.** The literature indicates that in order to protect bank stability, a 30-foot buffer is recommended. In addition,

to achieve 95% recruitment of the key piece wood, (wood that is large enough to start the forming of log jams indexed by stream size) approximately 100 foot buffer is required. Additional buffers may be needed to account for areas that have high susceptibility to windthrow, provide additional large woody debris (LWD) recruitment, unstable slopes protection, protection of seeps, springs and stream associated wetlands. Other functions include microclimate (air temperature and humidity, etc.).

**Additional Factors Limiting Bull Trout Habitat:** The decline of bull trout throughout their range has been linked to habitat destruction and migration barriers, as well as other factors such as introduced exotic species (Dambacher and Jones 1997). Bull trout spawning, incubation, and juvenile rearing generally occur in second through fourth order streams which are most susceptible to effects resulting from harvest. Effects may be more obvious on smaller streams than on larger ones. Timber harvest can influence stream temperature, LWD recruitment, local runoff patterns, erosion, sedimentation, channel aggradation, and channel stability (MBTSG 1998).

**Shade and Stream Temperature.** Bull trout are glacial relics and require a narrow range of cold temperature conditions to rear and reproduce (Adams and Bjornn 1997, Buchanan and Gregory 1997, Brown 1994). Temperatures required to initiate spawning (late August through October) vary from 4-11°C, depending on the drainage (Buchanan and Gregory 1997, Fraley and Shepard 1989, McPhail and Murray 1979, Wydoski and Whitney 1979, Kraemer 1991). Egg incubation (late August through April) occurs at 1-6°C (Buchanan and Gregory 1997, Weaver and White 1985, McPhail and Murray 1979, Brown 1994). Optimal temperature ranges for juvenile rearing occur from 4-10°C (Buchanan and Gregory 1997, McPhail and Murray 1979). In the Flathead drainage in Montana, bull trout juveniles have been rarely observed in streams with summer temperatures exceeding 15°C (Fraley and Shepard 1989). Adults are known to tolerate somewhat higher temperatures (Kraemer 1991, Brown 1994); however, they are seldom found in streams with summer temperatures exceeding 18°C and are often found near cold perennial springs (Shepard et al. 1984b, Brown 1994). Higher densities of adult bull trout have been found to occur at temperatures less than 12°C (Adams 1994, Buchanan and Gregory 1997, Clancy 1996). Optimum temperatures for migration are 10-12°C (Buchanan and Gregory 1997, McPhail and Murray 1979).

Various factors contribute towards providing for cool water in streams (shade, groundwater contribution, elevation, etc.). Shade is the primary factor (impacted by land management) which is needed to reduce solar radiation to the stream, to protect groundwater sources and seeps and springs, and to provide for microclimate. Shade contributing trees within the riparian zone must be retained in both fish bearing and contributing nonfish-bearing streams to maintain cool water temperatures. Sediment deposition and resultant stream widening can also cause an increase in stream temperature, as well as alteration of natural streamflow regimes and reduced groundwater inflows (MBTSG 1998).

The current state water quality standard for stream temperature is targeted to maintain water temperatures below 16 and 18°C depending on the Department of Ecology stream class. However, because bull trout and Dolly Varden have temperature requirements which are below those for other salmonids, the current water quality standard is not adequate. The United States Environmental Protection Agency has established temperature criteria for bull trout (now used as a state water quality standard in Idaho). The temperature standard to meet bull trout requirements is set at 10°C expressed as a consecutive seven-day average of the daily maximum temperatures for June, July, August and September. It is believed that if a summer temperature criterion of 10°C is met, natural seasonal variability in stream temperatures will result in attainment of appropriate thermal requirements during the remainder of the year in bull trout spawning and juvenile rearing areas (United States Environmental Protection Agency 1997).

**Sediment and Roads.** The long overwinter intragravel incubation and development for bull trout (average two hundred twenty days) leaves them vulnerable to increases in fine sediments and degradation of water quality (Fraley and Shepard 1989). A significant negative correlation between fry emergence of bull trout and the percentage of redd materials smaller than 6.35 mm was found by Weaver and Fraley (1991). Analyses conducted within the Columbia River Basin support the conclusion that increasing road densities are correlated with declining aquatic habitat conditions and aquatic integrity. Results show that bull trout are less likely to use moderate to highly roaded areas for spawning and rearing, and if found in these areas, they are less likely to be at strong population levels (Lee et al. 1997; Baxter et al., to be published; MBTSG 1998).

Stream bank stability must be maintained to prevent increases in sediment inputs to the stream (from forest practices). Construction and maintenance of roads must be conducted in ways which minimize road density and cut off delivery of sediments to streams. Roads should also be constructed and maintained to prevent changes to the hydrologic regime resulting in higher peak flows and increased sedimentation. Ground disturbance should be minimized and mitigated. Best management practices for sediment and roads should apply to nonfish-bearing streams as well as fish-bearing streams.

**Large Woody Debris.** Large woody debris is important for the formation of deep pools and habitat complexity needed by bull trout. Adult bull trout prefer deep cold pools, often associated with the cover of large woody debris, for foraging and for holding during migration (Brown 1994, Fraley and Shepard 1989, Shepard et al. 1984b, Goetz 1989). Juvenile rearing of bull trout is also often associated with pools with shelter-providing large organic debris or clean cobble (McPhail and Murray 1979). A strong preference exists for plunge and scour pools over all other habitat types in southeast Washington (Brown 1994). Large woody debris is also necessary to maintain the step pool formation in steeper headwater streams inhabited by bull trout, and for sediment storage.

**Fish Passage.** Due to loss of connectivity, many bull trout populations have become fragmented throughout their range, and remnant headwater populations are all that remain for some drainages. Fish passage barriers result in the loss of genetic exchange, loss in the ability to respond to changes in seasonal habitat requirements and conditions, loss in the ability to recolonize habitats after disturbance regimes, and often extinction of local populations (Rieman et al. 1993, MBTSG 1998). Barriers not only include manmade barriers at road crossings, but also low flows caused from aggregation of excessive coarse sediment, and elevated temperatures.

## **2. ENDANGERED SPECIES ACT LISTINGS AND THE FOREST PRACTICES ACT.**

The Endangered Species Act (ESA) was enacted to conserve threatened and endangered species and the ecosystems upon which they depend. Four ESA listings have occurred in the last year. In August of 1997, upper Columbia steelhead was listed as endangered and the Snake River steelhead was listed as threatened. In March of 1998, the lower Columbia steelhead was listed as threatened. Finally, in June 1998, the Columbia River bull trout was listed as threatened.

ESA listings lead to "take" being prohibited. "Take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or attempt to engage in any such conduct. "Harm" can include significant habitat modification or degradation. In addition, the listing itself is indicative of the need to provide protection of the habitat required by these species to assure recovery of the species and protection from harm.

A governmental agency can be responsible for a take if it authorizes the activity that exacts a taking. In a March 1998 decision, the United States Court of Appeals for the First Circuit ordered a Massachusetts agency to prevent the taking of the northern right whale, an endangered species. The court found whales could be harmed from entanglement in fishing gear from commercial fishing activities authorized by agency regulations. The court found the state licensed the commercial fishing in a manner likely to cause harm, even though its actions were only an indirect cause. Thus, the Forest Practices Board and the Department of Ecology could be vulnerable for take if permits continue to be approved without consideration of listed species protected from harm. Actions to enforce the ESA could be brought by the federal government or other third parties.

The ESA requires federal agencies to examine the impact of their actions on protected species. The Washington Forest Practices Board has been working with the United States Fish and Wildlife Service (USFWS) to have the existing state forest practice rules for the northern spotted owl recognized as part of a proposed federal rule providing protection of that species under the ESA. The USFWS has consulted with the National Marine Fisheries Service (NMFS) regarding how the anadromous (listed and proposed to be listed) fish may be impacted by the proposed federal rule. In a letter dated September 16, 1998, NMFS concluded that the existing state forest practice rules "do not leave adequate riparian buffers to provide the important ecosystem functions necessary to support the biological requirements of anadromous salmonids." NMFS indicated that "any further degradation of habitat conditions that reduces essential habitat functions may have a significant impact, which poses an

unacceptable risk to the survival and recovery" of certain salmonid evolutionarily significant units (ESUs), including the upper Columbia steelhead addressed in the emergency rule.

Oregon had developed a plan to protect salmonids which was relied on by NMFS in its decision not to list certain species of salmonids as threatened. The Oregon plan was based largely on future actions and voluntary efforts. In June 1998, a federal court rejected this decision as inadequate to prevent endangerment to salmonids under the ESA. In Washington, the forest practice rules also rely on voluntary efforts. The watershed analysis process (chapter 222-22 WAC) is entirely voluntary. Voluntary efforts are not adequate to prevent endangerment to already listed salmonids. Emergency action is necessary because of the state's obligation to comply with the ESA. This emerging and unexpected development makes it clear that the existing rules are not adequate and the listed species are in jeopardy.

### 3. CONTINUING TO APPROVE FOREST PRACTICES PERMITS IN LISTED AREAS.

**Forest Practices Applications in Listed Areas:** The listed areas of the state contain nearly more than eleven million acres of nonfederal land, of which about 4.3 million acres are state and private forest land covered by the current forest practice rules. The number of ESU acres are:

Listed Areas (ESUs)	Total Nonfederal Acres	State and Private Forest Land Acres
Steelhead only	2,874,463	1,398,034
Bull trout only	5,122,388	2,190,251
Steelhead/bull trout Overlapping Areas	3,108,211	750,994
Total	11,105,062	4,339,279

Most of the habitat that salmonids seek for spawning and rearing are in the forested areas of the state. This portion of the habitat continues to be critical to the survival and well-being of these species. (See also the map in WAC 222-16-088.)

When the ESA listings occurred, there were approximately 823 forest practices applications/notifications already approved in the steelhead listed areas, and 575 in bull trout listed areas. Since operations under these permits may have some impact on salmonid habitat, these applicants were sent letters notifying them of the listings. If they had questions, the letter said they should contact National Marine Fisheries Service directly for clarification whether their operations may cause a concern for listed steelhead.

Since the listings, one hundred forty one applications/notifications have been approved within two hundred feet of listed steelhead waters, and one hundred twenty within two hundred feet of listed bull trout waters. These permits contain a note to applicants warning them that this state permit does not necessarily meet federal law under the ESA.

The department estimates that, additionally, about 1,700 to 1,800 applications in steelhead and bull trout ESUs will be approved between now and when a permanent rule might be adopted and become effective (estimated to be July 1, 2000).

Since permits are effective for a two-year period, applications approved prior to a new permanent rule taking effect in 2000 would be valid until 2002. Thus, nearly four years from now, some salmonid habitat would still be at risk absent an emergency rule.

The Forest Practices Act (chapter 76.09 RCW) requires protection of public resources. In order to protect these listed salmonids, the habitat associated with spawning, rearing and migration needs to be protected.

**Why Current Forest Practices Rules are Inadequate for All Listed Salmonids:** Current and newly-approved forest practice operations conducted under the existing rules could cause additional harm to ESA-listed salmonids because continued harvests in riparian areas would decrease shade, bank stability, and large woody debris, and continued road construction in these areas would also impact salmonid habitat. Specific impacts are categorized as follows:

**Shade and Stream Temperature.** Under the current forest practices rules, shade is required to meet current temperature criteria at sixteen or eighteen degrees centigrade. At the present time, it is likely that shade is not fully provided on Type 3 streams because landowners only have to seek shade as far as the maximum width riparian management zone (RMZ). The maximum width RMZs for Type 3 streams are currently fifty feet on streams greater than five feet wide and twenty-five feet on streams that are less than five feet wide.

An additional factor where current rules are inadequate for meeting temperature requirements involves removal of shade in nonfish-bearing waters which contribute to the temperature of fish-bearing waters downstream. This removal of shade elevates the water temperature which then cumulatively elevates temperatures downstream.

**Stream Bank Stability and Forest Roads.** Under the current rules, bank stability may be protected. On the westside of the state, the protection only extends to twenty-five feet. On the eastside, the recommended protection is thirty feet. However, if shade is provided (meeting current shade rule) and leave tree requirements are met, additional tree removal that would provide bank stability is also possible.

Roads are covered by the current rules; however, existing information would lead us to believe that standards need to be upgraded and that roads are out of compliance with existing rules as much as half the time as documented in the 1991 *Compliance Report* prepared by Timber, Fish and Wildlife's Field Implementation Committee. Preliminary findings from an on-going internal audit by the Department of Natural Resources also show that construction of roads in certain areas of the state indicate that the minimum standards are not adequate to protect public resources. Furthermore, greater efforts should be made to reduce road densities or minimize further increases in road densities, depending on the basin.

**Large Woody Debris.** Under the current rules, LWD is only provided at a minimal level. The number of leave trees required to be retained in the RMZ is not based on the ability to improve both near and long-term continuous LWD recruitment. Input of LWD to stream channels generally occurs within one tree height from the channel edge (FEMAT 1993, McDade et al. 1990). Removal of trees from within this area results in a reduction of LWD recruitment to the stream channel. Furthermore, under current rules, harvest of the larger

conifers within the RMZ is allowed, which if retained, would contribute towards the key piece functional sizes of LWD needed in the stream.

**Summary.** Given the above information, current forest practice rules are deficient, particularly in providing LWD, adequate shade, bank stability, and excessive contributions of sediment from roads and ground disturbance.

**Additional Reasons Why Current Rules are Inadequate for Listed Bull Trout:** All of the above information applies to bull trout, plus the following:

**Shade and Stream Temperature.** Current forest practice rules require retention of shade to meet water quality standards of 16 or 18°C, depending on the Department of Ecology stream class. Bull trout have temperature requirements which are cooler than the current water quality standards. Removal of available shade can result in stream temperatures exceeding the preference and tolerance levels of bull trout. Currently, it is likely that shade is not fully provided on Type 3 streams because landowners only have to seek shade as far as the maximum width RMZ (fifty feet on streams wider than five feet, and twenty-five feet on streams less than five feet). Furthermore, no shade is required on nonfish-bearing streams which can result in elevated stream temperatures in downstream fish-bearing waters. Protection of groundwater sources and seeps and springs in nonfish-bearing waters is also not included in current forest practice rules.

Though it is agreed upon that spawning and juvenile rearing life stages have the cooler temperature requirement, management should not focus merely on headwater streams and compromise shade and resulting cool water temperatures in lower elevation reaches, which adult bull trout use for foraging and migration. Though adult bull trout can tolerate somewhat higher temperatures, the natural increase in stream temperatures as elevation lowers makes it more difficult to maintain temperature requirements.

**4. PROTECTING PUBLIC RESOURCES AND CLASS IV-SPECIAL CLASSIFICATION.**

The public has a strong interest in protecting public resources, including water, fish, and wildlife, especially those listed as endangered and threatened species. Immediate action is necessary to ensure that impacts from forest practices in the salmonid listed areas are carefully evaluated while the board is in the process of adopting permanent rules. Without an emergency rule, habitat of these threatened and endangered species could be significantly impacted by forest practices.

The Forest Practices Act requires that forest practices which have the potential for a substantial impact on the environment be classified as Class IV so that they receive additional environmental review under the State Environmental Policy Act (chapter 43.21C RCW). SEPA recognizes the critical importance of restoring and maintaining environmental quality to the public welfare and the importance of full disclosure of adverse environmental impacts caused by agency actions. The Forest Practices Board is obligated under the law to identify those forest practices that have potential for substantial impact on the environment and classify them as Class IV-Special so that additional SEPA review is conducted. If there is the potential for damage to the habitat of a state or federal listed species, then there is potential

for substantial impact on the environment. An emergency rule would not necessarily prohibit harvest; it would require additional review to evaluate environmental impacts. This process includes public notice and a public comment period.

As described above, certain forest practices in the salmonid listed areas have the potential for impact on listed salmonids. This impact is substantial because of the number of forest practices in the listed areas and because the current rules are inadequate. Absent permanent rules that adequately prevent these impacts, RCW 76.09.050 and SEPA require the emergency rule change in classification.

**5. STATE WATER QUALITY REQUIREMENTS.**

The intent of the Forest Practices Act is to meet water quality standards under the Water Pollution Control Act. As indicated by the 2,600 miles of Washington's streams and rivers listed under section 303(d) of the Clean Water Act, water quality standards are not being met. Temperature increases attributed to forestry activities cause 303(d) listings. In 1996, streams with elevated temperatures comprised the largest group on the entire 303(d) list. Temperature limits in the water quality standards are intended to fully protect in-stream beneficial uses by preventing any decrease in salmonid health or reproductive success. This goal is consistent with the state water quality antidegradation regulatory requirements. These requirements demand that the beneficial in-stream uses, such as salmonid habitat, be fully protected. Changes in water quality are not allowed that violate the standards set to fully protect these uses. Further, degradation of water quality, even where it does not cause a violation of the standards, is not allowed unless all known, available, and reasonable best management practices are being used to reduce the affect on water quality; and the activity has been found to be in the overriding public interest.

**6. RULE-MAKING FILES.**

The Forest Practices Board and the Department of Ecology maintain rule-making files for this emergency rule that have detailed background information supporting these findings. Please contact Judith Holter, DNR, at (360) 902-1412 or Doug Rushton, DOE, at (360) 407-6180 if you would like to inspect these files.

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 6, 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.

EMERGENCY

Effective Date of Rule: Immediately.

November 15, 1998

Jennifer M. Belcher

Commissioner of Public Lands

### NEW SECTION

**WAC 222-10-020 \*SEPA policies for certain forest practices within 200 feet of a Type 1 Water.** The following policies shall apply to Class IV-Special forest practices, within the salmonid listed areas map in WAC 222-16-088, involving construction of roads, landings, rock quarries, gravel pits, borrow pits, and spoil disposal areas within 200 feet of Type 1 Waters.

\* (1) In order to determine whether forest practices are likely to have a probable significant adverse impact, and therefore require an environmental impact statement, the applicant must submit to the department additional information prepared by a qualified expert on: Whether the proposed activity is within the channel migration zone of the Type 1 Water; whether the proposed activity has the potential for accelerating erosional and depositional processes of the Type 1 Water; whether the proposal will have an impact on salmonid spawning, rearing, or migration habitat; and whether the proposal will adversely impact a threatened or endangered species. (See WAC 222-10-043.) In addition, the report must identify specific mitigation measures designed to reduce the impacts to avoid any probable significant adverse impacts identified above.

\* (2) The department will evaluate the proposal in consultation with the department of ecology, the department of fish and wildlife, local government, and affected Indian tribes. If the proposal is likely to cause significant adverse impacts to salmonid spawning, rearing, or migration habitat, accelerate erosional and depositional processes of the Type 1 Water, or cause significant adverse impacts to a threatened or endangered species, then it is likely to have a probable significant adverse impact on the environment. If the department determines, in consultation with the department of fish and wildlife and affected Indian tribes, that the impacts can be mitigated or that the threatened and endangered species is not likely to occur because of a significant long-term passage barrier such as a dam or waterfall in the case of migrating salmonids or determines that certain stream reaches have unsuitable habitat conditions to support bull trout, then the proposal is not likely to have a probable significant adverse impact on the environment.

\* (3) If a local permit is required, then the local government is lead agency and the department shall forward the additional information, the environmental checklist, and the forest practices application to the local government for completing SEPA. (See WAC 222-20-040(4).)

**AMENDATORY SECTION** (Amending WSR 97-24-091, filed 12/3/97, effective 1/3/98)

**WAC 222-10-040 \*Class IV-Special threatened and endangered species SEPA policies.** In addition to the SEPA policies established elsewhere in this chapter, the following

policies shall apply to Class IV-Special forest practices involving threatened or endangered species.

\* (1) The department shall consult with the department of fish and wildlife, other agencies with expertise, affected landowners, affected Indian tribes, and others with expertise when evaluating the impacts of forest practices. If the department does not follow the recommendations of the department of fish and wildlife, the department shall set forth in writing a concise explanation of the reasons for its action.

\* (2) In order to determine whether forest practices are likely to have a probable significant adverse impact, and therefore require an environmental impact statement, the department shall evaluate whether the forest practices reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of the survival or recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.

\* (3) Specific mitigation measures or conditions shall be designed to reduce any probable significant adverse impacts identified in subsection (2) of this section.

\* (4) The department shall consider the species-specific policies in WAC 222-10-041 (~~and~~) northern spotted owls, WAC 222-10-042 marbled murrelets, and WAC 222-10-043 salmonids when reviewing and evaluating SEPA documents and the impacts of forest practices.

### NEW SECTION

**WAC 222-10-043 \*Salmonids.** The following policies shall apply to Class IV-Special forest practices, within the salmonid listed areas map in WAC 222-16-088, if the forest practices may cause adverse impacts to salmonids.

\* (1) In order to determine whether forest practices are likely to have a probable significant adverse impact, and therefore require an environmental impact statement, the applicant must submit to the department additional information prepared by a qualified expert that includes: An evaluation of the channel condition; information on how the proposal will provide for bank stability, sediment and mass wasting attenuation, adequate shade, near and long-term large woody debris recruitment, and protection from windthrow. In addition, the report must identify specific mitigation measures designed to reduce the impacts to avoid any probable significant adverse impacts identified above.

\* (2) Roads, skid trails, or yarding corridors may not occupy or disturb more than 10 percent of the soil in the riparian management zone unless the landowner submits mitigation measures that provide equivalent replacement of habitat.

\* (3) Harvesting, road construction, aerial applications of pesticides, or site preparation that is likely to cause significant adverse impacts to salmonid spawning, rearing, or migration habitat are likely to have a probable significant adverse impact on the environment except when the department determines, in consultation with the department of fish and wildlife, that the impacts can be mitigated.

\* (4) The department shall consult with the department of fish and wildlife, the department of ecology, affected Indian tribes, and other interested parties to determine if the proposal will maintain a fully functioning riparian management zone. To meet this goal, the department will review whether



the forest practices reasonably would be expected, directly or indirectly, to: Increase protection from sediment and mass wasting impacts; maintain bank stability; maintain shade; maintain near or long-term large woody debris that is key-piece size or larger and indexed to the size of the channel; and, protect riparian functions from windthrow in site-specific circumstances. If the above functions are not adequately provided, then the forest practice is likely to have a probable significant adverse impact on the environment. If the department determines, in consultation with the department of fish and wildlife and affected Indian tribes, that the impacts can be mitigated or that the threatened and endangered species is not likely to occur because of a significant long-term passage barrier such as a dam or waterfall in the case of migrating salmonids or determines that certain stream reaches have unsuitable habitat conditions to support bull trout, then the proposal is not likely to have a probable significant adverse impact on the environment.

**AMENDATORY SECTION** (Amending WSR 98-07-047, filed 3/13/98, effective 5/1/98)

**WAC 222-16-010 General definitions.\*** Unless otherwise required by context, as used in these regulations:

**"Act"** means the Forest Practices Act, chapter 76.09 RCW.

**"Affected Indian tribe"** means any federally recognized Indian tribe that requests in writing from the department information on forest practices applications and notification filed on specified areas.

**"Appeals board"** means the forest practices appeals board established in the act.

**"Area of resource sensitivity"** means areas identified in accordance with WAC 222-22-050 (2)(d) or 222-22-060(2).

**"Board"** means the forest practices board established by the act.

**"Bog"** means wetlands which have the following characteristics: Hydric organic soils (peat and/or muck) typically 16 inches or more in depth (except over bedrock or hardpan); and vegetation such as sphagnum moss, labrador tea, bog laurel, bog rosemary, sundews, and sedges; bogs may have an overstory of spruce, western Hemlock, lodgepole pine, cedar, whitepine, crabapple, or aspen, and may be associated with open water. This includes nutrient-poor fens. See the *Forest Practices Board Manual*.

**"Borrow pit"** shall mean an excavation site outside the limits of construction to provide material necessary to that construction, such as fill material for the embankments.

**"Chemicals"** means substances applied to forest lands or timber including pesticides, fertilizers, and other forest chemicals.

**"Clearcut"** means a harvest method in which the entire stand of trees is removed in one timber harvesting operation. Except as provided in WAC 222-30-110, an area remains clearcut until:

It meets the minimum stocking requirements under WAC 222-34-010(2) or 222-34-020(2); and

The largest trees qualifying for the minimum stocking levels have survived on the area for five growing seasons or, if not, they have reached an average height of four feet.

**"Columbia River Gorge National Scenic Area or CRGNSA"** means the area established pursuant to the Columbia River Gorge National Scenic Area Act, 16 U.S.C. §544b(a).

**"CRGNSA special management area"** means the areas designated in the Columbia River Gorge National Scenic Area Act, 16 U.S.C. §544b(b) or revised pursuant to 16 U.S.C. §544b(c). For purposes of this rule, the special management area shall not include any parcels excluded by 16 U.S.C. §544f(o).

**"CRGNSA special management area guidelines"** means the guidelines and land use designations for forest practices developed pursuant to 16 U.S.C. §544f contained in the CRGNSA management plan developed pursuant to 15 U.S.C. §544d.

**"Commercial tree species"** means any species which is capable of producing a merchantable stand of timber on the particular site, or which is being grown as part of a Christmas tree or ornamental tree-growing operation.

**"Completion of harvest"** means the latest of:

Completion of removal of timber from the portions of forest lands harvested in the smallest logical unit that will not be disturbed by continued logging or an approved slash disposal plan for adjacent areas; or

Scheduled completion of any slash disposal operations where the department and the applicant agree within 6 months of completion of yarding that slash disposal is necessary or desirable to facilitate reforestation and agree to a time schedule for such slash disposal; or

Scheduled completion of any site preparation or rehabilitation of adjoining lands approved at the time of approval of the application or receipt of a notification: *Provided*, That delay of reforestation under this paragraph is permitted only to the extent reforestation would prevent or unreasonably hinder such site preparation or rehabilitation of adjoining lands.

**"Constructed wetlands"** means those wetlands voluntarily developed by the landowner. Constructed wetlands do not include wetlands created, restored, or enhanced as part of a mitigation procedure or wetlands inadvertently created as a result of current or past practices including, but not limited to: Road construction, landing construction, railroad construction, or surface mining.

**"Contamination"** means the introducing into the atmosphere, soil, or water, sufficient quantities of substances as may be injurious to public health, safety or welfare, or to domestic, commercial, industrial, agriculture or recreational uses, or to livestock, wildlife, fish or other aquatic life.

**"Conversion option harvest plan"** means a voluntary plan developed by the landowner and approved by the local government entity indicating the limits of harvest areas, road locations, and open space.

**"Conversion to a use other than commercial timber operation"** shall mean a bona fide conversion to an active use which is incompatible with timber growing.



**"Cooperative habitat enhancement agreement (CHEA)"** see WAC 222-16-105.

**"Critical habitat (federal)"** means the habitat of any threatened or endangered species designated as critical habitat by the United States Secretary of the Interior under Sections 3 (5)(A) and 4 (a)(3) of the Federal Endangered Species Act.

**"Critical nesting season"** means for marbled murrelets - April 1 to August 31.

**"Critical wildlife habitat (state)"** means those habitats designated by the board in accordance with WAC 222-16-080.

**"Cultural resources"** means archaeological and historic sites and artifacts and traditional religious, ceremonial and social uses and activities of affected Indian tribes.

**"Cumulative effects"** means the changes to the environment caused by the interaction of natural ecosystem processes with the effects of two or more forest practices.

**"Daily peak activity"** means for marbled murrelets - one hour before official sunrise to two hours after official sunrise and one hour before official sunset to one hour after official sunset.

**"Debris"** means woody vegetative residue less than 3 cubic feet in size resulting from forest practice activities which would reasonably be expected to cause significant damage to a public resource.

**"Demographic support"** means providing sufficient suitable spotted owl habitat within the SOSEA to maintain the viability of northern spotted owl sites identified as necessary to meet the SOSEA goals.

**"Department"** means the department of natural resources.

**"Dispersal habitat"** see WAC 222-16-085(2).

**"Dispersal support"** means providing sufficient dispersal habitat for the interchange of northern spotted owls within or across the SOSEA, as necessary to meet SOSEA goals. Dispersal support is provided by a landscape consisting of stands of dispersal habitat interspersed with areas of higher quality habitat, such as suitable spotted owl habitat found within RMZs, WMZs or other required and voluntary leave areas.

**"Eastern Washington"** means the lands of the state lying east of an administrative line which approximates the change from the Western Washington timber types to the Eastern Washington timber types described as follows:

Beginning at the International Border and Okanogan National Forest boundary at the N1/4 corner Section 6, T. 40N, R. 24E., W.M., south and west along the Pasayten Wilderness boundary to the west line of Section 30, T. 37N, R. 19E.,

Thence south on range line between R. 18E. and R. 19E., to the Lake Chelan-Sawtooth Wilderness at Section 31, T. 35N, R. 19E.,

Thence south and east along the eastern wilderness boundary of Lake Chelan-Sawtooth Wilderness to the west line of Section 18, T. 31N, R. 19E. on the north shore of Lake Chelan,

Thence south on the range line between R. 18E. and R. 19E. to the SE corner of T. 28N, R. 18E.,

Thence west on the township line between T. 27N, and T. 28N to the NW corner of T. 27N, R. 17E.,

Thence south on range line between R. 16E. and R. 17E. to the Alpine Lakes Wilderness at Section 31, T. 26N, R. 17E.,

Thence south along the eastern wilderness boundary to the west line of Section 6, T. 22N, R. 17E.,

Thence south on range line between R. 16E. and R. 17E. to the SE corner of T. 22N, R. 16E.,

Thence west along township line between T. 21N, and T. 22N to the NW corner of T. 21N, R. 15E.,

Thence south along range line between R. 14E. and R. 15E. to SW corner of T. 20N, R. 15E.,

Thence east along township line between T. 19N, and T. 20N to the SW corner of T. 20N, R. 16E.,

Thence south along range line between R. 15E. and R. 16E. to the SW corner of T. 18N, R. 16E.,

Thence west along township line between T. 17N, and T. 18N to the SE corner of T. 18N, R. 14E.,

Thence south along range line between T. 14E. and R. 15E. to the SW corner of T. 14N, R. 15E.,

Thence south and west along Wenatchee National Forest Boundary to the NW corner of T. 12N, R. 14E.,

Thence south along range line between R. 13E. and R. 14E. to SE corner of T. 10N, R. 13E.,

Thence west along township line between T. 9N, and T. 10N to the NW corner of T. 9N, R. 12E.,

Thence south along range line between R. 11E. and R. 12E. to SE corner of T. 8N, R. 11E.,

Thence west along township line between T. 7N, and T. 8N to the Gifford Pinchot National Forest Boundary,

Thence south along Forest Boundary to SE corner of Section 33, T. 7N, R. 11E.,

Thence west along township line between T. 6N, and T. 7N to SE corner of T. 7N, R. 9E.,

Thence south along Skamania-Klickitat County line to Oregon-Washington state line.

**"End hauling"** means the removal and transportation of excavated material, pit or quarry overburden, or landing or road cut material from the excavation site to a deposit site not adjacent to the point of removal.

**"Erodible soils"** means those soils exposed or displaced by a forest practice operation, that would be readily moved by water.

**"Even-aged harvest methods"** means the following harvest methods:

Clearcuts;

Seed tree harvests in which twenty or fewer trees per acre remain after harvest;

Shelterwood regeneration harvests in which twenty or fewer trees per acre remain after harvest;

Group or strip shelterwood harvests creating openings wider than two tree heights, based on dominant trees;

Shelterwood removal harvests which leave fewer than one hundred fifty trees per acre which are at least five years old or four feet in average height;

Partial cutting in which fewer than fifty trees per acre remain after harvest;

Overstory removal when more than five thousand board feet per acre is removed and fewer than fifty trees per acre at least ten feet in height remain after harvest; and

Other harvesting methods designed to manage for multiple age classes in which six or fewer trees per acre remain after harvest.

Except as provided above for shelterwood removal harvests and overstory removal, trees counted as remaining after harvest shall be at least ten inches in diameter at breast height and have at least the top one-third of the stem supporting green, live crowns. Except as provided in WAC 222-30-110, an area remains harvested by even-aged methods until it meets the minimum stocking requirements under WAC 222-30-010(2) or 222-34-020(2) and the largest trees qualifying for the minimum stocking levels have survived on the area for five growing seasons or, if not, they have reached an average height of four feet.

**"Fen"** means wetlands which have the following characteristics: Peat soils 16 inches or more in depth (except over bedrock); and vegetation such as certain sedges, hardstem bulrush and cattails; fens may have an overstory of spruce and may be associated with open water.

**"Fertilizers"** means any substance or any combination or mixture of substances used principally as a source of plant food or soil amendment.

**"Fill"** means the placement of earth material or aggregate for road or landing construction or other similar activities. Fill does not include the growing or harvesting of timber including, but not limited to, slash burning, site preparation, reforestation, precommercial thinning, intermediate or final harvesting, salvage of trees, brush control, or fertilization.

**"Flood level - 50 year."** For purposes of field interpretation of these regulations, the 50-year flood level shall be considered to refer to a vertical elevation measured from the ordinary high-water mark which is 1.25 times the vertical distance between the average stream bed and the ordinary high-water mark, and in horizontal extent shall not exceed 2 times the channel width measured on either side from the ordinary high-water mark, unless a different area is specified by the department based on identifiable topographic or vegetative features or based on an engineering computation of flood magnitude that has a 2 percent chance of occurring in any given year. The 50-year flood level shall not include those lands that can reasonably be expected to be protected from flood waters by flood control devices maintained by or under license from the federal government, the state, or a political subdivision of the state.

**"Forest land"** means all land which is capable of supporting a merchantable stand of timber and is not being actively used for a use which is incompatible with timber growing.

**"Forest land owner"** shall mean any person in actual control of forest land, whether such control is based either on legal or equitable title, or on any other interest entitling the holder to sell or otherwise dispose of any or all of the timber on such land in any manner: *Provided*, That any lessee or other person in possession of forest land without legal or equitable title to such land shall be excluded from the definition of "forest land owner" unless such lessee or other person

has the right to sell or otherwise dispose of any or all of the timber located on such forest land.

**"Forest practice"** means any activity conducted on or directly pertaining to forest land and relating to growing, harvesting, or processing timber, including but not limited to:

- Road and trail construction;
- Harvesting, final and intermediate;
- Precommercial thinning;
- Reforestation;
- Fertilization;
- Prevention and suppression of diseases and insects;
- Salvage of trees; and
- Brush control.

"Forest practice" shall not include: Forest species seed orchard operations and intensive forest nursery operations; or preparatory work such as tree marking, surveying and road flagging; or removal or harvest of incidental vegetation from forest lands such as berries, ferns, greenery, mistletoe, herbs, mushrooms, and other products which cannot normally be expected to result in damage to forest soils, timber or public resources.

**"Forest trees"** excludes trees cultivated by agricultural methods in growing cycles shorter than ten years: *Provided*, That Christmas trees are forest trees and: *Provided further*, That this exclusion applies only to trees planted on land that was not in forest use immediately before the trees were planted and before the land was prepared for planting the trees.

**"Green recruitment trees"** means those trees left after harvest for the purpose of becoming future wildlife reserve trees under WAC 222-30-020(11).

**"Herbicide"** means any substance or mixture of substances intended to prevent, destroy, repel, or mitigate any tree, bush, weed or algae and other aquatic weeds.

**"Historic site"** includes:

Sites, areas and structures or other evidence of human activities illustrative of the origins, evolution and development of the nation, state or locality; or

Places associated with a personality important in history; or

Places where significant historical events are known to have occurred even though no physical evidence of the event remains.

**"Identified watershed processes"** means the following components of natural ecological processes that may in some instances be altered by forest practices in a watershed:

- Mass wasting;
- Surface and road erosion;
- Seasonal flows including hydrologic peak and low flows and annual yields (volume and timing);
- Large organic debris;
- Shading; and
- Stream bank and bed stability.

**"Insecticide"** means any substance or mixture of substances intended to prevent, destroy, repel, or mitigate any insect, other arthropods or mollusk pests.

**"Interdisciplinary team"** (ID Team) means a group of varying size comprised of individuals having specialized expertise, assembled by the department to respond to techni-

cal questions associated with a proposed forest practice activity.

**"Islands"** means any island surrounded by salt water in Kitsap, Mason, Jefferson, Pierce, King, Snohomish, Skagit, Whatcom, Island, or San Juan counties.

**"Limits of construction"** means the area occupied by the completed roadway or landing, including the cut bank, fill slope, and the area cleared for the purpose of constructing the roadway or landing.

**"Load bearing portion"** means that part of the road, landing, etc., which is supportive soil, earth, rock or other material directly below the working surface and only the associated earth structure necessary for support.

**"Local government entity"** means the governments of counties and the governments of cities and towns as defined in chapter 35.01 RCW.

**"Low impact harvest"** means use of any logging equipment, methods, or systems that minimize compaction or disturbance of soils and vegetation during the yarding process. The department shall determine such equipment, methods or systems in consultation with the department of ecology.

**"Marbled murrelet detection area"** means an area of land associated with a visual or audible detection of a marbled murrelet, made by a qualified surveyor which is documented and recorded in the department of fish and wildlife data base. The marbled murrelet detection area shall be comprised of the section of land in which the marbled murrelet detection was made and the eight sections of land immediately adjacent to that section.

**"Marbled murrelet nesting platform"** means any horizontal tree structure such as a limb, an area where a limb branches, a surface created by multiple leaders, a deformity, or a debris/moss platform or stick nest equal to or greater than 7 inches in diameter including associated moss if present, that is 50 feet or more above the ground in trees 32 inches dbh and greater (generally over 90 years of age) and is capable of supporting nesting by marbled murrelets.

**"Median home range circle"** means a circle, with a specified radius, centered on a spotted owl site center. The radius for the median home range circle in the Hoh-Clearwater/Coastal Link SOSEA is 2.7 miles; for all other SOSEAs the radius is 1.8 miles.

**"Merchantable stand of timber"** means a stand of trees that will yield logs and/or fiber:

Suitable in size and quality for the production of lumber, plywood, pulp or other forest products;

Of sufficient value at least to cover all the costs of harvest and transportation to available markets.

**"Northern spotted owl site center"** means the location of status 1, 2 or 3 northern spotted owls based on the following definitions:

Status 1: Pair or reproductive - a male and female heard and/or observed in close proximity to each other on the same visit, a female detected on a nest, or one or both adults observed with young.

Status 2: Two birds, pair status unknown - the presence or response of two birds of opposite sex where pair status cannot be determined

and where at least one member meets the resident territorial single requirements.

Status 3: Resident territorial single - the presence or response of a single owl within the same general area on three or more occasions within a breeding season with no response by an owl of the opposite sex after a complete survey; or three or more responses over several years (i.e., two responses in year one and one response in year two, for the same general area).

In determining the existence, location, and status of northern spotted owl site centers, the department shall consult with the department of fish and wildlife and use only those sites documented in substantial compliance with guidelines or protocols and quality control methods established by and available from the department of fish and wildlife.

**"Notice to comply"** means a notice issued by the department pursuant to RCW 76.09.090 of the act and may require initiation and/or completion of action necessary to prevent, correct and/or compensate for material damage to public resources which resulted from forest practices.

**"Occupied marbled murrelet site"** means:

(1) A contiguous area of suitable marbled murrelet habitat where at least one of the following marbled murrelet behaviors or conditions occur:

- (a) A nest is located; or
- (b) Downy chicks or eggs or egg shells are found; or
- (c) Marbled murrelets are detected flying below, through, into or out of the forest canopy; or
- (d) Birds calling from a stationary location within the area; or
- (e) Birds circling above a timber stand within one tree height of the top of the canopy; or

(2) A contiguous forested area, which does not meet the definition of suitable marbled murrelet habitat, in which any of the behaviors or conditions listed above has been documented by the department of fish and wildlife and which is distinguishable from the adjacent forest based on vegetative characteristics important to nesting marbled murrelets.

(3) For sites defined in (1) above, the outer perimeter of the occupied site shall be presumed to be the closer, measured from the point where the observed behaviors or conditions listed in (1) above occurred, of the following:

- (a) 1.5 miles from the point where the observed behaviors or conditions listed in (1) above occurred; or
- (b) The beginning of any gap greater than 300 feet wide lacking one or more of the vegetative characteristics listed under "suitable marbled murrelet habitat"; or
- (c) The beginning of any narrow area of "suitable marbled murrelet habitat" less than 300 feet in width and more than 300 feet in length.

(4) For sites defined under (2) above, the outer perimeter of the occupied site shall be presumed to be the closer, measured from the point where the observed behaviors or conditions listed in (1) above occurred, of the following:

- (a) 1.5 miles from the point where the observed behaviors or conditions listed in (1) above occurred; or

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(b) The beginning of any gap greater than 300 feet wide lacking one or more of the distinguishing vegetative characteristics important to murrelets; or

(c) The beginning of any narrow area of suitable marbled murrelet habitat, comparable to the area where the observed behaviors or conditions listed in (1) above occurred, less than 300 feet in width and more than 300 feet in length.

(5) In determining the existence, location and status of occupied marbled murrelet sites, the department shall consult with the department of fish and wildlife and use only those sites documented in substantial compliance with guidelines or protocols and quality control methods established by and available from the department of fish and wildlife.

"**Old forest habitat**" see WAC 222-16-085 (1)(a).

"**Operator**" shall mean any person engaging in forest practices except an employee with wages as his/her sole compensation.

"**Ordinary high-water mark**" means the mark on the shores of all waters, which will be found by examining the beds and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland, in respect to vegetation: *Provided*, That in any area where the ordinary high-water mark cannot be found, the ordinary high-water mark adjoining saltwater shall be the line of mean high tide and the ordinary high-water mark adjoining freshwater shall be the line of mean high-water.

"**Other forest chemicals**" means fire retardants when used to control burning (other than water), nontoxic repellents, oil, dust-control agents (other than water), salt, and other chemicals used in forest management, except pesticides and fertilizers, that may present hazards to the environment.

"**Park**" means any park included on the parks register maintained by the department pursuant to WAC 222-20-100(2). Developed park recreation area means any park area developed for high density outdoor recreation use.

"**Partial cutting**" means the removal of a portion of the merchantable volume in a stand of timber so as to leave an uneven-aged stand of well-distributed residual, healthy trees that will reasonably utilize the productivity of the soil. Partial cutting does not include seedtree or shelterwood or other types of regeneration cutting.

"**Pesticide**" means any insecticide, herbicide, fungicide, or rodenticide but does not include nontoxic repellents or other forest chemicals.

"**Plantable area**" is an area capable of supporting a commercial stand of timber excluding lands devoted to permanent roads, utility rights-of-way, that portion of riparian management zones where scarification is not permitted, and any other area devoted to a use incompatible with commercial timber growing.

"**Power equipment**" means all machinery operated with fuel burning or electrical motors, including heavy machinery, chain saws, portable generators, pumps, and powered backpack devices.

"**Public resources**" means water, fish, and wildlife and in addition shall mean capital improvements of the state or its political subdivisions.

"**Qualified expert**" means a person qualified for level 2 certification in the watershed analysis process, plus having at least 3 additional years of experience in the evaluation of relevant problems in forested lands.

"**Qualified surveyor**" means an individual who has successfully completed the marbled murrelet field training course offered by the department of fish and wildlife or its equivalent.

"**Rehabilitation**" means the act of renewing, or making usable and reforesting forest land which was poorly stocked or previously nonstocked with commercial species.

"**Relief culvert**" means a structure to relieve surface runoff from roadside ditches to prevent excessive buildup in water volume and velocity.

"**Resource characteristics**" means the following specific measurable characteristics of fish, water, and capital improvements of the state or its political subdivisions:

For fish and water:

Physical fish habitat, including temperature and turbidity;

Turbidity in hatchery water supplies; and

Turbidity and volume for areas of water supply.

For capital improvements of the state or its political subdivisions:

Physical or structural integrity.

If the methodology is developed and added to the manual to analyze the cumulative effects of forest practices on other characteristics of fish, water, and capital improvements of the state or its subdivisions, the board shall amend this list to include these characteristics.

"**Riparian management zone**" means a specified area alongside Type 1, 2 and 3 Waters where specific measures are taken to protect water quality and fish and wildlife habitat.

"**Rodenticide**" means any substance or mixture of substances intended to prevent, destroy, repel, or mitigate rodents or any other vertebrate animal which the director of the state department of agriculture may declare by regulation to be a pest.

"**Salmonid listed areas**" means the geographic areas as mapped in WAC 222-16-088. Detailed maps are available from the department at its regional offices.

"**Salvage**" means the removal of snags, down logs, windthrow, or dead and dying material.

"**Scarification**" means loosening the topsoil and/or disrupting the forest floor in preparation for regeneration.

"**Shorelines of the state**" shall have the same meaning as in RCW 90.58.030 (Shoreline Management Act).

"**Side casting**" means the act of moving excavated material to the side and depositing such material within the limits of construction or dumping over the side and outside the limits of construction.

"**Site preparation**" means those activities associated with the removal of slash in preparing a site for planting and shall include scarification and/or slash burning.

"**Skid trail**" means a route used by tracked or wheeled skidders to move logs to a landing or road.

**"Slash"** means pieces of woody material containing more than 3 cubic feet resulting from forest practice activities.

**"SOSEA goals"** means the goals specified for a spotted owl special emphasis area as identified on the SOSEA maps (see WAC 222-16-086). SOSEA goals provide for demographic and/or dispersal support as necessary to complement the northern spotted owl protection strategies on federal land within or adjacent to the SOSEA.

**"Spoil"** means excess material removed as overburden or generated during road or landing construction which is not used within limits of construction.

**"Spotted owl dispersal habitat"** see WAC 222-16-085(2).

**"Spotted owl special emphasis areas (SOSEA)"** means the geographic areas as mapped in WAC 222-16-086. Detailed maps of the SOSEAs indicating the boundaries and goals are available from the department at its regional offices.

**"Stop work order"** means the "stop work order" defined in RCW 76.09.080 of the act and may be issued by the department to stop violations of the forest practices chapter or to prevent damage and/or to correct and/or compensate for damages to public resources resulting from forest practices.

**"Sub-mature habitat"** see WAC 222-16-085 (1)(b).

**"Suitable marbled murrelet habitat"** means a contiguous forested area containing trees capable of providing nesting opportunities:

(1) With all of the following indicators unless the department, in consultation with the department of fish and wildlife, has determined that the habitat is not likely to be occupied by marbled murrelets:

(a) Within 50 miles of marine waters;

(b) At least 40% of the dominant and codominant trees are Douglas-fir, western hemlock, western red cedar or sitka spruce;

(c) Two or more nesting platforms per acre;

(d) At least 7 acres in size, including the contiguous forested area within 300 feet of nesting platforms, with similar forest stand characteristics (age, species composition, forest structure) to the forested area in which the nesting platforms occur.

**"Suitable spotted owl habitat"** see WAC 222-16-085(1).

**"Threatened or endangered species"** means all species of wildlife listed as "threatened" or "endangered" by the United States Secretary of the Interior, and all species of wildlife designated as "threatened" or "endangered" by the Washington fish and wildlife commission.

**"Timber"** shall mean forest trees, standing or down, of a commercial species, including Christmas trees.

**"Water bar"** means a diversion ditch and/or hump in a trail or road for the purpose of carrying surface water runoff into the vegetation duff, ditch, or other dispersion area so that it does not gain the volume and velocity which causes soil movement and erosion.

**"Watershed administrative unit (WAU)"** means an area shown on the map specified in WAC 222-22-020(1).

**"Watershed analysis"** means, for a given WAU, the assessment completed under WAC 222-22-050 or 222-22-060 together with the prescriptions selected under WAC 222-22-070 and shall include assessments completed under WAC 222-22-050 where there are no areas of resource sensitivity.

**"Weed"** is any plant which tends to overgrow or choke out more desirable vegetation.

**"Western Washington"** means the lands of the state lying west of the administrative line described in the definition of Eastern Washington.

**"Wetland"** means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, such as swamps, bogs, fens, and similar areas. This includes wetlands created, restored, or enhanced as part of a mitigation procedure. This does not include constructed wetlands or the following surface waters of the state intentionally constructed from wetland sites: Irrigation and drainage ditches, grass lined swales, canals, agricultural detention facilities, farm ponds, and landscape amenities.

**"Wetland functions"** include the protection of water quality and quantity, providing fish and wildlife habitat, and the production of timber.

**"Wetland management zone"** means a specified area adjacent to Type A and B Wetlands where specific measures are taken to protect the wetland functions.

**"Wildlife"** means all species of the animal kingdom whose members exist in Washington in a wild state. The term "wildlife" includes, but is not limited to, any mammal, bird, reptile, amphibian, fish, or invertebrate, at any stage of development. The term "wildlife" does not include feral domestic mammals or the family Muridae of the order Rodentia (old world rats and mice).

**"Wildlife reserve trees"** means those defective, dead, damaged, or dying trees which provide or have the potential to provide habitat for those wildlife species dependent on standing trees. Wildlife reserve trees are categorized as follows:

Type 1 wildlife reserve trees are defective or deformed live trees that have observably sound tops, limbs, trunks, and roots. They may have part of the top broken out or have evidence of other severe defects that include: "Cat face," animal chewing, old logging wounds, weather injury, insect attack, or lightning strike. Unless approved by the landowner, only green trees with visible cavities, nests, or obvious severe defects capable of supporting cavity dependent species shall be considered as Type 1 wildlife reserve trees. These trees must be stable and pose the least hazard for workers.

Type 2 wildlife reserve trees are dead Type 1 trees with sound tops, limbs, trunks, and roots.

Type 3 wildlife reserve trees are live or dead trees with unstable tops or upper portions. Unless approved by the landowner, only green trees with visible cavities, nests, or obvious severe defects capable of supporting cavity dependent species shall be considered as Type 3 wildlife reserve trees. Although the roots and main portion of the trunk are sound,

these reserve trees pose high hazard because of the defect in live or dead wood higher up in the tree.

Type 4 wildlife reserve trees are live or dead trees with unstable trunks or roots, with or without bark. This includes "soft snags" as well as live trees with unstable roots caused by root rot or fire. These trees are unstable and pose a high hazard to workers.

"**Windthrow**" means a natural process by which trees are uprooted or sustain severe trunk damage by the wind.

"**Young forest marginal habitat**" see WAC 222-16-085 (1)(b).

**AMENDATORY SECTION** (Amending WSR 98-07-047, filed 3/13/98, effective 5/1/98)

**WAC 222-16-050 Classes of forest practices.** There are 4 classes of forest practices created by the act. All forest practices (including those in Classes I and II) must be conducted in accordance with the forest practices regulations.

(1) "**Class IV - special.**" Application to conduct forest practices involving the following circumstances requires an environmental checklist in compliance with the State Environmental Policy Act (SEPA), and SEPA guidelines, as they have been determined to have potential for a substantial impact on the environment. It may be determined that additional information or a detailed environmental statement is required before these forest practices may be conducted.

\*(a) Aerial application of pesticides in a manner identified as having the potential for a substantial impact on the environment under WAC 222-16-070 or ground application of a pesticide within a Type A or B wetland.

(b) Specific forest practices listed in WAC 222-16-080 on lands designated as:

(i) Critical wildlife habitat (state) of threatened or endangered species; or

(ii) Critical habitat (federal) of threatened or endangered species except those excluded by the board under WAC 222-16-080(3).

(c) Harvesting, road construction, aerial application of pesticides and site preparation on all lands within the boundaries of any national park, state park, or any park of a local governmental entity, except harvest of less than 5 MBF within any developed park recreation area and park managed salvage of merchantable forest products.

\*(d) Construction of roads, landings, rock quarries, gravel pits, borrow pits, and spoil disposal areas on slide prone areas as defined in WAC 222-24-020(6) and field verified by the department, in a watershed administrative unit that has not undergone a watershed analysis under chapter 222-22 WAC, when such slide prone areas occur on an uninterrupted slope above water typed pursuant to WAC 222-16-030, Type A or Type B Wetland, or capital improvement of the state or its political subdivisions where there is potential for a substantial debris flow or mass failure to cause significant impact to public resources.

\*(e) Timber harvest in a watershed administrative unit that has not undergone a watershed analysis under chapter 222-22 WAC, on slide prone areas, field verified by the department, where soils, geologic structure, and local hydrology indicate that canopy removal has the potential for

increasing slope instability, when such areas occur on an uninterrupted slope above any water typed pursuant to WAC 222-16-030, Type A or Type B Wetland, or a capital improvement of the state or its political subdivisions where there is a potential for a substantial debris flow or mass failure to cause significant impact to public resources.

(f) Timber harvest, in a watershed administrative unit that has not undergone a watershed analysis under chapter 222-22 WAC, construction of roads, landings, rock quarries, gravel pits, borrow pits, and spoil disposal areas on snow avalanche slopes within those areas designated by the department, in consultation with department of transportation, as high avalanche hazard.

(g) Timber harvest, construction of roads, landings, rock quarries, gravel pits, borrow pits, and spoil disposal areas on archaeological or historic sites registered with the Washington state office of archaeology and historic preservation, or on sites containing evidence of Native American cairns, graves, or glyptic records, as provided for in chapters 27.44 and 27.53 RCW. The department shall consult with affected Indian tribes in identifying such sites.

\*(h) Forest practices subject to a watershed analysis conducted under chapter 222-22 WAC in an area of resource sensitivity identified in that analysis which deviates from the prescriptions (which may include an alternate plan) in the watershed analysis.

\*(i) Filling or draining of more than 0.5 acre of a wetland.

\*(j) Construction of roads, landings, rock quarries, gravel pits, borrow pits, and spoil disposal areas within 200 feet of a Type 1 Water within the areas on the salmonid listed map in WAC 222-16-088. Road construction means any new road construction, reconstruction, or road maintenance activity that is not a Class I forest practice.

(2) "**Class IV - general.**" Applications involving the following circumstances are "Class IV - general" forest practices unless they are listed in "Class IV - special." Upon receipt of an application, the department will determine the lead agency for purposes of compliance with the State Environmental Policy Act pursuant to WAC 197-11-924 and 197-11-938(4) and RCW 43.21C.037(2). Such applications are subject to a 30-day period for approval unless the lead agency determines a detailed statement under RCW 43.21C.030 (2)(c) is required. Upon receipt, if the department determines the application is for a proposal that will require a license from a county/city acting under the powers enumerated in RCW 76.09.240, the department shall notify the applicable county/city under WAC 197-11-924 that the department has determined according to WAC 197-11-938(4) that the county/city is the lead agency for purposes of compliance with State Environmental Policy Act.

(a) Forest practices (other than those in Class I) on lands platted after January 1, 1960, or on lands being converted to another use.

(b) Forest practices which would otherwise be Class III, but which are taking place on lands which are not to be reforested because of likelihood of future conversion to urban development. (See WAC 222-16-060 and 222-34-050.)

(3) "**Class I.**" Those operations that have been determined to have no direct potential for damaging a public

resource are Class I forest practices. When the conditions listed in "Class IV - Special" are not present, these operations may be commenced without notification or application.

(a) Culture and harvest of Christmas trees and seedlings.

\* (b) Road maintenance except: (i) Replacement of bridges and culverts across Type 1, 2, 3 or flowing Type 4 Waters; or (ii) movement of material that has a direct potential for entering Type 1, 2, 3 or flowing Type 4 Waters or Type A or B Wetlands.

\* (c) Construction of landings less than 1 acre in size, if not within a shoreline area of a Type 1 Water, the riparian management zone of a Type 2 or 3 Water, the ordinary high-water mark of a Type 4 Water, a wetland management zone, a wetland, or the CRGNSA special management area.

\* (d) Construction of less than 600 feet of road on a side-slope of 40 percent or less if the limits of construction are not within the shoreline area of a Type 1 Water, the riparian management zone of a Type 2 or Type 3 Water, the ordinary high-water mark of a Type 4 Water, a wetland management zone, a wetland, or the CRGNSA special management area.

\* (e) Installation or removal of a portable water crossing structure where such installation does not take place within the shoreline area of a Type 1 Water and does not involve disturbance of the beds or banks of any waters.

\* (f) Initial installation and replacement of relief culverts and other drainage control facilities not requiring a hydraulic permit.

(g) Rocking an existing road.

(h) Loading and hauling timber from landings or decks.

(i) Precommercial thinning and pruning, if not within the CRGNSA special management area.

(j) Tree planting and seeding.

(k) Cutting and/or removal of less than 5,000 board feet of timber (including live, dead and down material) for personal use (i.e., firewood, fence posts, etc.) in any 12-month period, if not within the CRGNSA special management area.

(l) Emergency fire control and suppression.

(m) Slash burning pursuant to a burning permit (RCW 76.04.205).

\* (n) Other slash control and site preparation not involving either off-road use of tractors on slopes exceeding 40 percent or off-road use of tractors within the shorelines of a Type 1 Water, the riparian management zone of any Type 2 or 3 Water, or the ordinary high-water mark of a Type 4 Water, a wetland management zone, a wetland, or the CRGNSA special management area.

\* (o) Ground application of chemicals, if not within the CRGNSA special management area. (See WAC 222-38-020 and 222-38-030.)

\* (p) Aerial application of chemicals (except insecticides), outside of the CRGNSA special management area when applied to not more than 40 contiguous acres if the application is part of a combined or cooperative project with another landowner and where the application does not take place within 100 feet of lands used for farming, or within 200 feet of a residence, unless such farmland or residence is owned by the forest landowner. Provisions of chapter 222-38 WAC shall apply.

(q) Forestry research studies and evaluation tests by an established research organization.

(r) Any of the following if none of the operation or limits of construction takes place within the shoreline area of a Type 1 Water or the riparian management zone of a Type 2 or 3 Water, the ordinary high-water mark of a Type 4 Water or flowing Type 5 Water, or within the CRGNSA special management area and the operation does not involve off-road use of tractor or wheeled skidding systems on a sideslope of greater than 40 percent:

(i) Any forest practices within the boundaries of existing golf courses.

(ii) Any forest practices within the boundaries of existing cemeteries which are approved by the cemetery board.

(iii) Any forest practices involving a single landowner where contiguous ownership is less than two acres in size.

(s) Removal of beaver structures from culverts on active and inactive roads. A hydraulics project approval from the Washington department of fish and wildlife may be required.

(4) "Class II." Certain forest practices have been determined to have a less than ordinary potential to damage a public resource and may be conducted as Class II forest practices: *Provided*, That no forest practice enumerated below may be conducted as a Class II forest practice if the operation requires a hydraulic project approval (RCW 75.20.100) or is within a "shorelines of the state," or involves a bond in lieu of landowners signature (other than renewals). Such forest practices require an application. No forest practice enumerated below may be conducted as a "Class II" forest practice if it takes place on lands platted after January 1, 1960, or on lands being converted to another use. Such forest practices require a Class IV application. Class II forest practices are the following:

(a) Renewal of a prior Class II notification where no change in the nature and extent of the forest practices is required under rules effective at the time of renewal.

(b) Renewal of a previously approved Class III or IV forest practice application where:

(i) No modification of the uncompleted operation is proposed;

(ii) No notices to comply, stop work orders or other enforcement actions are outstanding with respect to the prior application; and

(iii) No change in the nature and extent of the forest practice is required under rules effective at the time of renewal.

\* (c) Any of the following if none of the operation or limits of construction takes place within the riparian management zone of a Type 2 or 3 Water, within the ordinary high-water mark of a Type 4 Water, within a wetland management zone, within a wetland, or within the CRGNSA special management area:

(i) Construction of advance fire trails.

(ii) Opening a new pit of, or extending an existing pit by, less than 1 acre.

\* (d) Any of the following if none of the operation or limits of construction takes place within the riparian management zone of a Type 2 or 3 Water, within the ordinary high-water mark of a Type 4 Water, within a wetland management zone or within a wetland; and if none of the operations involve off-road use of tractor or wheeled skidding systems on a sideslope of greater than 40 percent:

Salvage of logging residue.



\* (e) Any of the following if none of the operation or limits of construction takes place within the riparian management zone of a Type 2 or 3 Water, within the ordinary high-water mark of a Type 4 Water, within a wetland management zone, within a wetland, or within the CRGNSA special management area, and if none of the operations involve off-road use of tractor or wheeled skidding systems on a sideslope of greater than 40 percent, and if none of the operations are located on lands with a likelihood of future conversion (see WAC 222-16-060):

(i) West of the Cascade summit, partial cutting of 40 percent or less of the live timber volume.

(ii) East of the Cascade summit, partial cutting of 5,000 board feet per acre or less.

(iii) Salvage of dead, down, or dying timber if less than 40 percent of the total timber volume is removed in any 12-month period.

(iv) Any harvest on less than 40 acres.

(v) Construction of 600 or more feet of road, provided that the department shall be notified at least 2 business days before commencement of the construction.

(5) "Class III." Forest practices not listed under Classes IV, I or II above are "Class III" forest practices. Among Class III forest practices are the following:

(a) Those requiring hydraulic project approval (RCW 75.20.100).

\* (b) Those within the shorelines of the state other than those in a Class I forest practice.

\* (c) Aerial application of insecticides, except where classified as a Class IV forest practice.

\* (d) Aerial application of chemicals (except insecticides), except where classified as Class I or IV forest practices.

\* (e) Harvest or salvage of timber except where classed as Class I, II or IV forest practices.

\* (f) All road construction and reconstruction except as listed in Classes I, II and IV forest practices.

(g) Opening of new pits or extensions of existing pits over 1 acre.

\* (h) Road maintenance involving:

(i) Replacement of bridges or culverts across Type 1, 2, 3, or flowing Type 4 Waters; or

(ii) Movement of material that has a direct potential for entering Type 1, 2, 3 or flowing Type 4 Waters or Type A or B Wetlands.

(i) Operations involving an applicant's bond in lieu of a landowner's signature.

(j) Site preparation or slash abatement not listed in Classes I or IV forest practices.

(k) Harvesting, road construction, site preparation or aerial application of pesticides on lands which contain cultural, historic or archaeological resources which, at the time the application or notification is filed, are:

(i) On or are eligible for listing on the National Register of Historic Places; or

(ii) Have been identified to the department as being of interest to an affected Indian tribe.

(l) Harvesting exceeding 19 acres in a designated difficult regeneration area.

(m) Utilization of an alternate plan. See WAC 222-12-040.

\* (n) Any filling of wetlands, except where classified as Class IV forest practices.

\* (o) Harvesting, site preparation or aerial application of pesticides within 200 feet of a Type 1, 2, or 3 Water, or road construction within 200 feet of a Type 2 or 3 Water, within the areas on the salmonid listed map in WAC 222-16-088.

AMENDATORY SECTION (Amending WSR 97-24-091, filed 12/3/97, effective 1/3/98)

**WAC 222-16-080 Critical wildlife habitats (state) and critical habitat (federal) of threatened and endangered species.** (1) Critical wildlife habitats (state) of threatened or endangered species and specific forest practices designated as Class IV-Special are as follows:

(a) Bald eagle - harvesting, road construction, aerial application of pesticides, or site preparation within 0.5 mile of a known active nest site, documented by the department of fish and wildlife, between the dates of January 1 and August 15 or 0.25 mile at other times of the year; and within 0.25 mile of a communal roosting site. Communal roosting sites shall not include refuse or garbage dumping sites.

(b) Gray wolf - harvesting, road construction, or site preparation within 1 mile of a known active den site, documented by the department of fish and wildlife, between the dates of March 15 and July 30 or 0.25 mile from the den site at other times of the year.

(c) Grizzly bear - harvesting, road construction, aerial application of pesticides, or site preparation within 1 mile of a known active den site, documented by the department of fish and wildlife, between the dates of October 1 and May 30 or 0.25 mile at other times of the year.

(d) Mountain caribou - harvesting, road construction, aerial application of pesticides, or site preparation within 0.25 mile of a known active breeding area, documented by the department of fish and wildlife.

(e) Oregon silverspot butterfly - harvesting, road construction, aerial or ground application of pesticides, or site preparation within 0.25 mile of an individual occurrence, documented by the department of fish and wildlife.

(f) Peregrine falcon - harvesting, road construction, aerial application of pesticides, or site preparation within 0.5 mile of a known active nest site, documented by the department of fish and wildlife, between the dates of March 1 and July 30; or harvesting, road construction, or aerial application of pesticides within 0.25 mile of the nest site at other times of the year.

(g) Sandhill crane - harvesting, road construction, aerial application of pesticides, or site preparation within 0.25 mile of a known active nesting area, documented by the department of fish and wildlife.

(h) Northern spotted owl - the following shall apply through June 30, 1996: Harvesting, road construction, or aerial application of pesticides on the most suitable 500 acres of nesting, roosting, and foraging habitat surrounding the northern spotted owl site center. The most suitable habitat shall be determined by the department in cooperation with the department of fish and wildlife, tribes, and others with



applicable expertise. Consideration shall be given to habitat quality, proximity to the activity center and contiguity in selecting the most suitable 500 acres of habitat.

Beginning July 1, 1996, the following shall apply for the northern spotted owl:

(i) **Within a SOSEA boundary** (see maps in WAC 222-16-086), except as indicated in (h)(ii) of this subsection, harvesting, road construction, or aerial application of pesticides on suitable spotted owl habitat within a median home range circle that is centered within the SOSEA or on adjacent federal lands.

(ii) **Within the Entiat SOSEA**, harvesting, road construction, or aerial application of pesticides within the areas indicated for demographic support (see WAC 222-16-086(2)) on suitable spotted owl habitat located within a median home range circle that is centered within the demographic support area.

(iii) **Outside of a SOSEA**, harvesting, road construction, or aerial application of pesticides, between March 1 and August 31 on the seventy acres of highest quality suitable spotted owl habitat surrounding a northern spotted owl site center located outside a SOSEA. The highest quality suitable habitat shall be determined by the department in cooperation with the department of fish and wildlife. Consideration shall be given to habitat quality, proximity to the activity center and contiguity.

(iv) **Small parcel northern spotted owl exemption.** Forest practices proposed on the lands owned or controlled by a landowner whose forest land ownership within the SOSEA is less than or equal to 500 acres and where the forest practice is not within 0.7 mile of a northern spotted owl site center shall not be considered to be on lands designated as critical wildlife habitat (state) for northern spotted owls.

(i) **Western pond turtle** - harvesting, road construction, aerial application of pesticides, or site preparation within 0.25 mile of a known individual occurrence, documented by the department of wildlife.

(j) **Marbled murrelet.**

(i) **Harvesting, other than removal of down trees outside of the critical nesting season, or road construction within an occupied marbled murrelet site.**

(ii) **Harvesting, other than removal of down trees outside of the critical nesting season, or road construction within suitable marbled murrelet habitat within a marbled murrelet detection area.**

(iii) **Harvesting, other than removal of down trees outside of the critical nesting season, or road construction within suitable marbled murrelet habitat containing 7 platforms per acre outside a marbled murrelet detection area.**

(iv) **Harvesting, other than removal of down trees outside of the critical nesting season, or road construction outside a marbled murrelet detection area within a marbled murrelet special landscape and within suitable marbled murrelet habitat with 5 or more platforms per acre.**

(v) **Harvesting within a 300 foot managed buffer zone adjacent to an occupied marbled murrelet site that results in less than a residual stand stem density of 75 trees per acre greater than 6 inches in dbh; provided that 25 of which shall be greater than 12 inches dbh including 5 trees greater than 20 inches in dbh, where they exist. The primary consideration**

for the design of managed buffer zone widths and leave tree retention patterns shall be to mediate edge effects. The width of the buffer zone may be reduced in some areas to a minimum of 200 feet and extended to a maximum of 400 feet as long as the average of 300 feet is maintained.

(vi) Except that the following shall not be critical wildlife habitat (state):

(A) Where a landowner owns less than 500 acres of forest land within 50 miles of saltwater and the land does not contain an occupied marbled murrelet site; or

(B) Where a protocol survey (see WAC 222-12-090(14)) has been conducted and no murrelets were detected. The landowner is then relieved from further survey requirements. However, if an occupied marbled murrelet site is established, this exemption is void.

\* (k) Salmonids - harvesting, road construction, aerial applications of pesticides, or site preparation, within the areas on the salmonid listed map in WAC 222-16-088, within 100 feet of a type 1, 2, or 3 water. Road construction means any new road construction, reconstruction, or road maintenance activity that is not a Class I forest practice.

(2) The following critical habitats (federal) designated by the United States Secretary of the Interior, or specific forest practices within those habitats, have been determined to not have the potential for a substantial impact on the environment:

Marbled murrelet critical habitat 50 C.F.R. §17.95(b), 61 Fed. Reg. 26256 as a result of provisions of the state's marbled murrelet rule.

(3) For the purpose of identifying forest practices which have the potential for a substantial impact on the environment with regard to threatened or endangered species newly listed by the Washington fish and wildlife commission and/or the United States Secretary of the Interior, the department shall after consultation with the department of fish and wildlife, prepare and submit to the board a proposed list of critical wildlife habitats (state) of threatened or endangered species. This list shall be submitted to the board within 15 days of the listing of the species. The department shall, at a minimum, consider potential impacts of forest practices on habitats essential to meeting the life requisites for each species listed as threatened or endangered. Those critical wildlife habitats (state) adopted by the board shall be added to the list in subsection (1) of this section. See WAC 222-16-050 (1)(b)(i).

(4) For the purpose of identifying any areas and/or forest practices within critical habitats (federal) designated by the United States Secretary of the Interior which do not have the potential for a substantial impact on the environment, the department shall, after consultation with the department of fish and wildlife, submit to the board a proposed list of any forest practices and/or areas proposed for exclusion from Class IV - special forest practices. The department shall submit the list to the board within 120 days of the date the United States Secretary of the Interior publishes a final rule designating critical habitat (federal) in the Federal Register. Those critical habitats excluded by the board from Class IV - Special shall be added to the list in subsection (2) of this section. See WAC 222-16-050 (1)(b)(ii).

(5)(a) Except for bald eagles under subsection (1)(a) of this section, the critical wildlife habitats (state) of threatened

and endangered species and specific forest practices designated in subsection (1) of this section are intended to be interim. These interim designations shall expire for a given species on the earliest of:

(i) The effective date of a regulatory system for wildlife protection referred to in (b) of this subsection or of substantive rules on the species.

(ii) The delisting of a threatened or endangered species by the Washington fish and wildlife commission.

(b) The board shall examine current wildlife protection and department authority to protect wildlife and develop and recommend a regulatory system, including baseline rules for wildlife protection. To the extent possible, this system shall:

(i) Use the best science and management advice available;

(ii) Use a landscape approach to wildlife protection;

(iii) Be designed to avoid the potential for substantial impact to the environment;

(iv) Protect known populations of threatened and endangered species of wildlife from negative effects of forest practices consistent with RCW 76.09.010; and

(v) Consider and be consistent with recovery plans adopted by the department of fish and wildlife pursuant to RCW 77.12.020(6) or habitat conservation plans or 16 U.S.C. 1533(d) rule changes of the Endangered Species Act.

(6) Regardless of any other provision in this section, forest practices applications shall not be classified as Class IV-Special based on critical wildlife habitat (state) (WAC 222-16-080(1)) or critical habitat (federal) (WAC 222-16-050(1)(b)(ii)) for a species if the forest practices are consistent with one of the following proposed for protection of the species:

(a) A habitat conservation plan and permit or an incidental take statement covering such species approved by the Secretary of the Interior or Commerce pursuant to 16 U.S.C. §1536 (b) or 1539 (a); an "unlisted species agreement" covering such species approved by the U.S. Fish and Wildlife Service or National Marine Fisheries Service; or a "no-take letter" or other cooperative or conservation agreement entered into with a federal or state fish and wildlife agency pursuant to its statutory authority for fish and wildlife protection that addresses the needs of the affected species and that is subject to review under the National Environmental Protection Act, 42 U.S.C. §4321 et seq., or the State Environmental Policy Act, chapter 43.21C RCW, as applicable;

(b) A rule adopted by the U.S. Fish and Wildlife Service for the conservation of a particular threatened species pursuant to 16 U.S.C. 1533(d);

(c) A special wildlife management plan (SWMP) developed by the landowner and approved by the department in consultation with the department of fish and wildlife;

(d) A bald eagle management plan approved under WAC 232-12-292;

(e) A landowner option plan (LOP) for northern spotted owls developed pursuant to WAC 222-16-100(1); or

(f) A cooperative habitat enhancement agreement (CHEA) developed pursuant to WAC 222-16-105.

In those situations where one of the options above has been used, forest practices applications may still be classified as Class IV-Special based upon the presence of one or more

of the factors listed in WAC 222-16-050(1), other than critical wildlife habitat (state) or critical habitat (federal) for the species covered by the existing plan.

(7) The department, in consultation with the department of fish and wildlife, shall review each SOSEA to determine whether the goals for that SOSEA are being met through approved plans, permits, statements, letters, or agreements referred to in subsection (6) of this section. Based on the consultation, the department shall recommend to the board the suspension, deletion, modification or reestablishment of the applicable SOSEA from the rules. The department shall conduct a review for a particular SOSEA upon approval of a landowner option plan, a petition from a landowner in the SOSEA, or under its own initiative.

(8) The department, in consultation with the department of fish and wildlife, shall report annually to the board on the status of the northern spotted owl to determine whether circumstances exist that substantially interfere with meeting the goals of the SOSEAs.

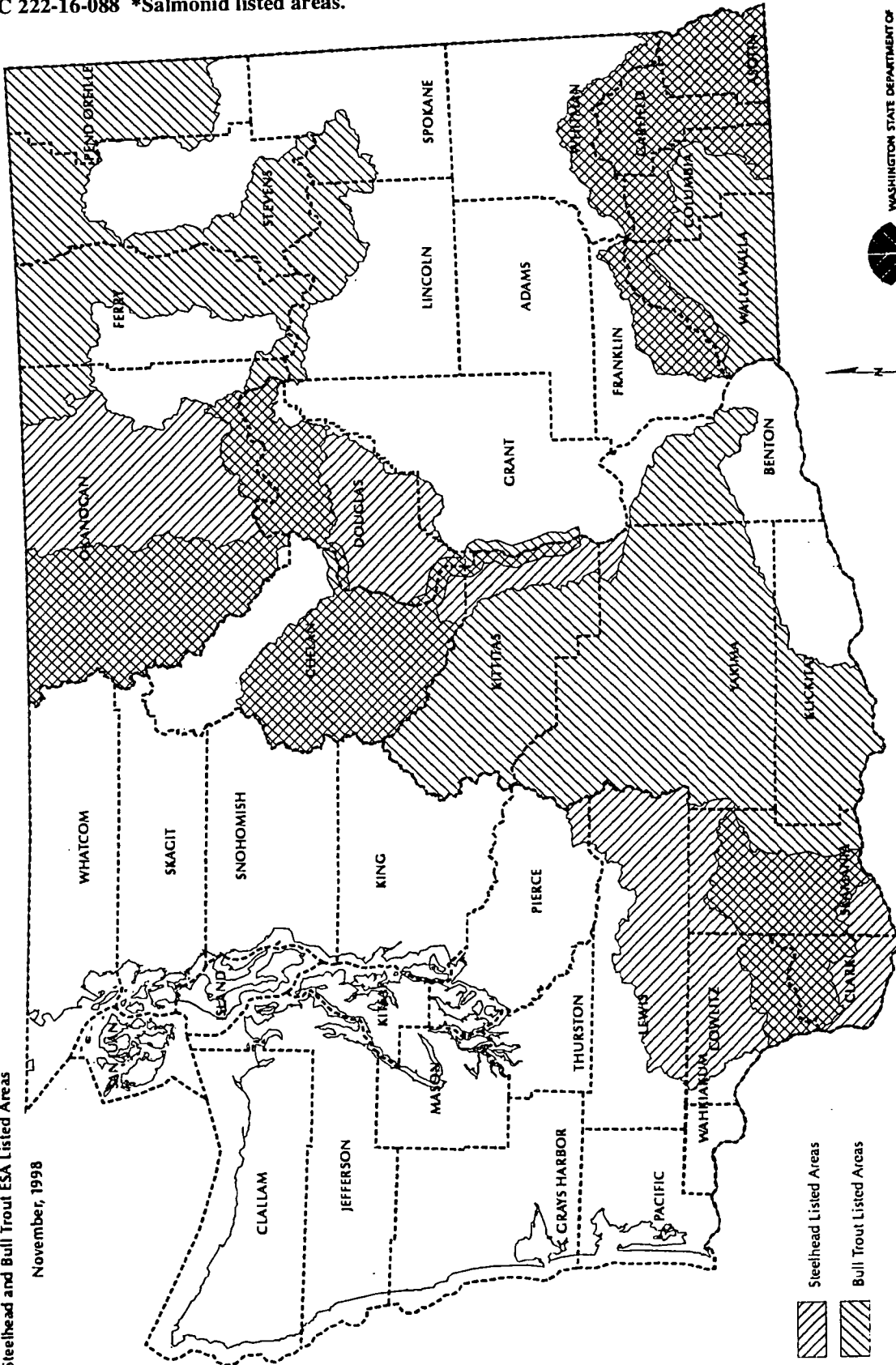
NEW SECTION



WAC 222-16-088 \*Salmonid listed areas.

State of Washington

Steelhead and Bull Trout ESA Listed Areas

November, 1998



-  Steelhead Listed Areas
-  Bull Trout Listed Areas



WASHINGTON STATE DEPARTMENT OF  
**Natural Resources**  
 Director: M. Fisher - Commissioner of Public Lands

Cartography: D.Collins; 11/13/98

**EMERGENCY**

**AMENDATORY SECTION** (Amending WSR 97-24-091, filed 12/3/97, effective 1/3/98)

**WAC 222-24-050 Road maintenance.** \*(1) **Road maintenance and abandonment plan.**

(a) The department will identify priorities for road maintenance and abandonment plans by watershed administrative unit by region using information such as the Lower Columbia Steelhead Conservation Initiative. The department shall choose priority WAUs every spring and fall.

(b) Landowners with 500 acres or more of ownership within the areas on the salmonid listed map in WAC 222-16-088 and in a watershed administrative unit that has not undergone a watershed analysis under chapter 222-22 WAC, must submit within 90 days after notification in the spring or by June 30 after notification in the fall by the department, for department approval, a road maintenance and abandonment plan for those drainages or road systems, within the identified watershed administrative units, that are active or will be active within two years. This subsection does not apply to landowners with an approved habitat conservation plan that has specific provisions for road maintenance.

(c) Landowners with less than 500 acres within the areas on the salmonid listed map in WAC 222-16-088 and in a watershed administrative unit that has not undergone a watershed analysis under chapter 222-22 WAC must submit a road maintenance and abandonment plan covering their entire ownership within the priority WAUs as per (a) of this subsection to the department prior to or concurrently with a forest practice notification or application for proposed road or harvest activities. Once approved, the landowner should attach or reference the approved road maintenance and abandonment plan when submitting subsequent applications.

(d) Landowners not required to submit road maintenance and abandonment plans under (b) or (c) of this subsection, when notified by the department, shall submit a plan for department approval for road maintenance and abandonment for those drainages or road systems the department determines based on physical evidence to have a potential to damage public resources.

~~((The))~~ (e) All road maintenance and abandonment plans ((is)) are subject to annual review. The plan must pay particular attention to those road segments that block fish passage or have the potential to deliver water or sediment to any typed water, and shall include:

- (i) Ownership maps showing the road or road system;
- (ii) Road status, whether active, inactive, orphan, abandoned or planned for abandonment;
- (iii) Maintenance schedule and priorities for the year; and

(iv) Plan for further maintenance and reconstruction beyond the current year for repair of extensive damage.

~~((b))~~ (f) The plan shall be submitted to the department region office on or before June 30, 1988, and each June 30th thereafter unless the department agrees that no further plans are necessary.

~~((e))~~ (g) The department will review the plan annually with the landowner to determine whether it will be effective and is being implemented.

~~((d))~~ (h) Such plans shall also be reviewed with departments of ecology, fish and wildlife, ~~((and))~~ affected Indian tribes, and interested parties, any of whom may request the department to hold an informal conference with the landowner.

(NOTE: The road maintenance and abandonment training manual and other materials made available by the department can be used for guidance in developing road maintenance and abandonment plans.)

\* (2) **Active roads.** An active road is a forest road being actively used for hauling of logs, pulpwood, chips, or other major forest products or rock and other road building materials. To the extent necessary to prevent damage to public resources, the following maintenance shall be conducted on such roads:

(a) Culverts and ditches shall be kept functional.

(b) Road surface shall be maintained as necessary to minimize erosion of the surface and the subgrade.

(c) During and on completion of operations, road surface shall be crowned, outsloped, or water barred and berms removed from the outside edge except those intentionally constructed for protection of fills.

\* (3) **Inactive roads.** An inactive road is a forest road on which commercial hauling is discontinued for 1 or more logging seasons, and the forest landowner desires continuation of access for fire control, forest management activities, Christmas tree growing operations, occasional or incidental use for minor forest products harvesting or similar activities on such inactive roads:

(a) Before the first winter rainy season following termination of active use, nonfunctional ditches and culverts shall be cleared and the road surface shall be crowned, outsloped, water barred or otherwise left in a condition not conducive to accelerated erosion or interrupt water movement within wetlands; and

(b) Thereafter, except as provided in (c) of this subsection, the landowner shall clear or repair ditches or culverts which he/she knows or should know to be nonfunctional and causing or likely to cause material damage to a public resource.

(c) The landowner shall not be liable for penalties or monetary damages, under the act, for damage occurring from a condition brought about by public use, unless he/she fails to make repairs as directed by a notice to comply.

\* (4) **Additional culverts/maintenance.** If the department determines based on physical evidence that the above maintenance has been or will be inadequate to protect public resources and that additional measures will provide adequate protection it shall require the landowner or operator to either elect to:

(a) Install additional or larger culverts or other drainage improvements as deemed necessary by the department; or

(b) Agree to an additional road maintenance program. Such improvements in drainage or maintenance may be required only after a field inspection and opportunity for an informal conference.

\* (5) **Abandoned roads.** An abandoned road is a forest road which the forest landowner has abandoned in accordance with procedures of (a) through (e) of this subsection.

Roads are exempt from maintenance only after (e) of this subsection is completed:

(a) Roads are outloped, water barred, or otherwise left in a condition suitable to control erosion and maintain water movement within wetlands; and

(b) Ditches are left in a suitable condition to reduce erosion; and

(c) The road is blocked so that four wheel highway vehicles can not pass the point of closure at the time of abandonment; and

(d) Bridges, culverts, and fills on all waters are removed, except where the department determines other measures would provide adequate protection to public resources.

(e) The department shall determine whether the road has been abandoned according to procedures of this subsection. If the department determines the road is properly abandoned, it shall within thirty days notify the landowner in writing that the road is officially abandoned.

**\* (6) Brush control.** Chemical control of roadside brush shall not be done where chemicals will directly enter any Type 1, 2, or 3 or flowing Type 4 or 5 Water or Type A or B Wetlands. Refer to WAC 222-38-020 for additional information.

**\* (7) Road surface treatment.**

(a) Apply oil to the road surface only when the temperature is above 55 degrees F and during the season when there is a minimal chance of rain for the next 48 hours. Use of waste oil is subject to RCW 70.95I.060(5).

(b) Water the road surface prior to application of oil to assist in penetration.

(c) Construct a temporary berm along the road shoulder wherever needed to control runoff of the applied chemical.

(d) Take extreme care to avoid excess application of road chemicals. Shut off the flow at all bridges.

(e) When cleaning out chemical storage tanks or the application equipment tanks used for storage and application of road treatment materials, dispose of the rinse water fluids on the road surface or in a place safe from potential contamination of water.

(f) The use of dry road chemicals shall be in compliance with WAC 222-38-020.

**AMENDATORY SECTION** (Amending WSR 93-12-001, filed 5/19/93, effective 6/19/93)

**WAC 222-30-040 Shade requirements to maintain stream temperature.** \*(1) Determination of adequate shade. The temperature prediction method in subsections (2) and (3) of this section shall be used to determine appropriate shade levels for flowing Type 1, 2, and 3 Waters to prevent excessive water temperatures which may have detrimental impact on aquatic resources.

**\* (2) Temperature prediction method.**

(a) In addition to the riparian management zone requirements, leave trees shall be retained in riparian management zones on flowing Type 1, 2, and 3 Waters ~~((as provided by))~~.

(b) Leave trees shall also be retained as needed within the first 50 feet horizontal distance from the ordinary high water mark along the first 500 feet of flowing Type 4 or 5 Waters above Type 1, 2, and 3 Waters in the salmonid listed

areas map in WAC 222-16-088. This provision, however, does not apply to landowners with an approved habitat conservation plan that has specific provisions for salmonids.

(c) The temperature prediction method is described in the board manual ~~((which))~~ and it includes the following considerations:

~~((a))~~ (i) Minimum shade retention requirements; and

~~((b))~~ (ii) Regional water temperature characteristics; and

~~((c))~~ (iii) Elevation; and

~~((d))~~ (iv) Temperature criteria defined for stream classes in chapter 173-201A WAC.

\* (3) Leave tree requirements for shade. The method described in subsection (2) of this section shall be used to establish the minimum shade cover based on site specific characteristics. When site specific data indicate that preharvest conditions do not meet the minimums established by the method, no additional shade removal from riparian management zones will be allowed.

(4) **Waivers.** The department may waive or modify the shade requirements where:

(a) The applicant agrees to a staggered setting program producing equal or greater shade requirements to maintain stream temperature; or

(b) The applicant provides alternative means of stream temperature control satisfactory to the department; or

(c) The temperature method indicates that additional shade will not affect stream temperature.

**WSR 98-24-016**

**EMERGENCY RULES**

**DEPARTMENT OF**

**FISH AND WILDLIFE**

[Order 98-238—Filed November 20, 1998, 4:38 p.m., effective December 1, 1998, 12:01 a.m.]

Date of Adoption: November 20, 1998.

Purpose: Personal use rules.

Citation of Existing Rules Affected by this Order: Repealing WAC 232-28-61900A; 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: The 1998-99 wild winter steelhead return is expected to be well below desired escapement. The preliminary wild runs forecast is 1,349 fish, while 200 fish are required to adequately seed the basin. This regulation change would afford additional protection to the wild fish, allowing a greater number to survive to spawn. 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: December 1, 1998, 12:01 a.m.  
November 20, 1998

Larry Peck  
Acting Director

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.  
November 20, 1998

Larry W. Peck  
Acting Director

NEW SECTION

**WAC 232-28-61900A Exceptions to statewide rules.** Notwithstanding the provisions of WAC 232-28-619, effective 12:01 a.m. December 1, 1998 through January 31, 1999, it is unlawful to retain wild steelhead in those waters of the Puyallup and Carbon Rivers.

REPEALER

The following section of the Washington Administrative Code is repealed effective 11:59 p.m. January 31, 1999:

WAC 232-28-61900A Exceptions to statewide rules

NEW SECTION

**WAC 220-48-01500H Beam trawl and bottom trawl—Seasons,** Notwithstanding the provisions of WAC 220-48-015, effective immediately through 11:59 p.m. December 10, 1998 it is lawful to fish for or possess bottom-fish taken with beam trawl and bottom trawl gear in Marine Fish-Shellfish Management and Catch reporting Areas 20A, 20B, 21A, 22A, and 22B in waters deeper than 40 fathoms.

REPEALER

The following section of the Washington Administrative Code is repealed effective 11:59 p.m. December 10, 1998:

WAC 220-48-01500H Beam trawl and bottom trawl—Seasons.

**WSR 98-24-017  
EMERGENCY RULES  
DEPARTMENT OF  
FISH AND WILDLIFE**

[Order 98-242—Filed November 20, 1998, 4:39 p.m.]

Date of Adoption: November 20, 1998.

Purpose: Commercial fishing regulations.

Citation of Existing Rules Affected by this Order: Repealing WAC 220-48-01500H; and amending WAC 220-48-015.

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 quota of Pacific cod is nearing fulfillment and additional opportunity can be provided in the deep water area and still assure that conservation quotas are not exceeded. 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

**WSR 98-24-018  
EMERGENCY RULES  
DEPARTMENT OF  
FISH AND WILDLIFE**

[Order 98-240—Filed November 20, 1998, 4:40 p.m., effective November 22, 1998, 12:01 a.m.]

Date of Adoption: November 20, 1998.

Purpose: Commercial fishing regulations.

Citation of Existing Rules Affected by this Order: Repealing WAC 220-47-910.

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: Openings in Area 7B provide opportunity to harvest chum salmon destined for the Nooksack-Samish region; the preseason schedule has been modi-

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fied to avoid greatly exceeding the nontreaty share relative to the inseason run size update of 190,000 - 139% above pre-season forecast. Openings in Area 8 provide opportunity to harvest the nontreaty allocation of chum salmon destined for the Skagit region, per the preseason schedule relative to the inseason update of 150,000 - 18% below forecast. Openings in Area 8A provide opportunity to harvest the nontreaty allocation of chum salmon destined for the Stillaguamish-Snohomish region of origin, per the preseason schedule. Area 8D is closed to ensure escapements of chum salmon to the Tulalip hatchery. Openings in Areas 10 and 11 provide opportunity to harvest the nontreaty allocation of chum salmon in the south Puget Sound region of origin, per the preseason adopted schedule relative to the inseason update of 550,000 chum - 14% above preseason forecast. Scheduled openings in Area 12C have been canceled as the nontreaty chum share has been attained for the Hood Canal region. These openings and the purse seine and reef net chinook nonretention requirement are consistent with agreements reached during the Pacific Fishery Management Council - North of Falcon pre-season process.

All other Puget Sound areas are closed to prevent over-harvest 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: November 22, 1998, 12:01 a.m.  
November 20, 1998

Larry W. Peck  
Acting Director

**NEW SECTION**

**WAC 220-47-911 Puget Sound all-citizen commercial salmon fishery.** Notwithstanding the provisions of Chapter 220-47 WAC, effective 12:01 a.m. Sunday November 22, 1998 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:

- \* **AREA 7B** - Gillnets using 6 1/4-inch minimum mesh and purse seines using the 5-inch strip may fish from 6:00 a.m. Monday November 23, 1998 until 4:00 p.m.

Wednesday November 25, 1998, from 6:00 a.m. Monday November 30, 1998 until 4:00 p.m. Thursday December 3, 1998, and from 6:00 a.m. Monday December 7, 1998 until 4:00 p.m. Thursday December 10, 1998.

- \* **AREA 8** - Purse seines using the 5-inch strip may fish from 7:00 a.m. to 5:00 p.m. Monday November 23, 1998. Gillnets using 6 1/4-inch minimum mesh may fish from 7:00 a.m. to 5:00 p.m. Tuesday November 24, 1998.
- \* **AREA 8A** - Gillnets using 6 1/4-inch minimum mesh may fish from 7:00 a.m. to 5:00 p.m. daily, Monday November 23, 1998, Tuesday November 24, 1998, Wednesday November 25, 1998, Wednesday December 2, 1998 and Thursday December 3, 1998. Purse seines using the 5-inch strip may fish from 7:00 a.m. to 5:00 p.m. daily, Monday November 23, 1998, Tuesday November 24, 1998, Wednesday November 25, 1998, Monday November 30, 1998 and Tuesday December 1, 1998.
- \* **AREAS 10 AND 11** - Purse seines using the 5-inch strip may fish from 7:00 a.m. to 5:00 p.m. Monday November 23, 1998. Gillnets using 6 1/4-inch minimum mesh may fish from 4:00 p.m. Monday November 23, 1998 to 8:00 a.m. Tuesday November 24, 1998.
- \* **Areas 4B, 5, 6, 6A, 6B, 6C, 6D, 7, 7A, 7C, 7D, 7E, 8A, 9, 9A, 10A, 10C, 10D, 10E, 10F, 10G, 11A, 12, 12B, 12A, 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.
- \* Purse seines may not retain chinook salmon.

**REPEALER**

The following section of the Washington Administrative Code is repealed effective 12:01 a.m. Sunday November 22, 1998:

WAC 220-47-910 Puget Sound all-citizen commercial salmon fishery. (98-235)

**WSR 98-24-019  
EMERGENCY RULES  
DEPARTMENT OF  
FISH AND WILDLIFE**

[Order 98-237—Filed November 20, 1998, 4:41 p.m., effective November 23, 1998, 12:01 a.m.]

Date of Adoption: November 19, 1998.  
Purpose: Personal use fishing rules.

Citation of Existing Rules Affected by this Order: Repealing WAC 220-56-30500C; and amending WAC 220-56-305.

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

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notice and opportunity to comment upon adoption of a permanent rule would be contrary to the public interest.

Reasons for this Finding: This regulation is intended to keep the recreational harvest of sturgeon from John Day Reservoir and its tributaries within the established harvest guidelines. 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: November 23, 1998, 12:01 a.m.

November 19, 1998

Larry Peck

Acting Director

**NEW SECTION**

**WAC 220-56-30500C Sturgeon—Catch and release.** Notwithstanding the provisions of WAC 220-56-305, effective 12:01 a.m. November 23, 1998 through 11:59 p.m. December 31, 1998, it is unlawful to retain sturgeon from the Columbia River and its tributaries from John Day Dam to McNary Dam. Sturgeon that are hooked must be immediately released and returned to the water.

**REPEALER**

The following section of the Washington Administrative Code is repealed effective 11:59 p.m. December 31, 1998:

WAC 220-56-30500C Sturgeon—Areas and seasons.

**WSR 98-24-033**

**EMERGENCY RULES**

**WASHINGTON STATE PATROL**

[Filed November 23, 1998, 4:36 p.m.]

Date of Adoption: November 23, 1998.

Purpose: To amend WAC 204-24-050 Use of tire chains or other traction devices, to include SR14 between Gibbons Creek (MP18) and the junction to SR97 (MP102) to the list of chain-up areas.

Citation of Existing Rules Affected by this Order: Amending WAC 204-24-050.

Statutory Authority for Adoption: RCW 46.37.005.

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: In anticipation of similar inclement weather during the winter of 1998 as experienced during the winter of 1997, the Washington State Department of Transportation has requested the Washington State Patrol add SR14 between Gibbons Creek (MP18) and the junction to SR97 (MP102) to the list of chain-up areas. An emergency rule is necessary in order to ensure the public's safety during the winter of 1998. The Washington State Department of Transportation will install chain-up signs.

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 1, Repealed 0.

Effective Date of Rule: Immediately.

November 23, 1998

Annette M. Sandberg

Chief

**AMENDATORY SECTION** (Amending WSR 98-19-042, filed 9/11/98, effective 10/12/98)

**WAC 204-24-050 Use of tire chains or other traction devices.** (1) Vehicles under 10,000 pounds gross vehicle weight.

(a) When traffic control signs marked "approved traction tires required" are posted by the department of transportation it shall be unlawful for any vehicle to enter the controlled area without having mounted on its drive tires at least one of the traction devices meeting the requirements of WAC 204-24-040.

(b) When traffic control signs marked "chains required" are posted by the department of transportation it shall be unlawful for any vehicle to enter the controlled area without having mounted on its drive tires, tire chains meeting the standards in chapter 204-22 WAC.

(i) Exception for all wheel drive vehicles. When "chains required" signs are posted, all-wheel drive vehicles shall be exempt from the chain requirement when all wheels are in gear and are equipped with approved traction devices as specified in WAC 204-24-040 provided that tire chains for at least one set of drive tires are carried in the vehicle.

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(2) Vehicles or combinations of vehicles over 10,000 pounds gross vehicle weight.

When traffic control signs marked "approved traction tires required" or "chains required" are posted by the department of transportation it shall be unlawful for any vehicle or combination of vehicles to enter the controlled area without having mounted on its tires, tire chains as follows: *Provided*, That highway maintenance vehicles operated by the department of transportation for the purpose of snow removal and its ancillary functions are exempt from the following requirements if such vehicle has sanding capability in front of the drive tires.

(a) Vehicles or vehicle combinations with two to four axles including but not limited to trucks, truck-tractors, buses and school buses: For vehicles with a single drive axle, one tire on each side of the drive axle shall be chained. For vehicles with dual drive axles, one tire on each side of one of the drive axles shall be chained. For vehicle combinations including trailers or semi-trailers; one tire on the last axle of the last trailer or semi-trailer, shall be chained. If the trailer or semi-trailer has tandem rear axles, the chained tire may be on either of the last two axles.

(b) Automobile transporters are any vehicle combination designed and used specifically for the transport of assembled (capable of being driven) highway vehicles. For vehicles with single drive axles, one tire on each side of the drive axle shall be chained. For vehicles with dual drive axles, one tire on each side of each of the drive axles shall be chained. For vehicle combinations including trailers or semi-trailers, one tire on the last axle of the last trailer or semi-trailer shall be chained. If the trailer or semi-trailer has tandem rear axles, the chained tire may be on either of the last two axles.

(c) Vehicle combinations with five axles consisting of a truck tractor with dual drive axles and a tandem axled semi-trailer; all tires on one drive axle may be chained or one tire on each side of each of the drive axles may be chained. Chains must be applied to a minimum of four tires on the drive axles. On the tandem axle semi-trailer, the chained tire may be on either of the last two axles.

(d) Vehicle combinations with five axles, consisting of a truck and trailer, or truck tractor and semi-trailer with a single drive axle, or truck tractor, semi-trailer and full trailer: For vehicles with a single drive axle, all tires on the drive axle shall be chained. For vehicles with dual drive axles, all tires on one of the drive axles shall be chained. For vehicle combinations including trailers or semi-trailers, one tire on the last axle of the last trailer or semi-trailer shall be chained. If the trailer or semi-trailer has tandem rear axles, the chained tire may be on either of the last two axles.

(e) Vehicle combinations with six or more axles, including but not limited to truck and trailer or truck tractor and semi-trailer or truck tractor semi-trailer and full trailer: For vehicles with a single drive axle, all tires on the drive axle shall be chained. For vehicles with dual drive axles where traffic control signs marked "approved traction tires required" are posted, all tires on one of the drive axles shall be chained. For vehicles with dual drive axles where traffic control signs marked "chains required" are posted, all tires on one of the drive axles shall be chained. In addition, one tire on each side of the additional drive axle shall be chained. For

vehicle combinations including trailers or semi-trailers, one tire on the last axle shall be chained. For vehicles with tandem axle trailers or semi-trailers, the chained tire may be on either of the last two axles.

(f) All vehicles over 10,000 pounds gross vehicle weight shall carry a minimum of two extra chains for use in the event that road conditions require the use of more chains or in the event that chains in use are broken or otherwise made useless.

(g) Approved chains for vehicles over 10,000 pounds gross vehicle weight shall have at least two side chains to which are attached sufficient cross chains of hardened metal so that at least one cross chain is in contact with the road surface at all times. Plastic chains shall not be allowed. The state patrol may approve other devices as chains if the devices are equivalent to regular chains in performance.

(h) On the following routes all vehicles and combinations of vehicles over 10,000 pounds shall carry sufficient tire chains to meet the requirements of this chapter from November 1 to April 1 of each year or at other times when chains are required for such vehicles:

(i) I-90 - between North Bend (MP 32) and Ellensburg (MP 101).

(ii) SR-97 - between (MP 145) and Junction SR-2.

(iii) SR-2 - between Dryden (MP 108) and Index (MP 36).

(iv) SR-12 - between Packwood (MP 135) and Naches (MP 187).

(v) SR-97 - between the junction of SR-14 (MP 4) Columbia River and Toppenish (MP 59).

(vi) SR-410 - from Enumclaw to Naches.

(vii) SR-20 - between Tonasket (MP 262) and Kettle Falls (MP 342); and SR-20 between Newhalem (MP 120) and Winthrop (MP 192).

(viii) SR-155 - between Omak (MP 79) and Nespelem (MP 45).

(ix) SR-970 - between (MP 0) and (MP 10).

(x) SR-14 - between Gibbons Creek (MP 18) and Junction SR-97 (MP 102).

Vehicles making local deliveries as indicated on bills of lading and not crossing the mountain pass are exempt from this requirement if operating outside of a chain required area.

(3) The Washington state department of transportation or Washington state patrol may prohibit any vehicle from entering a chain/approved traction tire control area when it is determined that the vehicle will experience difficulty in safely traveling the area.

#### WSR 98-24-035

#### EMERGENCY RULES

#### DEPARTMENT OF ECOLOGY

[Order 98-24—Filed November 24, 1998, 3:00 p.m.]

Date of Adoption: November 20, 1998.

Purpose: To adopt by reference modifications to the forest practices rules to provide greater protection for federally listed threatened and endangered salmonids (including bull trout). This procedural rule classifies forest practices in mapped areas as Class IV-Special, requiring additional envi-

ronmental review. Includes revisions of Type 2 and 3 waters and defines requirements for the Forest Practices Board manual. Supercedes emergency rule filed under WSR 98-20-020 on September 25, 1998.

Citation of Existing Rules Affected by this Order: Existing chapter 173-202 WAC.

Statutory Authority for Adoption: RCW 90.48.420, 76.09.040 and chapter 34.05 RCW.

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: For stream typing, data shows many streams were mistyped and this emergency rule would correct those errors and provide protection commensurate with resource values and based on current information. Typing of streams affects protection measures. Salmonid (including bull trout) part will provide additional protection through environmental review of salmonid species listed as threatened or endangered by the National Marine Fisheries Service. This action will help manage forestry activities that might negatively impact listed fish.

#### **WATERTYPING:**

The Forest Practices Board (FPB) and the Department of Ecology (DOE) find good cause for an emergency to modify the water typing rules. This document organizes and summarizes information presented to and discussed by the board in public meetings. The reasons for findings are as follows:

New data has shown the physical characteristics of streams, as defined in the current forest practices rules, are no longer accurate. Accurate water typing is critical to public resource protection. This emergency rule updates those physical characteristics based on current knowledge so that appropriate resource protection can be provided to fish habitat and water quality.

This emergency rule establishes presumptions for determining fish use in the absence of field verification and is necessary during permanent rule making updating the water type rules and associated riparian protection. Because water typing triggers riparian protection through the forest practices rules, watershed analysis, and some local land use decisions, the definitions used to determine water types must reflect current knowledge about fish use and habitat. 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 (see WAC 222-16-030). In addition, the Clean Water Act section 303(d) listings, and actual and potential Endangered Species Act listings cause increased pressure on the forest practices regulation system that will result in increased cost and complexities for all participants. If the water typing system isn't upgraded immediately, it will contribute to potential listings and increase the associated burdens of such listings.

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 these studies indicated that 72% 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.

The intent of the Forest Practices Act is to meet water quality standards under the Clean Water Act. As indicated by the number of water bodies listed under section 303(d) of the Clean Water Act, water quality standards are not being met. The number of water bodies included on the Department of Ecology'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. The state has water quality antidegradation regulatory requirements. These requirements demand that the beneficial instream uses, such as salmonid habitat, be fully protected. Changes in water quality are not allowed that violate the standards set to fully protect these uses. Further, degradation of water quality, even where it does not cause a violation of the standards, is not allowed unless all known, available, and reasonable best management practices are being used to reduce the affect on water quality; and the activity has been found to be in the overriding public interest. Water quality standards cannot be met if inaccurate stream typing information is used in assessing the impacts of forest practices.

The public has a strong interest in protecting public resources, including water, and fish, especially those listed as endangered and threatened species. Immediate action is necessary to ensure that impacts from forest practices near water are carefully evaluated while the board and ecology are in the process of adopting permanent rules. Without an emergency rule, public resources, including the habitat of threatened and endangered species, could be significantly impacted by forest practices because of incorrect water typing.

The FPB and DOE maintain rule-making files for this emergency rule that have detailed background information supporting these findings. Please contact Judith Holter, DNR, at (360) 902-1412 or Doug Rushton, DOE, at (360) 407-6180 if you would like to inspect these files.

#### **SALMONIDS**

The Forest Practices Board and the Department of Ecology find good cause for an emergency for salmonids, including bull trout. This document organizes and summarizes information presented to and discussed by the board in public meetings. The reasons for this finding are as follows:

##### **1. SALMONID NEEDS.**

**Salmonid Biology - General:** The family *Salmonidae* includes many individual species of salmon, steelhead and trout. Salmonids have several life history phases which include spawning, rearing and migration. Fertilized salmonid eggs require sediment-free and cool water in order to incubate and hatch. Once the eggs hatch, the juvenile salmonids require rearing habitat which includes forage, clean cool water, and cover provided by rocks, banks and large woody debris. Finally, salmonids need to be able to have stream passage at all life history stages.

**Bull Trout Biology:** Bull trout (*Salvelinus confluentus*), a native char, are a cold water species that moved north and into higher elevations after the last glacial period. Bull trout exhibit both migratory and nonmigratory life history forms (Brown 1994). Resident populations generally spend their entire lives in small headwater streams, whereas migratory populations spawn and rear in headwater tributary streams for several years before migrating to either larger river systems (fluvial), lakes and reservoirs (adfluvial), or the ocean (anadromous) for adult rearing. Bull trout generally concentrate in reaches influenced by groundwater where temperature and flow conditions may be more stable (Baxter and Hauer, in prep; Baxter et al., to be published; MBTSG 1998).

**Bull Trout vs Dolly Varden:** Dolly Varden (*Salvelinus malma*) and bull trout (*Salvelinus confluentus*) were considered to be the same species until the late 1970's when Cavender (1978) provided evidence to suggest that there was a dichotomy. The American Fisheries Society accepted Cavender's work in 1980 and recognized the separation of the two species (Mongillo 1993). However, the two species are difficult to differentiate in the field; extensive and costly genetic work must be done in the laboratory. Furthermore, their life histories and habitat requirements are similar, if not identical (Mongillo 1993, Brown 1994). Therefore, from a management and recovery perspective, they are currently considered the same species. As pertains to an emergency rule, while coastal and Puget Sound populations can be either species or a combination of Dolly Varden and bull trout, all populations in eastern Washington and the Columbia River drainage are assumed to be bull trout.

#### How Bull Trout Habitat Requirements Differ from Other Salmonids:

- Temperature requirements for bull trout are colder than for other salmonids (especially for spawning and juvenile rearing); in some cases, so cold as to exclude other salmonids, which would otherwise compete for habitat and food. When living within the same habitat with other salmonids, colder temperatures can give bull trout the competitive advantage (MBTSG 1998).
- Bull trout will often stratify higher in the watershed than other salmonids (especially resident life forms and for spawning and rearing). (Adams 1994.)
- Because bull trout spawn higher in the headwaters, they can be more vulnerable to fish passage problems.
- Bull trout spend a longer time period in the gravels before emergence (220+ days) and thus are more vulnerable to sediment and scouring peak flows.

**Factors Limiting Habitat of all Salmonids:** In order to provide cool, clean water and habitat that includes pools, clean gravel and stable channels, the following habitat requirements are necessary in order to provide for healthy salmonids: Shade, stable stream banks, large woody debris, and fish passage.

**Shade and Stream Temperature.** Shade is needed to provide cool water temperatures. To achieve this, trees along the riparian zones of fish-bearing streams and along contributing nonfish-bearing streams must be retained to assure that the solar radiation does not heat the streams to a point that limits

the productivity, or in some severe cases, the mortality of salmonids. High temperatures can also block or delay fish migration.

The current state water quality standard for stream temperature is intended to fully protect salmonids. Shade must be retained, in order to keep water temperatures below 16° centigrade.

Other factors, such as sediment deposition and resultant stream widening, can increase temperature. Shade removal in nonfish-bearing streams can also contribute to downstream temperature increases in fish-bearing waters. Shade removal can also impact cold groundwater sources and microclimate.

**Stream Bank Stability and Forest Roads.** Fine sediment in spawning gravel reduces the survival of salmonid eggs. Sediment can also limit the ability for juvenile and adult salmonids to feed. Stream bank instability is a major contributor of sediment to streams. Stability of stream banks is necessary to this as a source of sediment (if banks are disturbed they can introduce sediment). Forest roads can also contribute sediment laden water to streams from ditches and water crossings. Roads can also change hydrologic regime of the stream causing higher peak flows which can cause more sedimentation.

**Large Woody Debris.** Rearing or juvenile salmonids need pools and cover for refuge and desired feeding conditions. Stream morphology that contains adequate pools requires large woody debris (LWD) on a continuous basis. The LWD provides structure in the streams for the formation of pools and cover. It also moderates the movement of sediment. Trees from the adjacent riparian stand are an important source of LWD.

**Fish Passage.** Adult fish need to move upstream to access spawning areas. Juvenile fish need to move upstream and downstream to find desirable feeding conditions or take refuge from undesirable environmental conditions. Forest road stream crossings often block fish passage.

**Summary.** The literature indicates that in order to protect bank stability, a thirty-foot buffer is recommended. In addition, to achieve 95% recruitment of the key piece wood, (wood that is large enough to start the forming of log jams indexed by stream size) approximately one hundred foot buffer is required. Additional buffers may be needed to account for areas that have high susceptibility to windthrow, provide additional large woody debris (LWD) recruitment, unstable slopes protection, protection of seeps, springs and stream associated wetlands. Other functions include microclimate (air temperature and humidity, etc.).

**Additional Factors Limiting Bull Trout Habitat:** The decline of bull trout throughout their range has been linked to habitat destruction and migration barriers, as well as other factors such as introduced exotic species (Dambacher and Jones 1997). Bull trout spawning, incubation, and juvenile rearing generally occur in second through fourth order streams which are most susceptible to effects resulting from harvest. Effects may be more obvious on smaller streams than on larger ones. Timber harvest can influence stream temperature, LWD recruitment, local runoff patterns, erosion, sedimentation, channel aggradation, and channel stability (MBTSG 1998).

**Shade and Stream Temperature.** Bull trout are glacial relics and require a narrow range of cold temperature conditions to rear and reproduce (Adams and Bjornn 1997, Buchanan and Gregory 1997, Brown 1994). Temperatures required to initiate spawning (late August through October) vary from 4-11°C, depending on the drainage (Buchanan and Gregory 1997, Fraley and Shepard 1989, McPhail and Murray 1979, Wydoski and Whitney 1979, Kraemer 1991). Egg incubation (late August through April) occurs at 1-6°C (Buchanan and Gregory 1997, Weaver and White 1985, McPhail and Murray 1979, Brown 1994). Optimal temperature ranges for juvenile rearing occur from 4-10°C (Buchanan and Gregory 1997, McPhail and Murray 1979). In the Flathead drainage in Montana, bull trout juveniles have been rarely observed in streams with summer temperatures exceeding 15°C (Fraley and Shepard 1989). Adults are known to tolerate somewhat higher temperatures (Kraemer 1991, Brown 1994); however, they are seldom found in streams with summer temperatures exceeding 18°C and are often found near cold perennial springs (Shepard et al. 1984b, Brown 1994). Higher densities of adult bull trout have been found to occur at temperatures less than 12°C (Adams 1994, Buchanan and Gregory 1997, Clancy 1996). Optimum temperatures for migration are 10-12°C (Buchanan and Gregory 1997, McPhail and Murray 1979).

Various factors contribute towards providing for cool water in streams (shade, groundwater contribution, elevation, etc.). Shade is the primary factor (impacted by land management) which is needed to reduce solar radiation to the stream, to protect groundwater sources and seeps and springs, and to provide for microclimate. Shade contributing trees within the riparian zone must be retained in both fish-bearing and contributing nonfish-bearing streams to maintain cool water temperatures. Sediment deposition and resultant stream widening can also cause an increase in stream temperature, as well as alteration of natural streamflow regimes and reduced groundwater inflows (MBTSG 1998).

The current state water quality standard for stream temperature is targeted to maintain water temperatures below 16 and 18°C depending on the Department of Ecology stream class. However, because bull trout and Dolly Varden have temperature requirements which are below those for other salmonids, the current water quality standard is not adequate. The United States Environmental Protection Agency has established temperature criteria for bull trout (now used as a state water quality standard in Idaho). The temperature standard to meet bull trout requirements is set at 10°C expressed as a consecutive seven-day average of the daily maximum temperatures for June, July, August and September. It is believed that if a summer temperature criterion of 10°C is met, natural seasonal variability in stream temperatures will result in attainment of appropriate thermal requirements during the remainder of the year in bull trout spawning and juvenile rearing areas (United States Environmental Protection Agency 1997).

**Sediment and Roads.** The long overwinter intragravel incubation and development for bull trout (average two hundred twenty days) leaves them vulnerable to increases in fine

sediments and degradation of water quality (Fraley and Shepard 1989). A significant negative correlation between fry emergence of bull trout and the percentage of redd materials smaller than 6.35 mm was found by Weaver and Fraley (1991). Analyses conducted within the Columbia River Basin support the conclusion that increasing road densities are correlated with declining aquatic habitat conditions and aquatic integrity. Results show that bull trout are less likely to use moderate to highly roaded areas for spawning and rearing, and if found in these areas, they are less likely to be at strong population levels (Lee et al. 1997; Baxter et al., to be published; MBTSG 1998).

Stream bank stability must be maintained to prevent increases in sediment inputs to the stream (from forest practices). Construction and maintenance of roads must be conducted in ways which minimize road density and cut off delivery of sediments to streams. Roads should also be constructed and maintained to prevent changes to the hydrologic regime resulting in higher peak flows and increased sedimentation. Ground disturbance should be minimized and mitigated. Best management practices for sediment and roads should apply to nonfish-bearing streams as well as fish-bearing streams.

**Large Woody Debris.** Large woody debris is important for the formation of deep pools and habitat complexity needed by bull trout. Adult bull trout prefer deep cold pools, often associated with the cover of large woody debris, for foraging and for holding during migration (Brown 1994, Fraley and Shepherd 1989, Shepard et al. 1984b, Goetz 1989). Juvenile rearing of bull trout is also often associated with pools with shelter-providing large organic debris or clean cobble (McPhail and Murray 1979). A strong preference exists for plunge and scour pools over all other habitat types in southeast Washington (Brown 1994). Large woody debris is also necessary to maintain the step pool formation in steeper headwater streams inhabited by bull trout, and for sediment storage.

**Fish Passage.** Due to loss of connectivity, many bull trout populations have become fragmented throughout their range, and remnant headwater populations are all that remain for some drainages. Fish passage barriers result in the loss of genetic exchange, loss in the ability to respond to changes in seasonal habitat requirements and conditions, loss in the ability to recolonize habitats after disturbance regimes, and often extinction of local populations (Rieman et al. 1993, MBTSG 1998). Barriers not only include manmade barriers at road crossings, but also low flows caused from aggregation of excessive coarse sediment, and elevated temperatures.

## **2. ENDANGERED SPECIES ACT LISTINGS AND THE FOREST PRACTICES ACT.**

The Endangered Species Act (ESA) was enacted to conserve threatened and endangered species and the ecosystems upon which they depend. Four ESA listings have occurred in the last year. In August of 1997, upper Columbia steelhead was listed as endangered and the Snake River steelhead was listed as threatened. In March of 1998, the lower Columbia steelhead was listed as threatened. Finally, in June 1998, the Columbia River bull trout was listed as threatened.

ESA listings lead to "take" being prohibited. "Take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap,

capture or collect or attempt to engage in any such conduct. "Harm" can include significant habitat modification or degradation. In addition, the listing itself is indicative of the need to provide protection of the habitat required by these species to assure recovery of the species and protection from harm.

A governmental agency can be responsible for a take if it authorizes the activity that exacts a taking. In a March 1998 decision, the United States Court of Appeals for the First Circuit ordered a Massachusetts agency to prevent the taking of the northern right whale, an endangered species. The court found whales could be harmed from entanglement in fishing gear from commercial fishing activities authorized by agency regulations. The court found the state licensed the commercial fishing in a manner likely to cause harm, even though its actions were only an indirect cause. Thus, the Forest Practices Board and the Department of Ecology could be vulnerable for take if permits continue to be approved without consideration of listed species protected from harm. Actions to enforce the ESA could be brought by the federal government or other third parties.

The ESA requires federal agencies to examine the impact of their actions on protected species. The Washington Forest Practices Board has been working with the United States Fish and Wildlife Service (USFWS) to have the existing state forest practice rules for the northern spotted owl recognized as part of a proposed federal rule providing protection of that species under the ESA. The USFWS has consulted with the National Marine Fisheries Service (NMFS) regarding how the anadromous (listed and proposed to be listed) fish may be impacted by the proposed federal rule. In a letter dated September 16, 1998, NMFS concluded that the existing state forest practice rules "do not leave adequate riparian buffers to provide the important ecosystem functions necessary to support the biological requirements of anadromous salmonids." NMFS indicated that "any further degradation of habitat conditions that reduces essential habitat functions may have a significant impact, which poses an unacceptable risk to the survival and recovery" of certain salmonid evolutionarily significant units (ESUs), including the upper Columbia steelhead addressed in the emergency rule.

Oregon had developed a plan to protect salmonids which was relied on by NMFS in its decision not to list certain species of salmonids as threatened. The Oregon plan was based largely on future actions and voluntary efforts. In June 1998, a federal court rejected this decision as inadequate to prevent endangerment to salmonids under the ESA. In Washington, the forest practice rules also rely on voluntary efforts. The watershed analysis process (chapter 222-22 WAC) is entirely voluntary. Voluntary efforts are not adequate to prevent endangerment to already listed salmonids. Emergency action is necessary because of the state's obligation to comply with the ESA. This emerging and unexpected development makes it clear that the existing rules are not adequate and the listed species are in jeopardy.

**3. CONTINUING TO APPROVE FOREST PRACTICES PERMITS IN LISTED AREAS.**

**Forest Practices Applications in Listed Areas:** The listed areas of the state contain nearly more than eleven million acres of nonfederal land, of which about 4.3 million

acres are state and private forest land covered by the current forest practice rules. The number of evolutionarily significant unit (ESU) acres are:

Listed Areas (ESUs)	Total Nonfederal Acres	State and Private Forest Land Acres
Steelhead only	2,874,463	1,398,034
Bull trout only	5,122,388	2,190,251
Steelhead/bull trout Overlapping Areas	3,108,211	750,994
Total	11,105,062	4,339,279

Most of the habitat that salmonids seek for spawning and rearing are in the forested areas of the state. This portion of the habitat continues to be critical to the survival and well-being of these species. (See also the map in WAC 222-16-088.)

When the ESA listings occurred, there were approximately 823 forest practices applications/notifications already approved in the steelhead listed areas, and 575 in bull trout listed areas. Since operations under these permits may have some impact on salmonid habitat, these applicants were sent letters notifying them of the listings. If they had questions, the letter said they should contact National Marine Fisheries Service directly for clarification whether their operations may cause a concern for listed steelhead.

Since the listings, one hundred forty-one applications/notifications have been approved within two hundred feet of listed steelhead waters, and one hundred twenty within two hundred feet of listed bull trout waters. These permits contain a note to applicants warning them that this state permit does not necessarily meet federal law under the ESA.

The Department of Natural Resources estimates that, additionally, about 1,700 to 1,800 applications in steelhead and bull trout ESUs will be approved between now and when a permanent rule might be adopted and become effective (estimated to be July 1, 2000). Since permits are effective for a two-year period, applications approved prior to a new permanent rule taking effect in 2000 would be valid until 2002. Thus, nearly four years from now, some salmonid habitat would still be at risk absent an emergency rule.

The Forest Practices Act (chapter 76.09 RCW) requires protection of public resources. In order to protect these listed salmonids, the habitat associated with spawning, rearing and migration needs to be protected.

**Why Current Forest Practices Rules are Inadequate for All Listed Salmonids:** Current and newly-approved forest practice operations conducted under the existing rules could cause additional harm to ESA-listed salmonids because continued harvests in riparian areas would decrease shade, bank stability, and large woody debris, and continued road construction in these areas would also impact salmonid habitat. Specific impacts are categorized as follows:

**Shade and Stream Temperature.** Under the current forest practices rules, shade is required to meet current temperature criteria at sixteen or eighteen degrees centigrade. At the present time, it is likely that shade is not fully provided on Type 3 streams because landowners only have to seek shade

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as far as the maximum width riparian management zone (RMZ). The maximum width RMZs for Type 3 streams are currently fifty feet on streams greater than five feet wide and twenty-five feet on streams that are less than five feet wide.

An additional factor where current rules are inadequate for meeting temperature requirements involves removal of shade in nonfish-bearing waters which contribute to the temperature of fish-bearing waters downstream. This removal of shade elevates the water temperature which then cumulatively elevates temperatures downstream.

**Stream Bank Stability and Forest Roads.** Under the current rules, bank stability may be protected. On the westside of the state, the protection only extends to twenty-five feet. On the eastside, the recommended protection is thirty feet. However, if shade is provided (meeting current shade rule) and leave tree requirements are met, additional tree removal that would provide bank stability is also possible.

Roads are covered by the current rules; however, existing information would lead us to believe that standards need to be upgraded and that roads are out of compliance with existing rules as much as half the time as documented in the 1991 *Compliance Report* prepared by Timber, Fish and Wildlife's Field Implementation Committee. Preliminary findings from an on-going internal audit by the Department of Natural Resources also show that construction of roads in certain areas of the state indicate that the minimum standards are not adequate to protect public resources. Furthermore, greater efforts should be made to reduce road densities or minimize further increases in road densities, depending on the basin.

**Large Woody Debris.** Under the current rules, LWD is only provided at a minimal level. The number of leave trees required to be retained in the RMZ is not based on the ability to improve both near and long-term continuous LWD recruitment. Input of LWD to stream channels generally occurs within one tree height from the channel edge (FEMAT 1993, McDade et al. 1990). Removal of trees from within this area results in a reduction of LWD recruitment to the stream channel. Furthermore, under current rules, harvest of the larger conifers within the RMZ is allowed, which if retained, would contribute towards the key piece functional sizes of LWD needed in the stream.

**Summary.** Given the above information, current forest practice rules are deficient, particularly in providing LWD, adequate shade, bank stability, and excessive contributions of sediment from roads and ground disturbance.

**Additional Reasons Why Current Rules are Inadequate for Listed Bull Trout:** All of the above information applies to bull trout, plus the following:

**Shade and Stream Temperature.** Current forest practice rules require retention of shade to meet water quality standards of 16 or 18°C, depending on the Department of Ecology stream class. Bull trout have temperature requirements which are cooler than the current water quality standards. Removal of available shade can result in stream temperatures exceeding the preference and tolerance levels of bull trout. Currently, it is likely that shade is not fully provided on Type 3 streams because landowners only have to seek shade as far as the maximum width RMZ (fifty feet on streams wider than five feet, and twenty-five feet on streams less than five feet).

Furthermore, no shade is required on nonfish-bearing streams which can result in elevated stream temperatures in downstream fish-bearing waters. Protection of groundwater sources and seeps and springs in nonfish-bearing waters is also not included in current forest practice rules.

Though it is agreed upon that spawning and juvenile rearing life stages have the cooler temperature requirement, management should not focus merely on headwater streams and compromise shade and resulting cool water temperatures in lower elevation reaches, which adult bull trout use for foraging and migration. Though adult bull trout can tolerate somewhat higher temperatures, the natural increase in stream temperatures as elevation lowers makes it more difficult to maintain temperature requirements.

#### **4. PROTECTING PUBLIC RESOURCES AND CLASS IV-SPECIAL CLASSIFICATION.**

The public has a strong interest in protecting public resources, including water, fish, and wildlife, especially those listed as endangered and threatened species. Immediate action is necessary to ensure that impacts from forest practices in the salmonid listed areas are carefully evaluated while the board and ecology are in the process of adopting permanent rules. Without an emergency rule, habitat of these threatened and endangered species could be significantly impacted by forest practices.

The Forest Practices Act requires that forest practices which have the potential for a substantial impact on the environment be classified as Class IV so that they receive additional environmental review under the State Environmental Policy Act (chapter 43.21C RCW). SEPA recognizes the critical importance of restoring and maintaining environmental quality to the public welfare and the importance of full disclosure of adverse environmental impacts caused by agency actions. The Forest Practices Board is obligated under the law to identify those forest practices that have potential for substantial impact on the environment and classify them as Class IV-Special so that additional SEPA review is conducted. If there is the potential for damage to the habitat of a state or federal listed species, then there is potential for substantial impact on the environment. An emergency rule would not necessarily prohibit harvest; it would require additional review to evaluate environmental impacts. This process includes public notice and a public comment period.

As described above, certain forest practices in the salmonid listed areas have the potential for impact on listed salmonids. This impact is substantial because of the number of forest practices in the listed areas and because the current rules are inadequate. Absent permanent rules that adequately prevent these impacts, RCW 76.09.050 and SEPA require the emergency rule change in classification.

#### **5. STATE WATER QUALITY REQUIREMENTS.**

The intent of the Forest Practices Act is to meet water quality standards under the Water Pollution Control Act. As indicated by the 2,600 miles of Washington's streams and rivers listed as impaired under section 303(d) of the Clean Water Act, water quality standards are often not being met. Temperature increases attributed to forestry activities cause 303(d) listings. In 1996, streams with elevated temperatures comprised the largest group on the entire 303(d) list. Temperature limits in the water quality standards are intended to

fully protect instream beneficial uses by preventing any decrease in salmonid health or reproductive success. This goal is consistent with the state water quality antidegradation regulatory requirements. These requirements demand that the beneficial instream uses, such as salmonid habitat, be fully protected. Changes in water quality are not allowed that violate the standards set to fully protect these uses. Further, degradation of water quality, even where it does not cause a violation of the standards, is not allowed unless all known, available, and reasonable best management practices are being used to reduce the affect on water quality; and the activity has been found to be in the overriding public interest.

#### 6. RULE-MAKING FILES.

The Forest Practices Board and the Department of Ecology maintain rule-making files for this emergency rule that have detailed background information supporting these findings. Please contact Judith Holter, DNR, at (360) 902-1412 or Doug Rushton, DOE, at (360) 407-6180 if you would like to inspect these files.

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: Immediately.

November 20, 1998

Tom Fitzsimmons  
Director

AMENDATORY SECTION (Amending Order 97-46, filed 3/30/98, effective 4/30/98)

**WAC 173-202-020 Certain WAC sections adopted by reference.** The following sections of the Washington Administrative Code existing on (~~March 13~~) **November 18, 1998**, 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 222-10-020—\*SEPA policies for certain forest practices within 200 feet of a Type 1 Water.

WAC 222-10-040—\*Class IV-Special threatened and endangered species SEPA policies.

WAC 222-10-043—\*Salmonids.

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.

WAC 222-16-050 (1)(a), (1)(e), (1)(h), (1)(i), (1)(j), (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), (5)(o)—Classes of forest practices.

WAC 222-16-070—Pesticide uses with the potential for a substantial impact on the environment.

WAC 222-16-080—Critical wildlife habitats (state) and critical habitat (federal) of threatened and endangered species.

WAC 222-16-088—\*Salmonid listed areas.

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.

**WSR 98-24-039**  
**EMERGENCY RULES**  
**DEPARTMENT OF**  
**FISH AND WILDLIFE**

[Order 98-239—Filed November 24, 1998, 3:26 p.m., effective November 27, 1998, 8:00 a.m.]

Date of Adoption: November 23, 1998.

Purpose: Commercial fishing regulations.

Citation of Existing Rules Affected by this Order:  
 Repealing WAC 220-52-04000I; and amending WAC 220-52-040 and 220-52-046.

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: These rules are necessary to provide an equitable non-Indian harvest opportunity in Marine Fish-Shellfish Management and Catch Reporting Areas 60A-1 and 60B for the 1998-99 coastal Dungeness crab season. 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 2, 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: November 27, 1998, 8:00 a.m.

November 23, 1998

Larry W. Peck

Acting Director

NEW SECTION

**WAC 220-52-04000I Commercial crab fishery—Early hold inspection.** Notwithstanding the provisions of WAC 220-52-040, effective 12:01 a.m. November 28, 1998, through 11:59 p.m. November 30, 1998, it is lawful for a wholesale dealer to purchase crab taken from Grays Harbor by a fisher whose designated vessel does not have a Washington crab vessel hold inspection certificate.

NEW SECTION

**WAC 220-52-04600H Crab fishery—Seasons and areas.** Notwithstanding the provisions of WAC 220-52-046:

(1) Effective 8:00 a.m. November 27, 1998, it is lawful to set baited crab gear in Grays Harbor, and effective 12:01 a.m. November 28, 1998, it is lawful to harvest and land crab taken from Grays Harbor.

(2) Effective immediately until further notice the SMAs described in WAC 220-52-046 (6)(a) are open concurrent with the non-treaty coastal crab fishery.

**WSR 98-24-040**  
**EMERGENCY RULES**  
**DEPARTMENT OF**  
**FISH AND WILDLIFE**

[Order 98-244—Filed November 24, 1998, 3:29 p.m., effective November 26, 1998, 12:01 a.m.]

Date of Adoption: November 24, 1998.

Purpose: Personal use rules.

Citation of Existing Rules Affected by this Order:  
 Repealing WAC 220-57-17500L; and amending WAC 220-57-175.

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: High numbers of nonmarked coho are available for harvest, and the escapement goal at the Cowlitz Hatchery will be achieved. 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 Mak-



ing: New 0, Amended 0, Repealed 0; or Other Alternative Rule Making: New 0, Amended 0, Repealed 0.

Effective Date of Rule: November 26, 1998, 12:01 a.m.  
November 24, 1998  
Larry W. Peck  
Acting Director

**NEW SECTION**

**WAC 220-57-17500M Cowlitz River.** Notwithstanding the provisions of WAC 220-57-175, effective 12:01 a.m. November 26, 1998 until further notice, in those waters of the Cowlitz River from the boundary markers at the Barrier Dam downstream to the mouth, special daily limit of six coho salmon, except no more than two may be adults. Minimum size is 12 inches in length.

**REPEALER**

The following section of the Washington Administrative Code is repealed effective 12:01 a.m. November 26, 1998.

WAC 220-57-17500L Cowlitz River. (98-230)

**WSR 98-24-041  
EMERGENCY RULES  
DEPARTMENT OF  
FISH AND WILDLIFE**

[Order 98-243—Filed November 24, 1998, 3:32 p.m., effective December 1, 1998, 12:01 a.m.]

Date of Adoption: November 24, 1998.

Purpose: Commercial and recreational fishing regulations.

Citation of Existing Rules Affected by this Order: Amending WAC 220-33-040 and 220-56-270.

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: Smelt returns are projected to be poor in 1999 for the seventh consecutive year. Staff will be proposing test fishing only initially. 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 2, 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: December 1, 1998, 12:01 a.m.  
November 24, 1998  
Larry W. Peck  
Acting Director

**NEW SECTION**

**WAC 220-33-04000G Smelt seasons—Columbia River tributaries.** Notwithstanding the provisions of WAC 220-33-040, effective 12:01 a.m. December 1, 1998, until further notice, it is unlawful to take, fish for or possess smelt taken for commercial purposes in all tributaries to the Columbia River.

**NEW SECTION**

**WAC 220-56-27000C Smelt—Areas and seasons.** Notwithstanding the provisions of WAC 220-56-270, effective 12:01 a.m. December 1, 1998, until further notice, it is unlawful to take, fish for or possess smelt in all tributaries to the Columbia River.

**WSR 98-24-049**

**EMERGENCY RULES**

**TRANSPORTATION IMPROVEMENT BOARD**

[Filed November 25, 1998, 11:28 a.m.]

Date of Adoption: November 25, 1998.

Purpose: To amend and adopt emergency rules for administering the federal Transportation Equity Act for the 21st Century (TEA-21) surface transportation program statewide and enhancement program as directed by the state TEA-21 Steering Committee.

Citation of Existing Rules Affected by this Order: Amending WAC 479-510-410 and 479-510-420.

Statutory Authority for Adoption: Chapters 47.26 and 47.66 RCW.

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 federal FY 99 began October 1, 1998, and it is necessary to begin the project applications and selection process immediately to meet a March 23, 1999, deadline for a list of prioritized projects.

Number of Sections Adopted in Order to Comply with Federal Statute: New 2, Amended 2, Repealed 0; Federal Rules or Standards: New 0, Amended 0, Repealed 0; or Recently Enacted State Statutes: New 0, Amended 0, Repealed 0.

EMERGENCY

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.

November 25, 1998

Jerry M. Fay

Executive Director

AMENDATORY SECTION (Amending WSR 95-22-056, filed 10/30/95, effective 11/30/95)

~~WAC 479-510-410 Intermodal Surface Transportation Efficiency Act~~ Transportation Equity Act for the 21st Century or its successor acts, surface transportation program, statewide competitive program account—Eligibility. (1) Eligibility to apply shall be limited to public agencies.

(2) Programs and projects eligible for funding shall be limited to the following purposes:

- (a) Planning;
- (b) Preliminary engineering;
- (c) Right of way acquisition;
- (d) Construction; and
- (e) Capital equipment acquisition.

(3) Projects eligible for funding under the account shall be limited to applications that directly benefit Washington state.

(4) All projects must be regionally significant.

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.

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 95-22-056, filed 10/30/95, effective 11/30/95)

~~WAC 479-510-420 (Intermodal Surface Transportation Efficiency Act)~~ Transportation Equity Act for the 21st Century or its successor acts, surface transportation program, statewide competitive program account—Criteria. (1) Projects selected for funding from the statewide competitive program account shall be consistent with the following criteria without regard to geographic distribution:

- (a) Local, regional, and state transportation plans;
- (b) Local transit development plans; and
- (c) Local comprehensive land use plans.

(2) The following criteria shall be considered:

(a) Objectives of the Growth Management Act, the High Capacity Transportation Act, the Commute Trip Reduction

Act, transportation demand management programs, federal and state air quality requirements, and federal Americans with Disabilities Act and related state accessibility requirements; and

(b) Energy efficiency issues, freight and goods movement, ~~(as related to)~~ economic development, ~~(regional significance,)~~ rural isolation, fish passage, flood mitigation, the leveraging of other funds including funds administered by the transportation improvement board, and safety and security issues.

(3) In addition to the criteria identified in subsections (1) and (2) of this section, the transportation improvement board may choose to identify additional criteria for program and project selection for the state-wide competitive program. Such criteria shall be subject to public meetings as required by federal law, and shall be identified in the application guidelines.

(4) The transportation improvement board shall prepare application forms and guidelines to assist eligible applicants and ensure their distribution to all eligible applicants no later than thirty days prior to the date on which the applications must be submitted.

(5) The Transportation Improvement Board shall select projects for the statewide competitive program and forward the recommended list to the legislature, governor's Office, and Washington state department of transportation on March 26, 1999 and February 1st for each year thereafter.

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.

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.

NEW SECTION

WAC 479-510-450 Transportation Equity Act for the 21st Century or its successor acts, enhancement program account—Eligibility. (1) Eligibility to apply shall be limited to public agencies.

(2) Programs and projects eligible for funding shall be limited to the following purposes:

- (a) Provision of bicycle and pedestrian facilities;
- (b) Acquisition of scenic easement;
- (c) Scenic or historic highway programs (including tourist and welcome center facilities);
- (d) Landscaping and other scenic beautification;
- (e) Historic preservation;
- (f) Rehabilitation and operation of historic transportation buildings, structures or facilities;
- (g) Preservation of abandoned railway corridors;
- (h) Control and removal of outdoor advertising;
- (i) Archaeological planning and research;
- (j) Mitigation of water pollution due to highway runoff or reduce vehicle-caused wildlife mortality while maintaining habitat connectivity;

(l) Establishment of transportation museums.

(3) Projects eligible for funding under the account shall be limited to applications that directly benefit Washington State.

EMERGENCY

**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 479-510-460 Transportation Equity Act for the 21st Century or its successor acts, enhancement program account—Criteria.** (1) Projects selected for funding from the enhancement program account shall be consistent with the following criteria:

- (a) Local, regional, and state transportation plans;
- (b) Local comprehensive land use plans.

(2) The following procedures shall be considered:

(a) Project applications shall be reviewed and regionally prioritized by the regional transportation planning organizations or metropolitan planning organizations and shall be forwarded to the transportation improvement board for selection.

(b) The Washington state department of transportation shall prepare application forms and guidelines to assist eligible applicants and ensure their distribution to all eligible applicants no later than thirty days prior to the date on which the applications must be submitted.

(c) The transportation improvement board shall establish priorities to fund regionally significant projects by allocating 25% of the funds to projects on a statewide basis and the remaining funds based on population distribution to the regional transportation planning organizations or metropolitan planning organizations.

(d) The transportation improvement board shall select projects for the enhancement program and forward the recommended list to the legislature, governor's office and Washington state department of transportation on March 26, 1999 and February 1st for each year thereafter.

## **WSR 98-24-061**

### **EMERGENCY RULES**

## **DEPARTMENT OF TRANSPORTATION**

[Filed November 30, 1998, 2:06 p.m.]

Date of Adoption: November 23, 1998.

**Purpose:** Describes the operating and equipment requirements for escort vehicles in the performance of escorting overdimensional loads on public highways. This rule-making order changes the compliance date for certification from January 1, 1999, to July 1, 1999, due to the necessary time needed to develop and provide training and exams for certification.

**Citation of Existing Rules Affected by this Order:** Amending WAC 468-38-110.

**Statutory Authority for Adoption:** RCW 46.44.090.

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:** It was initially believed that a simple modification to the existing flagging class would be sufficient for escort vehicle operators. A working group, including industry representatives, determined that a separate and unique class is necessary to properly address escorting oversized loads. As a consequence the compliance date, and hence the enforcement date, of January 1, 1999, is not realistic, and is changed to July 1, 1999, per recommendation of the working group.

**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 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.

November 23, 1998

Gerald E. Smith

Deputy Secretary, Operations

**AMENDATORY SECTION** (Amending Order 179, filed 7/31/98, effective 8/31/98)

**WAC 468-38-110 Escort vehicle requirements.** (1) When the escort vehicle is in front of the permitted vehicle, the operator shall:

(a) Warn oncoming traffic of the presence of the permitted vehicle by use of signs and lights as provided in subsections (4) and (8) of this section.

(b) Notify the driver of the permitted vehicle, and driver(s) of any trailing escorts, by two-way radio, of all hazards; overhead clearances; obstructions; traffic congestion; pedestrians; and any other circumstances evident to the operator that could affect either the safe movement of the permitted vehicle, the safety of the traveling public, or the efficient movement of traffic in sufficient time for the driver of the permitted vehicle to take corrective action, as necessary.

(c) To the extent necessary, locate safe places (if available) adjacent to the highway and notify the driver of the permitted vehicle, and driver(s) of trailing escorts, in ample time for the permitted vehicle and the escort vehicle(s) to clear the highway, allowing the traffic following to safely pass, or for any other reasons necessary to provide for the safety of the traveling public.

(d) Be far enough in front of the permitted vehicle to signal oncoming motorists to stop in a timely manner, or as specified by local jurisdiction, before such motorists enter any narrow structures or other restrictions on the highway, to permit the safe passage of the permitted vehicle.

(2) When the escort vehicle is behind the permitted vehicle, the operator shall:

(a) Warn traffic approaching from the rear of the presence of the permitted vehicle ahead, by use of signs and lights as provided in subsections (4) and (8) of this section.

(b) Notify the driver of the permitted vehicle, and driver of any lead escort, by two-way radio of flat tires or other problems with the permitted vehicle; objects coming loose from the permitted vehicle; other traffic approaching or passing the permitted vehicle; and any other circumstances evident to the operator that could affect either the safe movement of the permitted vehicle, the safety of the traveling public, or the efficient movement of traffic, in sufficient time for the driver of the permitted vehicle to take corrective action.

(c) Notify the front escort driver and the driver of the permitted vehicle by two-way radio of traffic build-up and other delays to the normal flow and efficient movement of traffic caused by the movement of the permitted vehicle.

(d) Notify the driver of the permitted vehicle, and driver of any lead escort, by two-way radio of other vehicles attempting to pass the permitted vehicle or load.

(e) Be far enough behind the permitted vehicle to signal motorists following the permitted vehicle to slow or stop in a timely manner, or as specified by local jurisdiction, before narrow structures or other restrictions in the highway, to permit the safe passage of the permitted vehicle.

(3) The escort vehicle operator shall ensure that the escort vehicle is in safe and reliable operating condition.

(4) An escort vehicle shall, in addition to any other equipment required by traffic law, be equipped with a minimum of two flashing or rotating amber lights, positioned above the roof line, visible from a minimum of five hundred feet to traffic approaching from the front or rear of the escort. The light apparatus must not obstruct, or be obstructed by, the required OVERSIZE LOAD sign.

(5) The escort vehicle shall:

(a) Be either a single unit passenger car or a two-axle truck;

(b) Not exceed a maximum gross vehicle weight rating of fourteen thousand pounds;

(c) Be at least sixty inches wide; and

(d) Not exceed the legal limits of size and weight, as defined in chapter 46.44 RCW.

(6) The escort vehicle shall not carry any passengers, human or animal (excluding individuals in training status or necessary flag persons), or equipment or load in or on the escort vehicle which:

(a) Exceeds the height, length, or width of the escort vehicle, or overhangs the escort vehicle, or otherwise impairs its immediate recognition as a safety escort vehicle by the motoring public; or

(b) Obstructs the view of the flashing or rotating yellow lights, or the signs used by the escort vehicle; or

(c) Causes safety risks; or

(d) Otherwise impairs the performance by the operator or the escort vehicle of the duties required by these rules.

(7) The escort vehicle operator shall properly load and secure any item(s) or equipment or load carried by the escort vehicle to ensure compliance with the requirements of this section.

(8) An escort vehicle shall display "oversize load" signs, in clear readable condition, which shall be mounted above the roofline of the escort vehicle and be visible to approaching traffic from the front and the rear. All such signs shall be a minimum of five feet wide, ten inches high with one-inch wide brush stroke, black letters a minimum of eight inches high on yellow background, or shall be a maximum of seven feet wide, eighteen inches high, with a 1.41 inch brush stroke, black letters a minimum of ten inches high on yellow background.

(9) The escort vehicle(s) shall have its headlights activated at all times when escorting a permitted vehicle.

(10) The escort vehicle shall be equipped with a two-way radio capable of providing reliable two-way voice communication between the driver of the permitted vehicle and the driver(s) of the escort vehicle(s) when the permitted vehicle is in motion on a public highway.

(11) An escort vehicle shall carry the following items of equipment at all times when escorting a permitted vehicle:

(a) Standard eighteen inch STOP & SLOW paddle sign.

(b) Three bi-directional emergency reflective triangles.

(c) A minimum of one 5 pound B, C, fire extinguisher, or equivalent.

(d) A reflectorized high visibility orange or other color vest, shirt or jacket, as permitted by the *Manual on Uniform Traffic Control Devices*, and a yellow or other highly visible colored hard hat to be worn by the operator while directing traffic, in accordance with WAC 296-155-305, Signaling.

(e) A height measuring device which is nonconductive and nondestructive to overhead clearances, when required by the terms of the permit or regulations.

(f) First-aid supplies must be readily available as described in WAC 296-24-06145.

(g) A flashlight in working order with red nose cone.

(12) An escort vehicle is prohibited from escorting more than one permitted vehicle at the same time, unless expressly authorized by the department.

(13) A front escort vehicle shall use a height pole at all times when escorting a permitted vehicle exceeding fifteen feet in height, unless otherwise expressly authorized/directed by the department on the permit. The height pole shall not extend less than three inches nor more than six inches above the maximum height of the permitted vehicle being escorted. When the escort vehicle is not escorting a permitted vehicle, but is moving on the highway, the height pole shall be removed, tied down, or shortened to within legal limits, unless involved in the act of prerunning a route to determine height acceptance.

(14) When an escort vehicle is not escorting a permitted vehicle, or prerunning a route, but is moving on a public highway, the signs, described in subsection (8) of this section, shall either be removed, lowered to a position not readily visible, or covered, and the flashing yellow lights, described in subsection (4) of this section, shall not be operated.

(15) In the performance of the duties required by these rules, the operator of the escort vehicle may be required to advise the permitted vehicle to stop, allowing other traffic to proceed safely. The operator of the escort vehicle shall signal the permitted vehicle to stop, and the permitted vehicle shall

stop, as far off the roadway as practicable to allow other traffic to pass in the following situations:

(a) When the permitted vehicle becomes disabled; or

(b) When the movement of the permitted vehicle on a particular section of public highway presents a safety risk or unreasonably interferes with the efficient movement of other traffic, based upon such factors as the widths of the permitted vehicle and the roadway, volume of other traffic, visibility and limited sight distance, and mountainous terrain; or

(c) When driving conditions for the permitted vehicle are hazardous for any other reason, including weather.

(16) In the performance of the duties required by these rules, the escort vehicle operator may be required to direct other traffic to stop, slow or proceed in order to allow the permitted vehicle to continue moving safely, or to help the other traffic to navigate around a stopped permitted vehicle. When directing traffic in these situations, the operator of the escort vehicle shall, effective ~~((January))~~ July 1, 1999:

(a) Be certified, having a valid WSDOT certificate/card on person, as an escort vehicle operator;

(b) Comply with procedures described in Section 6 of the MUTCD, as may be amended by the department of transportation, and such other criteria as may be developed under WAC 296-155-305, Signaling.

(17) The operator of the permitted vehicle and the operator(s) of the escort vehicle(s) shall comply with the following procedures:

(a) Before trip:

(i) Discuss aspects of the move, including the permitted vehicle, the route, and specific responsibilities.

(ii) Review permit special conditions.

(iii) Review the permitted route.

(iv) Determine the proper position of the escort vehicle(s).

(v) Establish any necessary procedures.

(vi) Check mandatory equipment, each operator being responsible for their own vehicle.

(vii) Mount signs, adjust mirrors, turn on lights.

(viii) Check each two-way radio to ensure clear communication on a selected channel.

(ix) Assure special motor vehicle permit(s) is in the possession of the appropriate operator(s).

(x) Determine if additional flagpersons will be necessary and, if so, have them available.

(b) During the trip:

(i) Obey all traffic laws.

(ii) Do not follow or precede more closely than is reasonably prudent, considering the speed of the permitted vehicle, other traffic, and highway conditions.

(iii) Do not exceed 1/2 mile distance between permitted vehicle and the escort vehicle to maintain radio contact, except when necessary to safely travel a long narrow section of highway.

(c) Traffic lights:

(i) If the front escort vehicle goes through a traffic light but the permitted vehicle does not, the escort vehicle must pull over to the right side of the highway, where practicable, to wait for the permitted vehicle.

(ii) If the permitted vehicle goes through the traffic light but the escort vehicle does not, then the permitted vehicle

must pull over to the right side of the highway, where practicable, to wait for the rear escort vehicle.

(18) When uniformed off-duty law enforcement officers act as escorts, using official police cars or motorcycles, the requirements of this section may be amended as necessary.



**WSR 98-24-008**

**NOTICE OF PUBLIC MEETINGS  
DEPARTMENT OF ECOLOGY**

(Natural Resource Damage Assessment Committee)  
[Memorandum—November 19, 1998]

**Natural Resource Damage Assessment Committee  
January - June 1999 Meeting Schedule**

The Washington State Natural Resource Damage Assessment (NRDA) Committee, which is chaired by the Department of Ecology, includes representatives of the State Departments of Fish and Wildlife, Natural Resources, Health, the Parks and Recreation Commission, and the Office of Archaeology and Historic Preservation. The committee makes decisions regarding the most appropriate damage assessment to pursue for oil spills in state waters, and evaluates restoration projects proposed by responsible parties in lieu of monetary claims.

All meetings are held at the Department of Ecology headquarters building at 300 Desmond Drive in Lacey, Washington, and start at 9:00 a.m. The first meeting in 1999 will be held in Room ROA-32 on Tuesday January 12. The remaining five meetings will be held in Room ROA-36 on the second Wednesday of each month (February 10, March 10, April 14, May 12, and June 9). Contact Dale Davis at (360) 407-6972 for more information.

**WSR 98-24-009**

**NOTICE OF PUBLIC MEETINGS  
OFFICE OF THE GOVERNOR**

(Clemency and Pardons Board)  
[Memorandum—November 19, 1998]

The Washington State Clemency and Pardons Board hereby files with the code reviser the following change to its meeting schedule: The December 11, 1998, Clemency and Pardons Board meeting has been canceled.

**WSR 98-24-013**

**NOTICE OF PUBLIC MEETINGS  
WASHINGTON STATE LIBRARY**

(Library Commission)  
[Memorandum—November 18, 1998]

The Washington State Library Commission has scheduled their Quarterly Business Commission meeting as noted below:

- DATE: Thursday, December 3, 1998
- TIME: 8:30 a.m.
- SUBJECT: Washington State Library Commission  
Quarterly Business Meeting
- LOCATION: Seattle Public Library  
Room 561, Fifth Floor  
1000 4th Avenue  
Seattle, WA 98104

For additional information, please do not hesitate to contact Cathy M. Stussy at (360) 753-2914, fax (360) 586-7575 or internet cstussy@statelib.wa.gov.

**WSR 98-24-014**

**NOTICE OF PUBLIC MEETINGS  
COMMISSION ON  
JUDICIAL CONDUCT**

[Memorandum—November 19, 1998]

**1999 Meeting Schedule**

The Commission on Judicial Conduct will hold their 1999 business meetings at 11:00 a.m. (with the exception of the August 6, 1999 meeting - see below) at the Sea-Tac Holiday Inn, 17338 Pacific Highway South, SeaTac, WA 98188, on the following dates:

- February 5, 1999
- April 2, 1999
- June 4, 1999
- August 6, 1998 [1999] Heathman Lodge  
7801 N.E. Greenwood Drive  
Vancouver, WA 98662
- October 1, 1999
- December 3, 1999

**WSR 98-24-015**

**RULES COORDINATOR  
DEPARTMENT OF  
GENERAL ADMINISTRATION**

[Filed November 20, 1998, 2:08 p.m.]

I am the agency's new rules coordinator for the Department of General Administration. If you have any questions please call me at 902-7208.

Cindy Runger  
Legislative Program Manager  
Rules Coordinator

**WSR 98-24-020**

**NOTICE OF PUBLIC MEETINGS  
FACILITY SITE  
EVALUATION COUNCIL**

[Memorandum—November 20, 1998]

Please publish the 1999 meeting schedule for the Washington State Energy Facility Site Evaluation Council (council or EFSEC) in the state register.

**EFSEC 1999 Meeting Schedule**

Date	Day	Location
January 11	Monday	WSU Building Conference Room 308
February 8	Monday	WSU Building Conference Room 308
March 8	Monday	WSU Building Conference Room 308
April 12	Monday	RoweSix Conference Center
May 10	Monday	RoweSix Conference Center
June 14	Monday	RoweSix Conference Center
July 12	Monday	RoweSix Conference Center
August 9	Monday	RoweSix Conference Center
September 13	Monday	RoweSix Conference Center
October 11	Monday	RoweSix Conference Center
November 8	Monday	RoweSix Conference Center
December 13	Monday	WSU Building Conference Room 308

**Meeting Location Addresses**

Attorney General's Conference Center  
 RoweSix - Building 1  
 4224 6th Avenue S.E.  
 Lacey, WA  
 WSU Building  
 Conference Room 308  
 925 Plum Street, Building 4  
 Olympia, WA

The council meets on the 2nd Monday of each month. The meetings begin at 1:30 p.m., at the locations listed for each month.

The council's executive committee meets on the 1st and 3rd Monday of each month. When the 1st or 3rd Monday is a holiday the meeting will be held on the following Tuesday. The meetings begin at 1:30 p.m. The meetings are located at the WSU Building in Conference Room 308.

If you plan to attend the meeting, and you require special assistance or auxiliary aids, please contact Joleen Karl, EFSEC Staff, at (360) 956-2121 as soon as possible. For TDD, call (360) 956-2218.

**WASHINGTON STATE ENERGY FACILITY SITE EVALUATION COUNCIL (EFSEC)**

1999 MEETING SCHEDULE			
January	February	March	April
4 Executive	1 Executive	1 Executive	5 Executive
11 Council	8 Council	8 Council	12 Council
19 Executive	16 Executive	15 Executive	19 Executive
May	June	July	August
3 Executive	7 Executive	6 Executive	2 Executive

September	October	November	December
7 Executive	4 Executive	1 Executive	6 Executive
13 Council	11 Council	8 Council	13 Council
20 Executive	18 Executive	15 Executive	20 Executive

<p><b>Council Meetings</b>                  1:30 p.m.  <b>January, February, March, and December meetings will be at:</b>                  WSU Building - Conference Room 308                  925 Plum Street, Building 4                  Olympia, WA  <b>April through November meetings will be at:</b>                  RoweSix Conference Center - Building 1                  4224 6th Avenue S.E.                  Lacey, WA</p>
<p><b>Executive Committee Meetings</b>                  1:30 p.m.                  WSU Building - Conference Room 308                  925 Plum Street, Building 4</p>
<p><b>EFSEC Mailing Address</b>                  P.O. Box 43172                  Olympia, WA 98504-3172                  phone (360) 956-2121                  fax (360) 956-2158</p>

**WSR 98-24-021  
 NOTICE OF PUBLIC MEETINGS  
 DEPARTMENT OF AGRICULTURE  
 (Wheat Commission)**

[Memorandum—November 20, 1998]

The Washington Wheat Commission hereby complies with regulations as stated in RCW 42.30.075 and provides pertinent scheduled meeting information of the board of directors for publication in the state register for the period January through December 1999. The meetings will take place in the commission conference room located at 907 West Riverside Avenue, Spokane, WA, except for the March meeting which will be held in Seattle, Washington. The meetings will begin at 10:00 a.m. on the first day and will reconvene at 8:30 a.m. on the second day.

Regular	January 20 and 21
Regular	March 10 and 11
Annual	May 19 and 20
Regular	September 15 and 16
Regular	November 17 and 18

We understand that should any changes to this meeting schedule become necessary, we will provide the information at least twenty days prior to the rescheduled meeting date for publication in the state register. If further details are required, please do not hesitate to contact our office.

MISC.



## WSR 98-24-022

## INTERPRETIVE AND POLICY STATEMENT

DEPARTMENT OF  
LABOR AND INDUSTRIES

[Filed November 23, 1998, 9:05 a.m.]

In accordance with RCW 34.05.230(12), the following policies and interpretive statements were recently issued by the department:

**Insurance Services Division: Policy 40.15, Fibromyalgia:** This policy gives guidelines for adjudicating workers' compensation and crime victims claims for which fibromyalgia is contended or is retarding recovery.

**Policy 64.62, Declaring Accounts Uncollectible with Balances Under \$100:** This policy gives guidelines for declaring inactive accounts with balances under \$100 to be not collectible.

**Policy 72.02, Finality of a Notice and Order of Assessment:** This policy explains that no actual or amended report of premiums will be accepted once a Notice and Order of Assessment becomes final.

**Policy 72.06, Revocation of Certificate of Coverage:** This policy gives guidelines for using a Revocation of Certificate of Coverage as a collection tool.

**Contact:** Pamela Wegmuller  
Mailstop 4-4208  
(360) 902-4586  
Douglas Connell  
Assistant Director

**WISHA Services Division: WISHA Interim Operations Memorandum #98-10-A, Further Delays in Methylene Chloride Enforcement:** This memorandum rescinds and replaces WIM 98-2-B and enacts a further limited stay in enforcement identical to that of federal OSHA. It will remain in effect until April 10, 2000, or until the effective dates in the standard have been modified.

**WISHA Interim Operations Memorandum #98-10-B, Inspections in Ship and Boat Building and Repairing Industries:** This memorandum provides guidance to WISHA staff regarding the implementation of a recent Memorandum of Understanding with federal OSHA about joint shipyard inspections. It will remain in effect until replaced by a more formal directive or further interim guidance.

**Contact:** Marcia Benn  
Mailstop 4-4648  
(360) 902-5503  
Dr. Michael Silverstein  
Assistant Director

If you need additional information or have questions, please call (360) 902-4216.

## WSR 98-24-025

## SUSPENDED RULES

## DEPARTMENT OF AGRICULTURE

[Filed November 23, 1998, 9:14 a.m.]

**Suspension of Marketing Order Rules Pertaining to Assessments for the Washington State Egg Commission - January 1, 1999 through December 31, 1999**

The chairman of the Washington Egg Commission ("WEC"), in a letter dated September 29, 1998, requested a suspension of the marketing order rules pertaining to the annual assessment on all eggs contained in WAC 16-514-040. I have reviewed the chairman's request, as well as the minutes of the WEC board meeting of September 23, 1998, where the proposed suspension was discussed and voted on by the WEC. Based on this documentation, I have decided to act on the requested suspension.

RCW 15.65.180(2) allows the director of the Department of Agriculture to "[s]uspend any such [marketing] agreement or order or term or provision thereof for a period not to exceed one year, if he finds that such suspension will tend to effectuate the declared policy of this chapter: PROVIDED, That any such suspension of all or substantially all of such agreement or order shall not become effective until the end of the then current marketing season."

In addition, when the director determines, with the advice of the commodity board, that such a suspension would achieve the declared policy of chapter 15.65 RCW, the provisions for conducting public hearings may be waived. RCW 15.56.180.

I have determined that suspension of the annual assessment on all eggs will accomplish the stated policy of chapter 15.65 RCW. The WEC operates on a fiscal-year basis rather than a marketing season, and RCW 15.65.180 requires any suspension to be confined to one-year beginning at the end of the current marketing season. **I am, therefore, suspending the annual assessment of the Washington Egg Commission for a period of one year beginning January 1, 1999, and ending December 31, 1999.**

Even though the public hearing process may [be] waived under RCW 15.65.180, I ask that this finding be published in the Washington State Register.

Jim Jesernig  
Director

## WSR 98-24-027

## NOTICE OF PUBLIC MEETINGS

## NOXIOUS WEED CONTROL BOARD

[Memorandum—November 23, 1998]

The Washington State Noxious Weed Control Board will be holding its next meeting: January 19, 1999, 8:30 a.m. - 5:00 p.m., General Administration Building, Room G-3, 210 11th Avenue S.W., Olympia, WA.

The public is welcome to attend all meetings. Contact Lisa Lantz, Executive Secretary, Washington State Noxious Weed Control Board, (253) 872-2972, if you have any questions.

**WSR 98-24-028**  
**NOTICE OF PUBLIC MEETINGS**  
**COMMUNITY COLLEGES OF SPOKANE**

[Memorandum—November 17, 1998]

BOARD OF TRUSTEES  
 WASHINGTON COMMUNITY COLLEGE DISTRICT 17

Notice is hereby given, pursuant to RCW 42.30.075, that the regular meetings of the board of trustees of Washington Community College District 17 (Community Colleges of Spokane) during calendar year 1999 shall be held at 8:30 a.m. on the following dates and in the following locations:

Date	Location and Address
January 19, 1999 (3rd Tuesday)	Community Colleges of Spokane District Board Room 2000 North Greene Street Spokane, WA 99217-5499
February 16, 1999 (3rd Tuesday)	Spokane Falls Community College The Falls Conference Room Administration Building 3410 West Fort George Wright Drive Spokane, WA 99224-5288
March 16, 1999 (3rd Tuesday)	Spokane Community College Littlefoot Room, Lair 1810 North Greene Street Spokane, WA 99217-5399
April 20, 1999 (3rd Tuesday)	Community Colleges of Spokane District Board Room 2000 North Greene Street Spokane, WA 99217-5499
May 18, 1999 (3rd Tuesday)	Institute for Extended Learning Colville Center 985 South Elm Colville, WA 99114
June 22, 1999 (4th Tuesday)	Community Colleges of Spokane District Board Room 2000 North Greene Street Spokane, WA 99217-5499
July 20, 1999 (3rd Tuesday)	Community Colleges of Spokane District Board Room 2000 North Greene Street Spokane, WA 99217-5499
August 17, 1999 (3rd Tuesday)	Community Colleges of Spokane District Board Room 2000 North Greene Street Spokane, WA 99217-5499
September 28, 1999 (4th Tuesday)	Spokane Community College Littlefoot Room, Lair 1810 North Greene Street Spokane, WA 99217-5399
October 19, 1999 (3rd Tuesday)	Institute for Extended Learning Newport Center 1302 West Fifth Newport, WA 99156
November 16, 1999 (3rd Tuesday)	Spokane Falls Community College The Falls Conference Room Administration Building 3410 West Fort George Wright Drive Spokane, WA 99224-5288
December 21, 1999 (3rd Tuesday)	Community Colleges of Spokane District Board Room 2000 North Greene Street Spokane, WA 99217-5499

**WSR 98-24-029**  
**NOTICE OF PUBLIC MEETINGS**  
**CLOVER PARK TECHNICAL COLLEGE**

[Memorandum—October 14, 1998]

Please be advised that the board of trustees of Clover Park Technical College at their regularly scheduled meeting on October 14, 1998, identified the following dates for their monthly meetings in 1999 in compliance with RCW 42.30.075:

- January 13, 1999
- February 10, 1999
- March 10, 1999
- April 14, 1999
- May 12, 1999
- June 9, 1999
- July 14, 1999
- August 11, 1999
- September 8, 1999
- October 13, 1999
- November 10, 1999
- December 8, 1999

All meetings will begin at 4:00 p.m. in the Board Room located in Building #15 on the Clover Park Technical College campus at 4500 Steilacoom Boulevard S.W., Lakewood, WA 98499-4098.

**WSR 98-24-030**  
**NOTICE OF PUBLIC MEETINGS**  
**LOWER COLUMBIA COLLEGE**

[Memorandum—November 19, 1998]

At its November 18, 1998, meeting, the Lower Columbia College board of trustees adopted the following meeting schedule for 1999. All regularly scheduled meetings are held on the third Wednesday of each month, at 5:00 p.m., on the college campus.

January 20	5:00 p.m.	Board of Trustees Meeting Heritage Room
February 17	5:00 p.m.	Board of Trustees Meeting Heritage Room
March 17	5:00 p.m.	Board of Trustees Meeting Heritage Room
April 21	5:00 p.m.	Board of Trustees Meeting Heritage Room
May 19	5:00 p.m.	Board of Trustees Meeting Heritage Room
June 16	5:00 p.m.	Board of Trustees Meeting Heritage Room
July 21	5:00 p.m.	Board of Trustees Meeting Heritage Room
August 18	No Meeting	
September 15	5:00 p.m.	Board of Trustees Meeting
October 20	5:00 p.m.	Board of Trustees Meeting
November 17	5:00 p.m.	Board of Trustees Meeting
December 15	5:00 p.m.	Board of Trustees Meeting

Note: Summer dates may vary - will update at that time.

MISC.

**WSR 98-24-031**

**NOTICE OF PUBLIC MEETINGS  
BIG BEND COMMUNITY COLLEGE**

[Memorandum—November 18, 1998]

At their regular meeting on October 27, 1998, the board of trustees of Community College District No. 18, Big Bend Community College, moved to change the time the board meetings convene from 7:00 p.m. to 1:30 p.m. The meeting day remains the same - the fourth Tuesday of each month.

If you have any questions or concerns regarding this information, please feel free to call Joy Ricks, (509) 762-5351 or e-mail me at joyr@bbcc.ctc.edu.

**WSR 98-24-032**

**NOTICE OF PUBLIC MEETINGS  
OLYMPIC COLLEGE**

[Memorandum—November 20, 1998]

For the record the following meeting is canceled: December 22, 1998, 7:30 p.m.

This is for an approved meeting by the board of trustees at Olympic College, Community College District Number 3. The board of trustees meet the fourth Tuesday of every month with few exceptions. Any questions, please feel free to contact Carol L. Glenn.

**WSR 98-24-034**

**NOTICE OF PUBLIC MEETINGS  
LOTTERY COMMISSION**

[Memorandum—November 23, 1998]

The following are the 1999 meeting dates for the Washington State Lottery Commission:

January 14, 1999	Olympia
March 19, 1999	Olympia
May 21, 1999	Seattle
July 16, 1999	Vancouver
September 17, 1999	Spokane
November 19, 1999	Seattle

**WSR 98-24-047**

**NOTICE OF PUBLIC MEETINGS  
WASHINGTON STATE  
HISTORICAL SOCIETY**

[Memorandum—November 24, 1998]

The 1999 schedule of meetings for the board of trustees of the Washington State Historical Society is:

February 25, 1999	Seattle
May 15, 1999	Tacoma
August 19-20, 1999	Clarkston

November 18-19, 1999

Tacoma

If you need additional information, call (253) 798-5901.

**WSR 98-24-048**

**NOTICE OF PUBLIC MEETINGS  
WHATCOM COMMUNITY COLLEGE**

[Memorandum—November 24, 1998]

The board of trustees of Whatcom Community College, District Number Twenty-One, has rescheduled its regular meeting of Tuesday, December 8, 1998, at 2:00 p.m. in the Board Room at 237 West Kellogg Road, Bellingham, WA. The rescheduled meeting will be held on Wednesday, December 16, 1998.

**WSR 98-24-062**

**DEPARTMENT OF ECOLOGY**

[Filed November 30, 1998, 2:35 p.m.]

**Commercial Low-Level Radioactive Waste  
Site Use Permit Fees**

In accordance with chapter 173-326 WAC, Commercial low-level radioactive waste disposal—Site use permits, the Department of Ecology is providing notice of the site use permit fees for the period of March 1, 1999, through February 29, 2000. The annual base fee, 1x, has been set at \$400. Site use permit fees for each category are as follows:

<u>CATEGORY</u>	<u>FACTOR</u>	<u>FEE</u>
<50 cubic feet	1x	\$400
≥50 <500 cubic feet	2x	\$800
≥500 <1,000 cubic feet	5x	\$2,000
≥1,000 <2,500 cubic feet	10x	\$4,000
≥2,500 cubic feet	35x	\$14,000
Nuclear Utilities	100x	\$40,000

**WSR 98-24-063**

**NOTICE OF PUBLIC MEETINGS  
DEPARTMENT OF  
FISH AND WILDLIFE**

[Memorandum—November 17, 1998]

The Washington Fish and Wildlife Commission has scheduled the following meetings and workshops for 1999:

<u>DATE</u>	<u>FUNCTION</u>	<u>LOCATION</u>
January 14	conference call	Olympia
January 15-16	workshop	Olympia
January 28	conference call	Olympia
February 5-6	meeting	Olympia
February 11	conference call	Olympia

MISC.

February 25	conference call	Olympia
March 11	conference call	Olympia
March 19-20	workshop	Olympia
March 25	conference call	Olympia
April 2-3	meeting	Spokane
April 8	conference call	Olympia
April 22	conference call	Olympia
May 13	conference call	Olympia
May 14-15	workshop	Olympia
May 27	conference call	Olympia
June 10	conference call	Olympia
June 24	conference call	Olympia
July 8	conference call	Olympia
July 22	conference call	Olympia
August 6-7	meeting	Vancouver
August 12	conference call	Olympia
August 26	conference call	Olympia
September 9	conference call	Olympia
September 23	conference call	Olympia
October 14	conference call	Olympia
October 28	conference call	Olympia
November 10	conference call	Olympia
November 12-13	workshop	Olympia
November 24	conference call	Olympia
December 9	conference call	Olympia
December 10-11	meeting	Seattle
December 23	conference call	Olympia

Additional meetings, workshops, and conference calls may be scheduled on an as-needed basis.

**WSR 98-24-064**  
**DEPARTMENT OF**  
**SOCIAL AND HEALTH SERVICES**  
 (Division of Alcohol and Substance Abuse)  
 [Filed November 30, 1998, 3:02 p.m.]

The public is invited to review the 1999 Washington state application for federal substance abuse prevention and treatment (SAPT) block grant funding. The application is submitted annually to the federal Centers for Substance Abuse Treatment and Substance Abuse Prevention. The 1999 application will result in approximately \$29 million in federal funds being awarded to the state of Washington for substance abuse prevention and treatment. The funds awarded will be expended during federal fiscal year 2000 (10/99 - 9/00).

The application is being prepared by the Department of Social and Health Services, Division of Alcohol and Substance Abuse. A summary of the SAPT block grant require-

ments and the plan for award allocation is available to anyone interested upon request.

If you have questions, or wish to request a copy of the review material, please contact Wes Hamilton, Federal Block Grant Administrator, Department of Social and Health Services, Division of Alcohol and Substance Abuse, P.O. Box 45330, Olympia, WA 98504-5330, (360) 438-8226, fax (360) 438-8078, e-mail hamilww@dshs.wa.gov.

**WSR 98-24-065**  
**NOTICE OF PUBLIC MEETINGS**  
**HEALTH CARE AUTHORITY**  
 (Public Employees Benefits Board)  
 [Memorandum—November 24, 1998]

**Public Employees Benefits Board Meetings and  
 1999 Meeting Schedule**

<u>Date</u>	<u>Location</u>
January 12, 1999, 1:00 p.m.	Lacey Community Center, Lacey
March 29, 1999, 6:30 p.m.	Cavanaugh's Inn at the Park, Spokane
April 20, 1999, 1:00 p.m.	Lacey Community Center, Lacey
May 18, 1999, 1:00 p.m.	Lacey Community Center, Lacey
June 8, 1999, 1:00 p.m.	Tyee Hotel, Skokomish Room, Tumwater
July 13, 1999, 1:00 p.m.	Tyee Hotel, Skokomish Room, Tumwater
July 20, 1999, 1:00 p.m.	Tyee Hotel, Skokomish Room, Tumwater
July 27, 1999, 1:00 p.m.	Tyee Hotel, Skokomish Room, Tumwater
August 3, 1999, 1:00 p.m.	Tyee Hotel, Skokomish Room, Tumwater
August 10, 1999, 1:00 p.m.	Tyee Hotel, Skokomish Room, Tumwater
October 5, 1999, 8:00 a.m. to 5:00 p.m.	Washington State Training and Conference Center, Seattle
November 9, 1999, 1:00 p.m.	Tyee Hotel, Skokomish Room, Tumwater
December 7, 1999, 1:00 p.m.	Tyee Hotel, Skokomish Room, Tumwater

**Locations:** The following are the addresses for the above referenced meetings.

**LACEY COMMUNITY CENTER**  
 Woodland Creek Community Park  
 6729 Pacific Avenue S.E.  
 Lacey, WA 98503  
 (360) 491-0857

**TYEE HOTEL**  
 500 Tyee Drive S.W.  
 Tumwater, WA 98512  
 (360) 352-0511

**WASHINGTON STATE TRAINING AND CONFERENCE CENTER**  
 19010 First Avenue South  
 Seattle, WA 98148  
 (206) 439-3720

**CAVANAUGH'S INN AT THE PARK**  
 303 West North River Drive  
 Spokane, WA 99201  
 (509) 326-8000

If you are a person with a disability and need a special accommodation, please contact Judy Lamm at (360) 923-2828.

**WSR 98-24-066**  
**NOTICE OF PUBLIC MEETINGS**  
**WASHINGTON STATE PATROL**  
 (Fire Protection Policy Board)  
 [Memorandum—November 30, 1998]

**1999 MEETING SCHEDULE**

January 21, 1999 10 a.m.	General Administration Building Olympia
March 18, 1999 10 a.m.	General Administration Building Olympia
June 3, 1999 (Fire Service '99 Conference) 9 a.m.	WestCoast Wenatchee Convention Center
July 15, 1999 10 a.m.	General Administration Building Olympia
October 22, 1999 (Fire Marshal Roundtable) 9 a.m.	Sun Mountain Lodge Winthrop, Washington
November 18, 1999 10 a.m.	General Administration Building Olympia

For information regarding Fire Protection Policy Board meetings, please contact Washington State Patrol, Fire Protection Bureau, at (360) 753-0400.

**WSR 98-24-067**  
**NOTICE OF PUBLIC MEETINGS**  
**EASTERN WASHINGTON UNIVERSITY**  
 [Memorandum—October 26, 1998]

The Eastern Washington University board of trustees meeting schedule for 1998 has been approved at the October 23, 1998, board meeting. The schedule is as follows:

- Friday, January 22, 9:00 a.m., Pence Union Building, Banquet Room 265
- Friday, February 26, 9:00 a.m., Pence Union Building, Banquet Room 265
- Friday, April 2, 9:00 a.m., Spokane Center, Second Floor Mall
- Friday, May 28, 9:00 a.m., Pence Union Building, Banquet Room 265
- Friday, June 25, 9:00 a.m., Pence Union Building, Banquet Room 265
- Friday, July 23, 9:00 a.m., Pence Union Building, Banquet Room 265
- Friday, September 24, 9:00 a.m., Pence Union Building, Banquet Room 265

- Friday, October 22, 9:00 a.m., Spokane Center, Second Floor Mall
- Friday, December 3, 9:00 a.m., Pence Union Building, Banquet Room 265

Board meetings are the fourth Friday of the month, with the exception of the combination of the March/April meeting and the November/December meeting; no meeting in August.

If there are any questions concerning this schedule, please contact Angie O'Neill in the President's Office, at extension (509) 359-6598.

**WSR 98-24-068**  
**NOTICE OF PUBLIC MEETINGS**  
**DEPARTMENT OF**  
**GENERAL ADMINISTRATION**  
 (Capitol Campus Design Advisory Committee)  
 [Memorandum—November 24, 1998]

Following are the 1999 Capitol Campus Design Advisory Committee (CCDAC) meeting dates in the Washington State Register:

Thursday	February 11
Thursday	May 13
Friday	September 10
Thursday	November 4

The CCDAC meetings are held in Room 207 of the General Administration Building. The meetings are scheduled to begin at 9:30 a.m.

If you have any questions, you may contact (360) 664-9212.

**WSR 98-24-070**  
**NOTICE OF PUBLIC MEETINGS**  
**EASTERN WASHINGTON UNIVERSITY**  
 [Memorandum—November 30, 1998]

Eastern Washington University  
 BOARD OF TRUSTEES  
 December 4, 1998, 9:00 a.m.  
 Cheney Campus  
 Pence Union Building  
 Room 263-65

Breakfast, which is open to the public, will be served to board members prior to the meeting at 8:00 a.m. in the Pence Union Building, Room 261.

Eastern Washington University strives to satisfy all requests for special access needs for persons with disabilities. Requests for such accommodation are welcome and may be made by calling President's Office, 359-2371.

**WSR 98-24-081**  
**NOTICE OF PUBLIC MEETINGS**  
**DEPARTMENT OF**  
**LABOR AND INDUSTRIES**  
 (Factory Assembled Structures Advisory Board)  
 [Memorandum—December 1, 1998]

**Factory Assembled Structures Board 1999 Meetings**

In accordance with chapter 42.30 RCW, Open Public Meetings Act, the time and place of regular meetings for the FAS Board for 1999 have been scheduled.

The meetings are scheduled to begin at 1:00 p.m. on the third Thursdays of February, May, August, and November at the Labor and Industries Headquarters Building, Room S130, 7273 Linderson Way S.W., Tumwater, WA.

The dates are February 18, 1999, May 20, 1999, August 19, 1999, and November 21, 1999.

**WSR 98-24-084**  
**NOTICE OF PUBLIC MEETINGS**  
**UTILITIES AND TRANSPORTATION**  
**COMMISSION**  
 [Memorandum—December 1, 1998]

The following is the schedule for the 1999 regular meetings of the Washington Utilities and Transportation Commission.

- January 13, 1999
- January 27, 1999
- February 10, 1999
- February 26, 1999\*
- March 10, 1999
- March 24, 1999
- March 31, 1999
- April 14, 1999
- April 28, 1999
- May 12, 1999
- May 26, 1999
- June 9, 1999
- June 23, 1999
- June 30, 1999
- July 14, 1999
- July 28, 1999
- August 11, 1999
- August 25, 1999
- September 8, 1999
- September 22, 1999
- September 29, 1999
- October 13, 1999
- October 27, 1999
- November 15, 1999\*
- November 30, 1999
- December 8, 1999
- December 22, 1999
- December 29, 1999

\*These meetings will commence at 1:30 p.m.

All commission meetings will commence at 9:30 a.m. on the day scheduled unless otherwise noted. The meetings will be held in the Commission's Main Hearing Room, Second Floor, Chandler Plaza Building, 1300 South Evergreen Park Drive S.W., Olympia, WA.

Assistance with sign language interpreters or information in alternate formats will be provided when requested ten days prior to the meeting date, by contacting the ADA coordinator at (360) 664-1133 or TDD (360) 586-8203.

**WSR 98-24-108**  
**NOTICE OF PUBLIC MEETINGS**  
**RENTON TECHNICAL COLLEGE**  
 [Memorandum—November 30, 1998]

The Renton Technical College board of trustees' regular meetings during 1999 will be held as follows:

The second Tuesday of each month except for the months of July and August. Meetings will be held at 8:00 a.m. in the Board Room, Room 202, Building I, Renton Technical College, 3000 Northeast Fourth Street, Renton, WA 98056-4195.

- January 12, 1999
- February 9, 1999
- March 9, 1999
- April 13, 1999
- May 11, 1999
- June 8, 1999
- July/August - No meeting
- September 7, 1999
- October 12, 1999
- November 9, 1999
- December 14, 1999

If you need further information, please contact (425) 235-2426.

**WSR 98-24-109**  
**NOTICE OF PUBLIC MEETINGS**  
**OFFICE OF**  
**FINANCIAL MANAGEMENT**  
 (Task Force on Agency Vendor Contracting Practices)  
 [Memorandum—December 1, 1998]

The Task Force on Agency Vendor Contracting Practices will meet on Tuesday, December 15, 1998, from 12:00 noon to 3:00 p.m. in Room 125, General Administration Building, 11th and Columbia Street, Olympia.

If you have any questions regarding this meeting, please call (360) 902-0662.

MISC.

**WSR 98-24-110****NOTICE OF PUBLIC MEETINGS****OFFICE OF****FINANCIAL MANAGEMENT**

(Task Force on Agency Vendor Contracting Practices)

[Memorandum—December 1, 1998]

The Task Force on Agency Vendor Contracting Practices has established the following schedule of regular meetings for 1999:

Date	Time	Meeting Location
January 12, 1999	12:00 noon	Olympia (exact location to be determined)
February 9, 1999	12:00 noon	Room S-117 Labor and Industries Building 7273 Linderson Way S.W. Tumwater
March 9, 1999	12:00 noon	2nd Floor Conference Room Pointe Plaza 6825 Capitol Boulevard Tumwater
April 13, 1999	12:00 noon	2nd Floor Conference Room Pointe Plaza 6825 Capitol Boulevard Tumwater
May 11, 1999	12:00 noon	2nd Floor Conference Room Pointe Plaza 6825 Capitol Boulevard Tumwater
June 8, 1999	12:00 noon	2nd Floor Conference Room Pointe Plaza 6825 Capitol Boulevard Tumwater
July 13, 1999	12:00 noon	2nd Floor Conference Room Pointe Plaza 6825 Capitol Boulevard Tumwater
August 10, 1999	12:00 noon	2nd Floor Conference Room Pointe Plaza 6825 Capitol Boulevard Tumwater
September 14, 1999	12:00 noon	2nd Floor Conference Room Pointe Plaza 6825 Capitol Boulevard Tumwater
October 12, 1999	12:00 noon	2nd Floor Conference Room Pointe Plaza 6825 Capitol Boulevard Tumwater

If you have any questions regarding these meetings, please call (360) 902-0662.

**WSR 98-24-113****DEPARTMENT OF ECOLOGY**

[Filed December 2, 1998, 10:16 a.m.]

**NOTICE OF JOINT PUBLIC HEARING**

Including Spokane County Air Pollution Control Authority

**Revised Regulations in the Washington State Implementation Plan**

The Washington State Department of Ecology will be conducting a joint public hearing with the Spokane County Air Pollution Control Authority (SCAPCA) on January 7, 1999. The hearing will take place at 8:30 a.m. in the hearing room (lower level) of the Spokane County Public Works Building, 1026 West Broadway, Spokane, WA. Ecology is conducting the public hearing to receive comments on including amended SCAPCA regulations in the state implementation plan (SIP), a state-wide plan for meeting federal health-based standards for certain air pollutants.

The amendments are being made to satisfy the United States Environmental Protection Agency (EPA) requirements for revoking the federal air quality standard for particulate matter (PM<sub>10</sub>). EPA adopted a new particulate matter standard in 1997, which will apply once the former standard is revoked. The amendments are to SCAPCA Regulation I, Article VI, Sections 6.14A (Applicability), 6.14B (Definitions), and 6.15B (Definitions). They are regarding paved and unpaved roads in the PM<sub>10</sub> nonattainment area.

For ecology's purposes, comments must be limited to including the amendments in the SIP. Written comments must be postmarked no later than January 7, 1999, and should be sent to Maxine Willis, Department of Ecology, P.O. Box 47600, Olympia, WA 98504-7600.

For more information on the content of the draft regulations prior to the hearing, please contact Eric Skelton at SCAPCA, (509) 477-4727 ext. 121.

**WSR 98-24-117**  
**NOTICE OF PUBLIC MEETINGS**  
**WASHINGTON CITIZENS COMMISSION ON**  
**SALARIES FOR ELECTED OFFICIALS**

[Memorandum—December 2, 1998]

**COMMISSION MEETING SCHEDULE**  
**1999**

DATE	TIME	LOCATION	DETAIL
January 25, 1999 Monday	10:00 a.m.	Best Western Airport Executel Olympic Room 20717 International Boulevard Seattle SeaTac Area	Orientation work session
February 19, 1999 Friday	10:00 a.m.	Washington State General Administration Building Auditorium Capitol Campus 11th & Columbia Streets Olympia	Elected Officials testimony work session
March 15, 1999 Monday	7:00 p.m.	Everett Inn Baker Room 12619 4th Avenue West Everett	Public Hearing followed by work session
March 29, 1999 Monday	7:00 p.m.	The Heathman Lodge Cowlitz Room 7801 N. E. Greenwood Drive Vancouver	Public Hearing followed by work session
April 10, 1999 Saturday	10:00 a.m.	Doubletree Hotel Ballroom 1225 North Wenatchee Avenue Wenatchee	Public Hearing followed by work session
April 26, 1999 Monday	7:00 p.m.	Best Western Airport Executel Olympic Room 20717 International Boulevard Seattle SeaTac Area	Public Hearing followed by work session
May 22, 1999 Saturday	10:00 a.m.	Ramada Inn Spokane International Airport Spokane	Public Hearing

**WSR 98-24-129**

**AGENDA**

**DEPARTMENT OF AGRICULTURE**

[Filed December 2, 1998, 11:28 a.m.]

Addendum #1 to the Semi-Annual Rule Agenda, Filed July 31, 1998,

Filing WSR 98-16-045

Washington State Department of Agriculture

Chapter	Subject/Contact Person	Approximate CR-101 Filing Date	Approximate Adoption Date
New Rules	Voluntary total quality assurance program for egg production. Contact Dr. Robert Mead, State Veterinarian, phone (360) 902-1878.	November 1998	April 1999
WAC 16-108	Washington state egg assessment fees.	November 1998	January 1999



Chapter	Subject/Contact Person	Approximate CR-101 Filing Date	Approximate Adoption Date
WAC 16-167	New rules on labeling unpasteurized apple juice.	November 1998	February 1999
WAC 16-200	Commercial fertilizers—Registrants providing maximum application rates to the department.	November 1998	April 1999
WAC 16-59	Importation of poultry and hatching eggs. Contact Dr. Kathleen Connell, Assistant State Veterinarian, phone (360) 902-1878.	November 1998	April 1999
WAC 16-74	Livestock testing—Duties of owners. Contact Dr. Kathleen Connell, Assistant State Veterinarian, phone (360) 902-1878.	November 1998	April 1998 [1999]
WAC 16-80	Pseudorabies in swine. Contact Dr. Kathleen Connell, Assistant State Veterinarian, phone (360) 902-1878.	November 1998	April 1999

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.

December 2, 1998  
William E. Brookreson  
Assistant Director



**Table of WAC Sections Affected**

**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  
 OBJECT = 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 of existing section  
 REVIEW = Review of previously adopted rule  
 SUSP = Suspending an existing section

- Suffixes:**  
 -C = Continuance of previous proposal  
 -E = Emergency action  
 -P = Proposed action  
 -S = Supplemental notice  
 -W = Withdrawal of proposed action  
 -XA = Expedited adoption  
 -XR = Expedited repeal  
 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 #	WAC #	ACTION	WSR #	WAC #	ACTION	WSR #
1-21-010	AMD-XA	98-09-083	14-108-040	NEW-XA	98-18-045	14-276-120	NEW	98-23-009
1-21-010	AMD	98-14-048	14-108-040	NEW	98-23-009	14-276-130	NEW-XA	98-18-045
1-21-020	AMD-XA	98-09-083	14-108-050	NEW-XA	98-18-045	14-276-130	NEW	98-23-009
1-21-020	AMD	98-14-048	14-108-050	NEW	98-23-009	14-276-140	NEW-XA	98-18-045
4-25	AMD-C	98-05-020	14-108-060	NEW-XA	98-18-045	14-276-140	NEW	98-23-009
4-25	AMD-C	98-07-025	14-108-060	NEW	98-23-009	14-325-010	NEW-XA	98-18-045
4-25-410	AMD	98-12-020	14-108-070	NEW-XA	98-18-045	14-325-010	NEW	98-23-009
4-25-511	REP-XR	98-19-044	14-108-070	NEW	98-23-009	16-08-151	AMD-XA	98-04-082
4-25-511	REP-P	98-22-065	14-108-080	NEW-XA	98-18-045	16-08-151	AMD	98-09-085
4-25-520	AMD	98-12-021	14-108-080	NEW	98-23-009	16-20	PREP	98-15-067
4-25-530	PREP	98-19-045	14-122-010	NEW-XA	98-18-045	16-21	PREP	98-15-067
4-25-530	AMD-P	98-22-066	14-122-010	NEW	98-23-009	16-22	PREP	98-15-067
4-25-540	AMD	98-12-022	14-122-020	NEW-XA	98-18-045	16-23	PREP	98-15-067
4-25-550	AMD	98-12-023	14-122-020	NEW	98-23-009	16-32-009	PREP	98-05-104
4-25-551	AMD	98-12-047	14-122-030	NEW-XA	98-18-045	16-32-009	REP-P	98-09-104
4-25-620	AMD	98-12-048	14-122-030	NEW	98-23-009	16-32-009	REP	98-14-036
4-25-622	AMD	98-12-049	14-133-020	NEW-XA	98-18-045	16-32-011	AMD-P	98-09-104
4-25-625	REP	98-12-056	14-133-020	NEW	98-23-009	16-32-011	AMD	98-14-036
4-25-626	NEW	98-12-055	14-134-010	NEW-XA	98-18-045	16-46-010	REP-XR	98-08-080
4-25-627	REP	98-12-056	14-134-010	NEW	98-23-009	16-46-010	REP	98-13-118
4-25-631	AMD	98-12-050	14-276-010	NEW-XA	98-18-045	16-54	PREP	98-24-097
4-25-730	PREP	98-24-053	14-276-010	NEW	98-23-009	16-59	PREP	98-24-098
4-25-740	PREP	98-24-054	14-276-020	NEW-XA	98-18-045	16-74	PREP	98-24-099
4-25-760	PREP	98-24-055	14-276-020	NEW	98-23-009	16-80	PREP	98-24-100
4-25-810	AMD	98-12-051	14-276-030	NEW-XA	98-18-045	16-86	PREP	98-08-022
4-25-810	PREP	98-24-056	14-276-030	NEW	98-23-009	16-86	PREP	98-11-010
4-25-811	PREP	98-24-057	14-276-040	NEW-XA	98-18-045	16-86	PREP	98-24-101
4-25-812	PREP	98-24-058	14-276-040	NEW	98-23-009	16-86	PREP	98-24-102
4-25-813	PREP	98-24-059	14-276-050	NEW-XA	98-18-045	16-89	PREP	98-08-023
4-25-920	REP-XR	98-19-044	14-276-050	NEW	98-23-009	16-96	REP-C	98-18-043
4-25-920	REP-P	98-22-065	14-276-060	NEW-XA	98-18-045	16-96-001	REP-P	98-15-157
14-104-010	NEW-XA	98-18-045	14-276-060	NEW	98-23-009	16-96-001	REP	98-19-037
14-104-010	NEW	98-23-009	14-276-070	NEW-XA	98-18-045	16-96-002	REP-P	98-15-157
14-104-020	NEW-XA	98-18-045	14-276-070	NEW	98-23-009	16-96-002	REP	98-19-037
14-104-020	NEW	98-23-009	14-276-080	NEW-XA	98-18-045	16-96-003	REP-P	98-15-157
14-104-030	NEW-XA	98-18-045	14-276-080	NEW	98-23-009	16-96-003	REP	98-19-037
14-104-030	NEW	98-23-009	14-276-090	NEW-XA	98-18-045	16-96-010	REP-P	98-15-157
14-108-010	NEW-XA	98-18-045	14-276-090	NEW	98-23-009	16-96-010	REP	98-19-037
14-108-010	NEW	98-23-009	14-276-100	NEW-XA	98-18-045	16-96-020	REP-P	98-15-157
14-108-020	NEW-XA	98-18-045	14-276-100	NEW	98-23-009	16-96-020	REP	98-19-037
14-108-020	NEW	98-23-009	14-276-110	NEW-XA	98-18-045	16-96-030	REP-P	98-15-157
14-108-030	NEW-XA	98-18-045	14-276-110	NEW	98-23-009	16-96-030	REP	98-19-037
14-108-030	NEW	98-23-009	14-276-120	NEW-XA	98-18-045	16-102	PREP	98-04-075

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16-129-010	REP	98-13-029	16-212-060	AMD-P	98-07-106	16-354-002	REP	98-09-049
16-129-020	REP-XR	98-08-020	16-212-060	AMD	98-12-058	16-354-005	AMD-P	98-06-082
16-129-020	REP	98-13-029	16-212-070	AMD-P	98-07-106	16-354-005	AMD	98-09-049
16-129-025	REP-XR	98-08-020	16-212-070	AMD	98-12-058	16-354-010	AMD-P	98-06-082
16-129-025	REP	98-13-029	16-212-080	AMD-P	98-07-106	16-354-010	AMD	98-09-049
16-129-030	REP-XR	98-08-020	16-212-080	AMD	98-12-058	16-354-020	AMD-P	98-06-082
16-129-030	REP	98-13-029	16-212-082	AMD-P	98-07-106	16-354-020	AMD	98-09-049
16-154	PREP	98-16-016	16-212-082	AMD	98-12-058	16-354-030	AMD-P	98-06-082
16-160	PREP	98-16-015	16-228-155	PREP	98-07-003	16-354-030	AMD	98-09-049
16-167	PREP	98-21-012	16-228-155	AMD-P	98-10-069	16-354-040	AMD-P	98-06-082
16-167-010	AMD-XA	98-04-076	16-228-155	AMD	98-15-026	16-354-040	AMD	98-09-049
16-167-010	AMD	98-09-048	16-316-474	PREP	98-06-093	16-354-050	AMD-P	98-06-082
16-167-020	AMD-XA	98-04-076	16-316-474	AMD-P	98-09-101	16-354-050	AMD	98-09-049
16-167-020	AMD	98-09-048	16-316-474	AMD	98-12-032	16-354-070	AMD-P	98-06-082
16-167-030	AMD-XA	98-04-076	16-316-525	PREP	98-06-093	16-354-070	AMD	98-09-049
16-167-030	AMD	98-09-048	16-316-525	AMD-P	98-09-101	16-354-100	AMD-P	98-06-082
16-167-040	AMD-XA	98-04-076	16-316-525	AMD	98-12-032	16-354-100	AMD	98-09-049
16-167-040	AMD	98-09-048	16-319-041	PREP	98-06-094	16-400	AMD-P	98-07-032
16-167-050	AMD-XA	98-04-076	16-319-041	AMD-P	98-09-100	16-400	AMD	98-10-083
16-167-050	AMD	98-09-048	16-319-041	AMD	98-12-031	16-400-007	AMD-P	98-07-032
16-167-060	AMD-XA	98-04-076	16-325-005	NEW-XA	98-05-106	16-400-007	AMD	98-10-083
16-167-060	AMD	98-09-048	16-325-005	NEW	98-09-071	16-400-040	AMD-P	98-07-032
16-168-010	AMD	98-03-089	16-325-010	NEW-XA	98-05-106	16-400-040	AMD	98-10-083
16-168-020	AMD	98-03-089	16-325-010	NEW	98-09-071	16-400-100	AMD-P	98-07-032
16-168-030	AMD	98-03-089	16-325-015	NEW-XA	98-05-106	16-400-100	AMD	98-10-083
16-168-040	AMD	98-03-089	16-325-015	NEW	98-09-071	16-400-100	AMD	98-10-083
16-168-050	AMD	98-03-089	16-325-020	NEW-XA	98-05-106	16-400-210	AMD-P	98-07-032
16-168-060	AMD	98-03-089	16-325-020	NEW	98-09-071	16-400-210	AMD	98-10-083
16-168-070	AMD	98-03-089	16-325-025	NEW-XA	98-05-106	16-402-005	NEW-P	98-13-129
16-168-075	NEW	98-03-089	16-325-025	NEW	98-09-071	16-402-005	NEW	98-17-069
16-168-080	AMD	98-03-089	16-333-200	REP-XR	98-07-108	16-402-010	NEW-P	98-13-129
16-168-090	AMD	98-03-089	16-333-200	REP	98-13-033	16-402-010	NEW	98-17-069
16-168-100	AMD	98-03-089	16-333-205	REP-XR	98-07-108	16-402-015	NEW-P	98-13-129
16-200	PREP	98-12-039	16-333-205	REP	98-13-033	16-402-015	NEW	98-17-069
16-200	PREP	98-24-111	16-333-210	REP-XR	98-07-108	16-402-020	NEW-P	98-13-129
16-200-695	AMD-E	98-12-018	16-333-210	REP	98-13-033	16-402-020	NEW	98-17-069
16-200-695	AMD-E	98-13-013	16-333-210	REP	98-13-033	16-403-140	SUSP-E	98-23-029
16-200-695	AMD-P	98-19-128	16-333-215	REP-XR	98-07-108	16-403-141	SUSP-E	98-23-029
16-200-695	AMD-E	98-20-057	16-333-215	REP	98-13-033	16-403-142	SUSP-E	98-23-029
16-200-705	AMD-E	98-12-018	16-333-220	REP-XR	98-07-108	16-403-143	SUSP-E	98-23-029
16-200-705	AMD-E	98-13-013	16-333-220	REP	98-13-033	16-403-145	SUSP-E	98-23-029
16-200-705	AMD-P	98-19-128	16-333-225	REP-XR	98-07-108	16-403-150	SUSP-E	98-23-029
16-200-705	AMD-E	98-20-057	16-333-225	REP	98-13-033	16-403-155	SUSP-E	98-23-029
16-200-7061	NEW-E	98-12-018	16-333-230	REP-XR	98-07-108	16-403-160	SUSP-E	98-23-029
16-200-7061	NEW-E	98-13-013	16-333-230	REP	98-13-033	16-403-165	SUSP-E	98-23-029
16-200-7061	NEW-P	98-19-128	16-333-235	REP-XR	98-07-108	16-403-170	SUSP-E	98-23-029
16-200-7061	NEW-E	98-20-057	16-333-235	REP	98-13-033	16-403-175	SUSP-E	98-23-029
16-200-7062	NEW-E	98-12-018	16-333-240	REP-XR	98-07-108	16-403-180	SUSP-E	98-23-029
16-200-7062	NEW-E	98-13-013	16-333-240	REP	98-13-033	16-403-185	SUSP-E	98-23-029
16-200-7062	NEW-P	98-19-128	16-333-245	REP-XR	98-07-108	16-403-190	SUSP-E	98-23-029
16-200-7062	NEW-E	98-20-057	16-333-245	REP	98-13-033	16-403-195	SUSP-E	98-23-029
16-200-7062	NEW-S	98-23-096	16-334-010	NEW-XA	98-07-109	16-403-200	SUSP-E	98-23-029
16-200-7063	NEW-E	98-12-018	16-334-010	NEW	98-11-048	16-403-205	SUSP-E	98-23-029
16-200-7063	NEW-E	98-13-013	16-334-020	NEW-XA	98-07-109	16-403-215	SUSP-E	98-23-029
16-200-7063	NEW-P	98-19-128	16-334-020	NEW	98-11-048	16-403-220	SUSP-E	98-23-029
16-200-7063	NEW-E	98-20-057	16-334-030	NEW-XA	98-07-109	16-403-225	SUSP-E	98-23-029
16-200-7064	NEW-E	98-12-018	16-334-030	NEW	98-11-048	16-403-230	SUSP-E	98-23-029
16-200-7064	NEW-E	98-13-013	16-334-040	NEW-XA	98-07-109	16-403-235	SUSP-E	98-23-029
16-200-7064	NEW-P	98-19-128	16-334-040	NEW	98-11-048	16-403-240	SUSP-E	98-23-029
16-200-7064	NEW-E	98-20-057	16-334-050	NEW-XA	98-07-109	16-403-245	SUSP-E	98-23-029
16-200-708	AMD-E	98-12-018	16-334-050	NEW	98-11-048	16-403-250	SUSP-E	98-23-029
16-200-708	AMD-E	98-13-013	16-334-060	NEW-XA	98-07-109	16-403-255	SUSP-E	98-23-029
16-200-708	AMD-P	98-19-128	16-334-060	NEW	98-11-048	16-403-260	SUSP-E	98-23-029
16-200-708	AMD-E	98-20-057	16-334-070	NEW-XA	98-07-109	16-403-265	SUSP-E	98-23-029
16-212	PREP	98-11-024	16-334-070	NEW	98-11-048	16-403-270	SUSP-E	98-23-029
			16-334-080	NEW-XA	98-07-109	16-403-275	SUSP-E	98-23-029

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16-403-285	SUSP-E	98-23-029	16-545-020	NEW-P	98-19-118	16-607-035	NEW	98-19-037
16-403-290	SUSP-E	98-23-029	16-545-030	NEW-P	98-19-118	16-607-040	NEW-P	98-15-157
16-403-295	SUSP-E	98-23-029	16-545-040	NEW-P	98-19-118	16-607-045	NEW-P	98-15-157
16-461-006	SUSP-E	98-23-029	16-545-041	NEW-P	98-19-118	16-607-045	NEW	98-19-037
16-461-010	SUSP-E	98-23-029	16-545-050	NEW-P	98-19-118	16-607-050	NEW-P	98-15-157
16-461-015	SUSP-E	98-23-029	16-545-080	NEW-P	98-19-118	16-607-050	NEW	98-19-037
16-470-100	AMD-P	98-08-108	16-557	PREP	98-08-099	16-607-055	NEW-P	98-15-157
16-470-100	AMD	98-12-091	16-557-010	AMD-P	98-12-017	16-607-055	NEW-S	98-19-087
16-470-120	AMD-P	98-08-108	16-557-010	AMD	98-16-081	16-607-055	NEW-C	98-22-042
16-470-120	AMD-W	98-21-018	16-557-025	NEW-P	98-12-017	16-607-055	NEW	98-23-001
16-471	PREP	98-07-107	16-557-025	NEW	98-16-081	16-607-060	NEW-P	98-15-157
16-471-010	REP-P	98-10-115	16-561	PREP	98-13-120	16-607-060	NEW	98-19-037
16-471-010	REP-W	98-13-127	16-561	PREP	98-23-087	16-607-060	AMD-S	98-19-087
16-471-010	REP-P	98-13-128	16-561-030	AMD-P	98-16-080	16-607-060	AMD-C	98-22-042
16-471-010	REP	98-19-023	16-561-030	AMD	98-22-091	16-607-060	AMD	98-23-001
16-471-015	REP-P	98-10-115	16-565	PREP	98-13-119	16-607-065	NEW-P	98-15-157
16-471-015	REP-W	98-13-127	16-573-010	NEW	98-04-093	16-607-065	NEW	98-19-037
16-471-015	REP-P	98-13-128	16-573-020	NEW	98-04-093	16-607-070	NEW-P	98-15-157
16-471-015	REP	98-19-023	16-573-030	NEW	98-04-093	16-607-070	NEW	98-19-037
16-471-020	REP-P	98-10-115	16-573-040	NEW	98-04-093	16-607-075	NEW-P	98-15-157
16-471-020	REP-W	98-13-127	16-573-041	NEW	98-04-093	16-607-075	NEW	98-19-037
16-471-020	REP-P	98-13-128	16-573-050	NEW	98-04-093	16-607-080	NEW-P	98-15-157
16-471-020	REP	98-19-023	16-573-060	NEW	98-04-093	16-607-080	NEW	98-19-037
16-471-030	REP-P	98-10-115	16-573-070	NEW	98-04-093	16-607-085	NEW-P	98-15-157
16-471-030	REP-W	98-13-127	16-573-080	NEW	98-04-093	16-607-085	NEW	98-19-037
16-471-030	REP-P	98-13-128	16-575	PREP	98-06-096	16-607-090	NEW-P	98-15-157
16-471-030	REP	98-19-023	16-600-020	REP-XR	98-08-019	16-607-090	NEW	98-19-037
16-471-040	REP-P	98-10-115	16-600-020	REP	98-13-030	16-607-095	NEW-P	98-15-157
16-471-040	REP-W	98-13-127	16-604	REP-C	98-18-043	16-607-095	NEW	98-19-037
16-471-040	REP-P	98-13-128	16-604-001	REP-P	98-15-157	16-607-100	NEW-P	98-15-157
16-471-040	REP	98-19-023	16-604-001	REP	98-19-037	16-607-100	NEW	98-19-037
16-471-050	REP-P	98-10-115	16-604-002	REP-P	98-15-157	16-607-105	NEW-P	98-15-157
16-471-050	REP-W	98-13-127	16-604-002	REP	98-19-037	16-607-105	NEW	98-19-037
16-471-050	REP-P	98-13-128	16-604-003	REP-P	98-15-157	16-607-110	NEW-P	98-15-157
16-471-050	REP	98-19-023	16-604-003	REP	98-19-037	16-607-110	NEW	98-19-037
16-471-060	REP-P	98-10-115	16-604-008	REP-P	98-15-157	16-607-115	NEW-P	98-15-157
16-471-060	REP-W	98-13-127	16-604-008	REP	98-19-037	16-607-115	NEW	98-19-037
16-471-060	REP-P	98-13-128	16-604-010	REP-P	98-15-157	16-607-120	NEW-P	98-15-157
16-471-060	REP	98-19-023	16-604-012	REP-P	98-15-157	16-607-120	NEW-S	98-19-087
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16-471-070	REP-W	98-13-127	16-604-015	REP-P	98-15-157	16-607-120	NEW	98-23-001
16-471-070	REP-P	98-13-128	16-604-015	REP	98-19-037	16-607-125	NEW-P	98-15-157
16-471-070	REP	98-19-023	16-604-030	REP-P	98-15-157	16-607-125	NEW	98-19-037
16-471-080	REP-P	98-10-115	16-604-030	REP	98-19-037	16-607-130	NEW-P	98-15-157
16-471-080	REP-W	98-13-127	16-605A	REP-C	98-18-043	16-607-130	NEW	98-19-037
16-471-080	REP-P	98-13-128	16-605A-001	REP-P	98-15-157	16-607-135	NEW-P	98-15-157
16-471-080	REP	98-19-023	16-605A-001	REP	98-19-037	16-607-135	NEW	98-19-037
16-514-040	SUSP	98-24-025	16-605A-005	REP-P	98-15-157	16-607-140	NEW-P	98-15-157
16-532-010	AMD-P	98-02-073	16-605A-005	REP	98-19-037	16-607-140	NEW	98-19-037
16-532-010	AMD	98-13-122	16-605A-010	REP-P	98-15-157	16-607-145	NEW-P	98-15-157
16-532-020	PREP	98-23-086	16-605A-010	REP	98-19-037	16-607-145	NEW	98-19-037
16-532-0402	REP-P	98-02-073	16-607	NEW-C	98-18-043	16-608	REP-C	98-18-043
16-532-0402	REP	98-13-122	16-607	NEW-C	98-19-018	16-608-001	REP-P	98-15-157
16-532-0404	REP-P	98-02-073	16-607-005	NEW-P	98-15-157	16-608-001	REP	98-19-037
16-532-0404	REP	98-13-122	16-607-005	NEW	98-19-037	16-608-010	REP-P	98-15-157
16-532-0406	REP-P	98-02-073	16-607-005	AMD-S	98-19-087	16-608-010	REP	98-19-037
16-532-0406	REP	98-13-122	16-607-005	AMD-C	98-22-042	16-608-020	REP-P	98-15-157
16-532-0408	REP-P	98-02-073	16-607-005	AMD	98-23-001	16-608-020	REP	98-19-037
16-532-0408	REP	98-13-122	16-607-010	NEW-P	98-15-157	16-620	REP-C	98-18-043
16-532-0410	REP-P	98-02-073	16-607-010	NEW	98-19-037	16-620-010	REP-P	98-15-157
16-532-0410	REP	98-13-122	16-607-015	NEW-P	98-15-157	16-620-010	REP	98-19-037
16-532-0412	REP-P	98-02-073	16-607-015	NEW	98-19-037	16-620-015	REP-P	98-15-157
16-532-0412	REP	98-13-122	16-607-020	NEW-P	98-15-157	16-620-015	REP	98-19-037
16-532-0414	REP-P	98-02-073	16-607-020	NEW	98-19-037	16-620-020	REP-P	98-15-157
16-532-0414	REP	98-13-122	16-607-025	NEW-P	98-15-157	16-620-020	REP	98-19-037
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16-620-080	REP	98-19-037	16-752-610	AMD	98-13-008	50- 52-040	REP-XR	98-13-096
16-620-100	REP-P	98-15-157	24- 12-010	AMD-P	98-13-121	50- 52-040	REP	98-16-105
16-620-100	REP	98-19-037	24- 12-010	AMD	98-18-060	50- 52-050	REP-XR	98-13-096
16-620-105	REP-P	98-15-157	24- 12-010	AMD	98-21-048	50- 52-050	REP	98-16-105
16-620-105	REP	98-19-037	25- 18-010	REP	98-05-027	50- 52-060	REP-XR	98-13-096
16-620-150	REP-P	98-15-157	25- 18-020	REP	98-05-027	50- 52-060	REP	98-16-105
16-620-150	REP	98-19-037	25- 18-030	REP	98-05-027	50- 52-070	REP-XR	98-13-096
16-620-205	REP-P	98-15-157	25- 18-040	REP	98-05-027	50- 52-070	REP	98-16-105
16-620-205	REP	98-19-037	25- 18-050	REP	98-05-027	50- 52-080	REP-XR	98-13-096
16-620-210	REP-P	98-15-157	25- 18-060	REP	98-05-027	50- 52-080	REP	98-16-105
16-620-210	REP	98-19-037	25- 18-070	REP	98-05-027	50- 52-090	REP-XR	98-13-096
16-620-230	REP-P	98-15-157	25- 18-080	REP	98-05-027	50- 52-090	REP	98-16-105
16-620-230	REP	98-19-037	25- 18-090	REP	98-05-027	50- 52-100	REP-XR	98-13-096
16-620-240	REP-P	98-15-157	25- 18-100	REP	98-05-027	50- 52-100	REP	98-16-105
16-620-240	REP	98-19-037	25- 18-110	REP	98-05-027	50- 52-110	REP-XR	98-13-096
16-620-250	REP-P	98-15-157	25- 18-120	REP	98-05-027	50- 52-110	REP	98-16-105
16-620-250	REP	98-19-037	25- 18-130	REP	98-05-027	50- 52-120	REP-XR	98-13-096
16-620-260	REP-P	98-15-157	25- 36-010	REP	98-05-027	50- 52-120	REP	98-16-105
16-620-260	REP	98-19-037	25- 36-020	REP	98-05-027	50- 52-130	REP-XR	98-13-096
16-620-275	REP-P	98-15-157	25- 36-030	REP	98-05-027	50- 52-130	REP	98-16-105
16-620-275	REP	98-19-037	25- 36-040	REP	98-05-027	50- 52-140	REP-XR	98-13-096
16-620-280	REP-P	98-15-157	25- 36-050	REP	98-05-027	50- 52-140	REP	98-16-105
16-620-280	REP	98-19-037	25- 36-060	REP	98-05-027	50- 52-150	REP-XR	98-13-096
16-620-290	REP-P	98-15-157	25- 36-070	REP	98-05-027	50- 52-150	REP	98-16-105
16-620-290	REP	98-19-037	25- 36-080	REP	98-05-027	50- 52-160	REP-XR	98-13-096
16-620-340	REP-P	98-15-157	25- 36-090	REP	98-05-027	50- 52-160	REP	98-16-105
16-620-340	REP	98-19-037	25- 36-100	REP	98-05-027	50- 52-170	REP-XR	98-13-096
16-620-350	REP-P	98-15-157	25- 36-110	REP	98-05-027	50- 52-170	REP	98-16-105
16-620-350	REP	98-19-037	25- 36-120	REP	98-05-027	50- 52-180	REP-XR	98-13-096
16-620-380	REP-P	98-15-157	25- 36-130	REP	98-05-027	50- 52-180	REP	98-16-105
16-620-380	REP	98-19-037	30- 04-020	PREP	98-09-082	50- 52-190	REP-XR	98-13-096
16-620-390	REP-P	98-15-157	30- 04-020	AMD-P	98-20-087	50- 52-190	REP	98-16-105
16-620-390	REP	98-19-037	30- 04-020	AMD	98-24-073	50- 52-200	REP-XR	98-13-096
16-620-400	REP-P	98-15-157	30- 08-070	PREP	98-09-082	50- 52-200	REP	98-16-105
16-620-400	REP	98-19-037	30- 08-070	AMD-P	98-20-087	50- 52-210	REP-XR	98-13-096
16-620-410	REP-P	98-15-157	30- 08-070	AMD	98-24-073	50- 52-210	REP	98-16-105
16-620-410	REP	98-19-037	30- 12-150	PREP	98-09-082	50- 52-220	REP-XR	98-13-096
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16-657-040	AMD-P	98-10-120	30- 12-150	AMD	98-24-073	50- 52-230	REP-XR	98-13-096
16-657-040	AMD	98-13-074	30- 18-040	PREP	98-09-082	50- 52-230	REP	98-16-105
16-659	PREP	98-07-067	30- 18-040	AMD-P	98-20-087	50- 52-240	REP-XR	98-13-096
16-659-001	REP-P	98-10-119	30- 18-040	AMD	98-24-073	50- 52-240	REP	98-16-105
16-659-001	REP	98-13-073	30- 22-070	PREP	98-09-082	50- 52-250	REP-XR	98-13-096
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16-659-010	AMD	98-13-073	30- 22-090	AMD-P	98-20-087	50- 52-270	REP-XR	98-13-096
16-662	PREP	98-07-069	30- 22-090	AMD	98-24-073	50- 52-270	REP	98-16-105
16-662-105	AMD-P	98-10-118	44- 01-140	REP-XR	98-07-053	50- 52-280	REP-XR	98-13-096
16-662-105	AMD	98-13-072	44- 01-140	REP	98-13-046	50- 52-280	REP	98-16-105
16-662-115	AMD-P	98-10-118	50- 36	PREP	98-15-148	50- 52-290	REP-XR	98-13-096
16-662-115	AMD	98-13-072	50- 36-010	AMD-P	98-22-076	50- 52-290	REP	98-16-105
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16-675-030	AMD	98-12-030	50- 36-030	AMD-P	98-22-076	50- 52-300	REP	98-16-105
16-675-040	AMD-P	98-09-099	50- 36-050	AMD-P	98-22-076	50- 52-310	REP-XR	98-13-096
16-675-040	AMD	98-12-030	50- 36-060	AMD-P	98-22-076	50- 52-310	REP	98-16-105
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16-750-005	AMD-P	98-20-094	50- 36-090	AMD-P	98-22-076	50- 52-320	REP	98-16-105
16-750-005	AMD	98-24-026	50- 36-100	AMD-P	98-22-076	50- 52-330	REP-XR	98-13-096
16-750-011	AMD-P	98-20-094	50- 36-110	AMD-P	98-22-076	50- 52-330	REP	98-16-105
16-750-011	AMD	98-24-026	50- 52	PREP	98-13-096	50- 52-340	REP-XR	98-13-096
16-750-015	AMD-P	98-20-094	50- 52-010	REP-XR	98-13-096	50- 52-340	REP	98-16-105
16-750-015	AMD	98-24-026	50- 52-010	REP	98-16-105	50- 52-350	REP-XR	98-13-096
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50-52-380	REP	98-16-105	51-11-0101	AMD-P	98-15-151	51-13-402	AMD	98-02-047
50-52-390	REP-XR	98-13-096	51-11-0101	AMD	98-24-078	51-13-502	AMD	98-02-047
50-52-390	REP	98-16-105	51-11-0104	AMD	98-03-003	51-26-001	REP	98-02-055
50-52-400	REP-XR	98-13-096	51-11-0201	AMD	98-03-003	51-26-002	REP	98-02-055
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50-52-410	REP-XR	98-13-096	51-11-0502	AMD	98-03-003	51-26-004	REP	98-02-055
50-52-410	REP	98-16-105	51-11-0503	AMD	98-03-003	51-26-008	REP	98-02-055
50-52-420	REP-XR	98-13-096	51-11-0503	AMD-E	98-15-080	51-26-0300	REP	98-02-055
50-52-420	REP	98-16-105	51-11-0503	AMD-P	98-16-066	51-26-0310	REP	98-02-055
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50-52-430	REP	98-16-105	51-11-0503	AMD	98-24-075	51-26-0400	REP	98-02-055
50-52-440	REP-XR	98-13-096	51-11-0504	AMD	98-03-003	51-26-0401	REP	98-02-055
50-52-440	REP	98-16-105	51-11-0505	AMD-W	98-05-064	51-26-0500	REP	98-02-055
50-52-450	REP-XR	98-13-096	51-11-0525	AMD	98-03-003	51-26-0503	REP	98-02-055
50-52-450	REP	98-16-105	51-11-0527	AMD	98-03-003	51-26-0909	REP	98-02-055
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50-52-460	REP	98-16-105	51-11-0541	AMD	98-03-003	51-26-1004	REP	98-02-055
50-52-470	REP-XR	98-13-096	51-11-0602	AMD	98-03-003	51-26-1007	REP	98-02-055
50-52-470	REP	98-16-105	51-11-0606	REP	98-03-003	51-26-1009	REP	98-02-055
50-52-480	REP-XR	98-13-096	51-11-0607	REP	98-03-003	51-26-1020	REP	98-02-055
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50-52-490	REP-XR	98-13-096	51-11-0625	AMD	98-03-003	51-26-1800	REP	98-02-055
50-52-490	REP	98-16-105	51-11-0626	AMD	98-03-003	51-26-1801	REP	98-02-055
50-52-500	REP-XR	98-13-096	51-11-0627	AMD	98-03-003	51-26-1802	REP	98-02-055
50-52-500	REP	98-16-105	51-11-0628	AMD	98-03-003	51-26-1803	REP	98-02-055
50-52-510	REP-XR	98-13-096	51-11-0629	AMD	98-03-003	51-26-1804	REP	98-02-055
50-52-510	REP	98-16-105	51-11-0630	AMD	98-03-003	51-26-1810	REP	98-02-055
50-52-520	REP-XR	98-13-096	51-11-0701	AMD	98-03-003	51-26-1820	REP	98-02-055
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50-52-530	REP-XR	98-13-096	51-11-1002	AMD	98-03-003	51-26-1840	REP	98-02-055
50-52-530	REP	98-16-105	51-11-1003	AMD	98-03-003	51-26-1845	REP	98-02-055
50-52-540	REP-XR	98-13-096	51-11-1004	AMD	98-03-003	51-26-2200	REP	98-02-055
50-52-540	REP	98-16-105	51-11-1005	AMD	98-03-003	51-26-2300	REP	98-02-055
50-52-550	REP-XR	98-13-096	51-11-1006	AMD	98-03-003	51-26-2301	REP	98-02-055
50-52-550	REP	98-16-105	51-11-1007	AMD	98-03-003	51-27-001	REP	98-02-055
50-52-560	REP-XR	98-13-096	51-11-1008	AMD	98-03-003	51-27-002	REP	98-02-055
50-52-560	REP	98-16-105	51-11-1009	AMD	98-03-003	51-27-003	REP	98-02-055
50-52-570	REP-XR	98-13-096	51-11-1010	REP	98-03-003	51-27-004	REP	98-02-055
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50-52-580	REP-XR	98-13-096	51-11-1130	AMD	98-03-003	51-30-001	REP	98-02-054
50-52-580	REP	98-16-105	51-11-1132	AMD	98-03-003	51-30-002	REP	98-02-054
50-52-590	REP-XR	98-13-096	51-11-1133	AMD	98-03-003	51-30-003	REP	98-02-054
50-52-590	REP	98-16-105	51-11-1210	AMD	98-03-003	51-30-004	REP	98-02-054
50-52-600	REP-XR	98-13-096	51-11-1310	AMD-W	98-05-064	51-30-005	REP	98-02-054
50-52-600	REP	98-16-105	51-11-1312	AMD	98-03-003	51-30-007	REP	98-02-054
50-52-610	REP-XR	98-13-096	51-11-1322	AMD-W	98-05-064	51-30-008	REP	98-02-054
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50-52-620	REP	98-16-105	51-11-1334	AMD	98-03-003	51-30-0104	REP	98-02-054
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50-52-630	REP	98-16-105	51-11-1412	AMD	98-03-003	51-30-0204	REP	98-02-054
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51-04-030	AMD	98-24-077	51-11-1512	AMD	98-03-003	51-30-0307	REP	98-02-054
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51-04-060	AMD	98-24-077	51-11-1701	AMD	98-03-003	51-30-0313	REP	98-02-054
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51-40-007	AMD	98-24-078	51-40-93120	NEW	98-02-054	51-46-007	NEW	98-02-055
51-40-008	NEW	98-02-054	51-42-001	NEW	98-02-056	51-46-007	PREP	98-13-051
51-40-009	NEW	98-02-054	51-42-002	NEW	98-02-056	51-46-007	AMD-P	98-15-151
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51-40-0303	NEW	98-02-054	51-42-005	NEW	98-02-056	51-46-0100	NEW	98-02-055
51-40-0304	NEW	98-02-054	51-42-007	NEW	98-02-056	51-46-0101	NEW	98-02-055
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51-40-0307	NEW	98-02-054	51-42-007	AMD-P	98-15-151	51-46-0103	NEW	98-02-055
51-40-0308	NEW	98-02-054	51-42-007	AMD	98-24-078	51-46-0200	NEW	98-02-055
51-40-0310	NEW	98-02-054	51-42-008	NEW	98-02-056	51-46-0205	NEW	98-02-055
51-40-0311	NEW	98-02-054	51-42-0200	NEW	98-02-056	51-46-0215	NEW	98-02-055
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51-40-1091	NEW	98-02-054	51-42-1101	NEW	98-02-056	51-46-0413	NEW	98-02-055
51-40-1100	NEW	98-02-054	51-42-1102	NEW	98-02-056	51-46-0500	NEW	98-02-055
51-40-1101	NEW	98-02-054	51-42-1103	NEW	98-02-056	51-46-0501	NEW	98-02-055
51-40-1102	NEW	98-02-054	51-42-1104	NEW	98-02-056	51-46-0502	NEW	98-02-055
51-40-1103	NEW	98-02-054	51-42-1105	NEW	98-02-056	51-46-0505	NEW	98-02-055
51-40-1104	NEW	98-02-054	51-42-1106	NEW	98-02-056	51-46-0507	NEW	98-02-055
51-40-1105	NEW	98-02-054	51-42-1107	NEW	98-02-056	51-46-0509	NEW	98-02-055
51-40-1106	NEW	98-02-054	51-42-1108	NEW	98-02-056	51-46-0512	NEW	98-02-055
51-40-1107	NEW	98-02-054	51-42-1311	NEW	98-02-056	51-46-0513	NEW	98-02-055
51-40-1108	NEW	98-02-054	51-42-1312	NEW	98-02-056	51-46-0514	NEW	98-02-055
51-40-1109	NEW	98-02-054	51-42-1401	NEW	98-02-056	51-46-0515	NEW	98-02-055
51-40-1110	NEW	98-02-054	51-44-001	NEW	98-02-053	51-46-0516	NEW	98-02-055
51-40-1111	NEW	98-02-054	51-44-002	NEW	98-02-053	51-46-0517	NEW	98-02-055
51-40-1112	NEW	98-02-054	51-44-003	NEW	98-02-053	51-46-0518	NEW	98-02-055
51-40-1113	NEW	98-02-054	51-44-007	NEW	98-02-053	51-46-0519	NEW	98-02-055
51-40-1114	NEW	98-02-054	51-44-007	PREP	98-13-051	51-46-0520	NEW	98-02-055
51-40-1191	NEW	98-02-054	51-44-007	AMD-P	98-15-151	51-46-0521	NEW	98-02-055
51-40-1192	NEW	98-02-054	51-44-007	AMD	98-24-078	51-46-0522	NEW	98-02-055
51-40-1193	NEW	98-02-054	51-44-008	NEW	98-02-053	51-46-0523	NEW	98-02-055
51-40-1194	NEW	98-02-054	51-44-0103	NEW	98-02-053	51-46-0524	NEW	98-02-055
51-40-1195	NEW	98-02-054	51-44-0200	NEW	98-02-053	51-46-0525	NEW	98-02-055
51-40-1196	NEW	98-02-054	51-44-0900	NEW	98-02-053	51-46-0600	NEW	98-02-055
51-40-1203	NEW	98-02-054	51-44-1003	NEW	98-02-053	51-46-0603	NEW	98-02-055
51-40-1506	NEW-W	98-05-065	51-44-1007	NEW	98-02-053	51-46-0604	NEW	98-02-055
51-40-1616	NEW	98-02-054	51-44-10210	NEW	98-02-053	51-46-0608	NEW	98-02-055
51-40-1702	NEW	98-02-054	51-44-1109	NEW	98-02-053	51-46-0609	NEW	98-02-055
51-40-1909	NEW	98-02-054	51-44-2500	NEW	98-02-053	51-46-0610	NEW	98-02-055
51-40-23110	NEW	98-02-054	51-44-5200	NEW	98-02-053	51-46-0700	NEW	98-02-055
51-40-23110	REP-P	98-16-065	51-44-6100	NEW	98-02-053	51-46-0701	NEW	98-02-055
51-40-23110	REP-E	98-20-051	51-44-6300	NEW	98-02-053	51-46-0704	NEW	98-02-055
51-40-23110	REP	98-24-076	51-44-7404	NEW	98-02-053	51-46-0710	NEW	98-02-055
51-40-2406	NEW	98-02-054	51-44-7802	NEW	98-02-053	51-46-0713	NEW	98-02-055
51-40-2900	NEW	98-02-054	51-44-7900	NEW	98-02-053	51-46-0793	NEW	98-02-055
51-40-2929	NEW	98-02-054	51-44-8000	NEW	98-02-053	51-46-0800	NEW	98-02-055
51-40-3004	NEW	98-02-054	51-45-001	NEW	98-02-053	51-46-0810	NEW	98-02-055
51-40-3102	NEW	98-02-054	51-45-002	NEW	98-02-053	51-46-0814	NEW	98-02-055
51-40-31200	NEW	98-02-054	51-45-003	NEW	98-02-053	51-46-0815	NEW	98-02-055
51-40-3404	NEW	98-02-054	51-45-007	NEW	98-02-053	51-46-0900	NEW	98-02-055
51-40-93115	NEW	98-02-054	51-45-008	NEW	98-02-053	51-46-0903	NEW	98-02-055
51-40-93116	NEW	98-02-054	51-45-80400	NEW	98-02-053	51-46-1000	NEW	98-02-055

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51-46-1012	NEW	98-02-055	82-24-130	REP-XR	98-14-066	82-36-060	REP	98-18-014
51-46-1300	NEW	98-02-055	82-24-130	REP	98-18-017	82-36-070	REP-XR	98-14-016
51-46-1301	NEW	98-02-055	82-28-010	REP-XR	98-14-065	82-36-070	REP	98-18-014
51-46-1302	NEW	98-02-055	82-28-010	REP	98-18-018	82-36-080	REP-XR	98-14-016
51-46-1303	NEW	98-02-055	82-28-020	REP-XR	98-14-065	82-36-080	REP	98-18-014
51-46-1304	NEW	98-02-055	82-28-020	REP	98-18-018	82-36-090	REP-XR	98-14-016
51-46-1305	NEW	98-02-055	82-28-030	REP-XR	98-14-065	82-36-090	REP	98-18-014
51-46-1400	NEW	98-02-055	82-28-030	REP	98-18-018	82-36-120	REP-XR	98-14-016
51-46-1401	NEW	98-02-055	82-28-040	REP-XR	98-14-065	82-36-120	REP	98-18-014
51-46-1491	NEW	98-02-055	82-28-040	REP	98-18-018	82-36-130	REP-XR	98-14-016
51-46-97120	NEW	98-02-055	82-28-050	REP-XR	98-14-065	82-36-130	REP	98-18-014
51-46-97121	NEW	98-02-055	82-28-050	REP	98-18-018	82-36-140	REP-XR	98-14-016
51-46-97122	NEW	98-02-055	82-28-060	REP-XR	98-14-065	82-36-140	REP	98-18-014
51-46-97123	NEW	98-02-055	82-28-060	REP	98-18-018	82-36-150	REP-XR	98-14-016
51-46-97124	NEW	98-02-055	82-28-06001	REP-XR	98-14-065	82-36-150	REP	98-18-014
51-46-97125	NEW	98-02-055	82-28-06001	REP	98-18-018	82-40-010	REP-XR	98-14-017
51-46-97126	NEW	98-02-055	82-28-070	REP-XR	98-14-065	82-40-010	REP	98-18-016
51-46-97127	NEW	98-02-055	82-28-070	REP	98-18-018	82-40-020	REP-XR	98-14-017
51-46-97128	NEW	98-02-055	82-28-070	REP	98-18-018	82-40-020	REP	98-18-016
51-46-97129	NEW	98-02-055	82-28-080	REP-XR	98-14-065	82-40-030	REP-XR	98-14-017
51-47-001	NEW	98-02-055	82-28-080	REP	98-18-018	82-40-030	REP	98-18-016
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51-47-003	NEW	98-02-055	82-28-090	REP	98-18-018	82-40-040	REP	98-18-016
51-47-007	NEW	98-02-055	82-28-090	REP	98-18-018	82-40-050	REP-XR	98-14-017
51-47-008	NEW	98-02-055	82-28-100	REP-XR	98-14-065	82-40-050	REP	98-18-016
67-25-005	AMD-P	98-19-016	82-28-100	REP	98-18-018	82-40-060	REP-XR	98-14-017
67-25-005	AMD	98-23-078	82-28-110	REP-XR	98-14-065	82-40-060	REP	98-18-016
67-25-255	AMD-P	98-19-016	82-28-110	REP	98-18-018	82-40-070	REP-XR	98-14-017
67-25-255	AMD	98-23-078	82-28-120	REP-XR	98-14-065	82-40-070	REP	98-18-016
67-25-260	AMD-P	98-19-016	82-28-120	REP	98-18-018	82-40-070	REP	98-18-016
67-25-260	AMD	98-23-078	82-28-130	REP-XR	98-14-065	82-44-010	REP-XR	98-14-015
67-25-270	AMD-P	98-19-016	82-28-130	REP	98-18-018	82-44-010	REP	98-18-015
67-25-270	AMD	98-23-078	82-28-135	REP-XR	98-14-065	82-44-020	REP-XR	98-14-015
67-25-288	AMD-P	98-19-016	82-28-135	REP	98-18-018	82-44-020	REP	98-18-015
67-25-288	AMD	98-23-078	82-28-140	REP-XR	98-14-065	82-44-030	REP-XR	98-14-015
67-25-350	AMD-P	98-19-016	82-28-140	REP	98-18-018	82-44-030	REP	98-18-015
67-25-350	AMD	98-23-078	82-28-150	REP-XR	98-14-065	82-44-040	REP-XR	98-14-015
67-25-384	AMD-P	98-19-016	82-28-150	REP	98-18-018	82-44-040	REP	98-18-015
67-25-384	AMD	98-23-078	82-28-160	REP-XR	98-14-065	82-44-050	REP-XR	98-14-015
67-25-540	AMD-P	98-19-016	82-28-160	REP	98-18-018	82-44-050	REP	98-18-015
67-25-540	AMD	98-23-078	82-28-170	REP-XR	98-14-065	82-44-060	REP-XR	98-14-015
67-25-550	AMD-P	98-19-016	82-28-170	REP	98-18-018	82-44-060	REP	98-18-015
67-25-550	AMD	98-23-078	82-28-180	REP-XR	98-14-065	82-44-070	REP-XR	98-14-015
82-24-010	REP-XR	98-14-066	82-28-180	REP	98-18-018	82-44-070	REP	98-18-015
82-24-010	REP	98-18-017	82-28-190	REP-XR	98-14-065	82-44-080	REP-XR	98-14-015
82-24-020	REP-XR	98-14-066	82-28-190	REP	98-18-018	82-44-080	REP	98-18-015
82-24-020	REP	98-18-017	82-28-200	REP-XR	98-14-065	82-44-090	REP-XR	98-14-015
82-24-030	REP-XR	98-14-066	82-28-200	REP	98-18-018	82-44-090	REP	98-18-015
82-24-030	REP	98-18-017	82-28-210	REP-XR	98-14-065	82-50-021	AMD-P	98-09-084
82-24-040	REP-XR	98-14-066	82-28-210	REP	98-18-018	82-50-021	AMD	98-14-079
82-24-040	REP	98-18-017	82-28-220	REP-XR	98-14-065	98-70-010	PREP	98-11-039
82-24-050	REP-XR	98-14-066	82-28-220	REP	98-18-018	98-70-010	AMD-P	98-15-100
82-24-050	REP	98-18-017	82-28-230	REP-XR	98-14-065	98-70-010	AMD	98-19-053
82-24-060	REP-XR	98-14-066	82-28-230	REP	98-18-018	106-116-040	REP-P	98-19-067
82-24-060	REP	98-18-017	82-36-010	REP-XR	98-14-016	106-116-040	REP	98-23-022
82-24-070	REP-XR	98-14-066	82-36-020	REP	98-18-014	106-116-042	AMD-P	98-19-067
82-24-070	REP	98-18-017	82-36-020	REP-XR	98-14-016	106-116-042	AMD	98-23-022
82-24-080	REP-XR	98-14-066	82-36-030	REP	98-18-014	106-116-102	AMD-P	98-19-067
82-24-080	REP	98-18-017	82-36-030	REP-XR	98-14-016	106-116-102	AMD	98-23-022
82-24-090	REP-XR	98-14-066	82-36-033	REP	98-18-014	106-116-201	AMD-P	98-19-067
82-24-090	REP	98-18-017	82-36-033	REP-XR	98-14-016	106-116-201	AMD	98-23-022
82-24-100	REP-XR	98-14-066	82-36-035	REP	98-18-014	106-116-204	REP-P	98-19-067
82-24-100	REP	98-18-017	82-36-035	REP-XR	98-14-016	106-116-204	REP	98-23-022
82-24-110	REP-XR	98-14-066	82-36-040	REP	98-18-014	106-116-205	AMD-P	98-19-067
82-24-110	REP	98-18-017	82-36-040	REP-XR	98-14-016	106-116-205	AMD	98-23-022
82-24-120	REP-XR	98-14-066	82-36-050	REP	98-18-014	106-116-207	AMD-P	98-19-067
			82-36-050	REP-XR	98-14-016	106-116-207	AMD	98-23-022

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106-116-301	REP-P	98-19-067	131-08-007	AMD-P	98-10-074	131-24-040	REP	98-15-010
106-116-301	REP	98-23-022	131-08-007	AMD	98-15-002	131-28	AMD-C	98-07-059
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106-116-302	REP	98-23-022	131-08-008	AMD-P	98-10-074	131-28-005	NEW-XA	98-18-064
106-116-303	AMD-P	98-19-067	131-08-008	AMD	98-15-002	131-28-005	NEW-W	98-19-058
106-116-303	AMD	98-23-022	131-12	AMD-C	98-07-059	131-28-005	NEW	98-22-062
106-116-304	AMD-P	98-19-067	131-12-020	AMD-P	98-06-069	131-28-015	AMD-P	98-10-047
106-116-304	AMD	98-23-022	131-12-020	AMD	98-15-011	131-28-015	AMD-XA	98-18-064
106-116-305	AMD-P	98-19-067	131-12-030	AMD-P	98-06-069	131-28-015	AMD	98-22-062
106-116-305	AMD	98-23-022	131-12-030	AMD	98-15-011	131-28-015	AMD-W	98-23-073
106-116-306	REP-P	98-19-067	131-12-040	AMD-P	98-06-069	131-28-025	AMD-P	98-06-072
106-116-306	REP	98-23-022	131-12-040	AMD	98-15-011	131-28-025	AMD-XA	98-18-064
106-116-307	REP-P	98-19-067	131-12-041	AMD-P	98-06-069	131-28-025	AMD-W	98-19-058
106-116-307	REP	98-23-022	131-12-041	AMD	98-15-011	131-28-025	AMD	98-22-062
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106-116-308	AMD	98-23-022	131-16-010	AMD-P	98-06-075	131-28-02501	AMD-P	98-10-047
106-116-311	AMD-P	98-19-067	131-16-010	AMD-E	98-09-044	131-28-02501	AMD-XA	98-18-064
106-116-311	AMD	98-23-022	131-16-010	AMD	98-14-033	131-28-02501	AMD-W	98-19-058
106-116-401	REP-P	98-19-067	131-16-011	AMD-P	98-06-075	131-28-02501	AMD	98-22-062
106-116-401	REP	98-23-022	131-16-011	AMD-E	98-09-044	131-28-02501	AMD-W	98-23-073
106-116-402	REP-P	98-19-067	131-16-011	AMD	98-14-033	131-28-026	AMD-P	98-06-072
106-116-402	REP	98-23-022	131-16-015	REP-P	98-06-075	131-28-026	AMD-XA	98-18-064
106-116-403	REP-P	98-19-067	131-16-021	AMD-P	98-06-075	131-28-026	AMD-W	98-19-058
106-116-403	REP	98-23-022	131-16-021	AMD-E	98-09-044	131-28-026	AMD	98-22-062
106-116-404	REP-P	98-19-067	131-16-021	AMD	98-14-033	131-28-027	AMD-P	98-06-072
106-116-404	REP	98-23-022	131-16-031	AMD-P	98-06-075	131-28-027	AMD-XA	98-18-064
106-116-410	AMD-P	98-19-067	131-16-031	AMD-E	98-09-044	131-28-027	AMD-W	98-19-058
106-116-410	AMD	98-23-022	131-16-031	AMD	98-14-033	131-28-027	AMD	98-22-062
106-116-513	AMD-P	98-19-067	131-16-040	REP-P	98-06-075	131-28-045	AMD-P	98-06-072
106-116-513	AMD	98-23-022	131-16-045	AMD-P	98-06-075	131-28-045	AMD-XA	98-18-064
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106-116-514	AMD	98-23-022	131-16-045	AMD	98-14-033	131-28-045	AMD	98-22-062
106-116-515	AMD-P	98-19-067	131-16-050	AMD-P	98-06-075	131-28-080	REP-P	98-06-072
106-116-515	AMD	98-23-022	131-16-050	AMD-E	98-09-044	131-28-080	REP-XA	98-18-064
106-116-521	AMD-P	98-19-067	131-16-050	AMD	98-14-033	131-28-080	REP-W	98-19-058
106-116-521	AMD	98-23-022	131-16-055	AMD-P	98-06-075	131-28-080	REP	98-22-062
106-116-601	AMD-P	98-19-067	131-16-055	AMD-E	98-09-044	131-28-085	REP-P	98-06-072
106-116-601	AMD	98-23-022	131-16-055	AMD	98-14-033	131-28-085	REP-XA	98-18-064
106-116-603	AMD-P	98-19-067	131-16-056	AMD-P	98-06-075	131-28-085	REP-W	98-19-058
106-116-603	AMD	98-23-022	131-16-056	AMD-E	98-09-044	131-28-085	REP	98-22-062
106-116-850	AMD-P	98-19-067	131-16-056	AMD	98-14-033	131-28-090	REP-P	98-06-072
106-116-850	AMD	98-23-022	131-16-060	REP-P	98-06-075	131-28-090	REP-XA	98-18-064
106-116-901	AMD-P	98-19-067	131-16-061	AMD-P	98-06-075	131-28-090	REP-W	98-19-058
106-116-901	AMD	98-23-022	131-16-061	AMD-E	98-09-044	131-28-090	REP	98-22-062
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118-40-020	AMD	98-07-028	131-16-062	REP-P	98-06-075	131-32-010	AMD	98-23-049
118-40-030	AMD	98-07-028	131-16-065	REP-P	98-06-075	131-32-020	AMD-P	98-10-044
118-40-040	AMD	98-07-028	131-16-066	REP-P	98-06-075	131-32-020	AMD	98-23-049
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118-40-060	AMD	98-07-028	131-16-080	AMD	98-23-051	131-32-030	AMD	98-23-050
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118-40-090	REP	98-07-028	131-16-210	REP	98-23-051	131-36	AMD-P	98-06-074
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WAC #	ACTION	WSR #	WAC #	ACTION	WSR #	WAC #	ACTION	WSR #
180-27-050	AMD-P	98-14-149	180-29-080	AMD-P	98-14-147	180-30-205	REP-P	98-14-148
180-27-050	AMD	98-19-143	180-29-080	AMD	98-23-034	180-30-205	REP	98-19-142
180-27-052	REP-P	98-14-149	180-29-085	AMD-P	98-14-147	180-30-210	REP-P	98-14-148
180-27-052	REP	98-19-143	180-29-085	AMD	98-19-141	180-30-210	REP	98-19-142
180-27-054	AMD-P	98-14-149	180-29-090	AMD-P	98-14-147	180-30-215	REP-P	98-14-148
180-27-054	AMD	98-19-143	180-29-090	AMD	98-23-035	180-30-215	REP	98-19-142
180-27-056	AMD-P	98-14-149	180-29-1075	AMD-P	98-14-147	180-30-220	REP-P	98-14-148
180-27-056	AMD-E	98-16-005	180-29-1075	AMD	98-19-141	180-30-220	REP	98-19-142
180-27-056	PREP	98-16-095	180-29-1076	REP-P	98-14-147	180-30-225	REP-P	98-14-148
180-27-056	AMD-P	98-19-135	180-29-1076	REP	98-19-141	180-30-225	REP	98-19-142
180-27-056	AMD	98-19-143	180-29-115	AMD-P	98-14-147	180-30-230	REP-P	98-14-148
180-27-056	AMD	98-23-033	180-29-115	AMD	98-19-141	180-30-230	REP	98-19-142
180-27-057	AMD-P	98-14-149	180-29-116	REP-P	98-14-147	180-30-250	REP-P	98-14-148
180-27-057	AMD	98-19-143	180-29-116	REP	98-19-141	180-30-250	REP	98-19-142
180-27-058	REP-P	98-14-149	180-29-155	AMD-P	98-14-147	180-30-350	REP-P	98-14-148
180-27-058	REP	98-19-143	180-29-155	AMD	98-19-141	180-30-350	REP	98-19-142
180-27-060	AMD-P	98-14-149	180-29-200	AMD-P	98-14-147	180-30-355	REP-P	98-14-148
180-27-060	AMD	98-19-143	180-29-200	AMD	98-19-141	180-30-355	REP	98-19-142
180-27-070	AMD-P	98-14-149	180-30	PREP	98-06-001	180-30-360	REP-P	98-14-148
180-27-070	AMD	98-19-143	180-30-003	REP-P	98-14-148	180-30-360	REP	98-19-142
180-27-075	AMD-P	98-14-149	180-30-003	REP	98-19-142	180-30-365	REP-P	98-14-148
180-27-075	AMD	98-19-143	180-30-005	REP-P	98-14-148	180-30-365	REP	98-19-142
180-27-080	AMD-P	98-14-149	180-30-005	REP	98-19-142	180-30-370	REP-P	98-14-148
180-27-080	AMD	98-19-143	180-30-010	REP-P	98-14-148	180-30-370	REP	98-19-142
180-27-082	NEW-P	98-14-149	180-30-010	REP	98-19-142	180-30-380	REP-P	98-14-148
180-27-083	NEW-P	98-14-149	180-30-015	REP-P	98-14-148	180-30-380	REP	98-19-142
180-27-095	AMD-P	98-14-149	180-30-015	REP	98-19-142	180-30-400	REP-P	98-14-148
180-27-095	AMD	98-19-143	180-30-030	REP-P	98-14-148	180-30-400	REP	98-19-142
180-27-105	AMD-P	98-14-149	180-30-030	REP	98-19-142	180-30-405	REP-P	98-14-148
180-27-105	AMD	98-19-143	180-30-035	REP-P	98-14-148	180-30-405	REP	98-19-142
180-27-115	AMD-P	98-14-149	180-30-035	REP	98-19-142	180-30-406	REP-P	98-14-148
180-27-115	AMD	98-19-143	180-30-040	REP-P	98-14-148	180-30-406	REP	98-19-142
180-27-120	AMD-P	98-14-149	180-30-040	REP	98-19-142	180-30-407	REP-P	98-14-148
180-27-120	AMD	98-19-143	180-30-050	REP-P	98-14-148	180-30-407	REP	98-19-142
180-27-400	REP-P	98-14-149	180-30-050	REP	98-19-142	180-30-408	REP-P	98-14-148
180-27-400	REP	98-19-143	180-30-055	REP-P	98-14-148	180-30-408	REP	98-19-142
180-27-415	AMD-P	98-14-149	180-30-055	REP	98-19-142	180-30-410	REP-P	98-14-148
180-27-415	AMD	98-19-143	180-30-060	REP-P	98-14-148	180-30-410	REP	98-19-142
180-27-420	AMD-P	98-14-149	180-30-060	REP	98-19-142	180-30-415	REP-P	98-14-148
180-27-420	AMD	98-19-143	180-30-065	REP-P	98-14-148	180-30-415	REP	98-19-142
180-27-425	AMD-P	98-14-149	180-30-065	REP	98-19-142	180-30-420	REP-P	98-14-148
180-27-425	AMD	98-19-143	180-30-071	REP-P	98-14-148	180-30-420	REP	98-19-142
180-27-500	AMD-P	98-14-149	180-30-071	REP	98-19-142	180-30-425	REP-P	98-14-148
180-27-500	AMD	98-19-143	180-30-075	REP-P	98-14-148	180-30-425	REP	98-19-142
180-27-505	AMD-P	98-14-149	180-30-075	REP	98-19-142	180-30-430	REP-P	98-14-148
180-27-505	AMD	98-19-143	180-30-100	REP-P	98-14-148	180-30-430	REP	98-19-142
180-27-515	AMD-P	98-14-149	180-30-100	REP	98-19-142	180-30-435	REP-P	98-14-148
180-27-515	AMD	98-19-143	180-30-105	REP-P	98-14-148	180-30-435	REP	98-19-142
180-27-530	AMD-P	98-14-149	180-30-105	REP	98-19-142	180-30-440	REP-P	98-14-148
180-27-530	AMD	98-19-143	180-30-110	REP-P	98-14-148	180-30-440	REP	98-19-142
180-27-990	REP-P	98-14-149	180-30-110	REP	98-19-142	180-30-450	REP-P	98-14-148
180-27-990	REP	98-19-143	180-30-115	REP-P	98-14-148	180-30-450	REP	98-19-142
180-29	PREP	98-06-004	180-30-115	REP	98-19-142	180-30-455	REP-P	98-14-148
180-29-005	AMD-P	98-14-147	180-30-116	REP-P	98-14-148	180-30-455	REP	98-19-142
180-29-005	AMD	98-19-141	180-30-116	REP	98-19-142	180-30-460	REP-P	98-14-148
180-29-015	REP-P	98-14-147	180-30-117	REP-P	98-14-148	180-30-460	REP	98-19-142
180-29-015	REP	98-19-141	180-30-117	REP	98-19-142	180-30-465	REP-P	98-14-148
180-29-020	REP-P	98-14-147	180-30-120	REP-P	98-14-148	180-30-465	REP	98-19-142
180-29-020	REP	98-19-141	180-30-120	REP	98-19-142	180-30-470	REP-P	98-14-148
180-29-021	AMD-P	98-14-147	180-30-125	REP-P	98-14-148	180-30-470	REP	98-19-142
180-29-021	AMD	98-19-141	180-30-125	REP	98-19-142	180-30-475	REP-P	98-14-148
180-29-025	AMD-P	98-14-147	180-30-130	REP-P	98-14-148	180-30-475	REP	98-19-142
180-29-025	AMD	98-19-141	180-30-130	REP	98-19-142	180-30-480	REP-P	98-14-148
180-29-030	REP-P	98-14-147	180-30-135	REP-P	98-14-148	180-30-480	REP	98-19-142
180-29-030	REP	98-19-141	180-30-135	REP	98-19-142	180-30-485	REP-P	98-14-148
180-29-035	AMD-P	98-14-147	180-30-200	REP-P	98-14-148	180-30-485	REP	98-19-142
180-29-035	AMD	98-19-141	180-30-200	REP	98-19-142	180-30-490	REP-P	98-14-148

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180-30-490	REP	98-19-142	180-30-807	REP-P	98-14-148	180-58-020	REP	98-05-006
180-30-495	REP-P	98-14-148	180-30-807	REP	98-19-142	180-58-030	REP	98-05-006
180-30-495	REP	98-19-142	180-30-810	REP-P	98-14-148	180-58-040	REP	98-05-006
180-30-500	REP-P	98-14-148	180-30-810	REP	98-19-142	180-58-045	REP	98-05-006
180-30-500	REP	98-19-142	180-30-815	REP-P	98-14-148	180-58-055	REP	98-05-006
180-30-505	REP-P	98-14-148	180-30-815	REP	98-19-142	180-58-065	REP	98-05-006
180-30-505	REP	98-19-142	180-30-820	REP-P	98-14-148	180-58-075	REP	98-05-006
180-30-510	REP-P	98-14-148	180-30-820	REP	98-19-142	180-58-085	REP	98-05-006
180-30-510	REP	98-19-142	180-30-825	REP-P	98-14-148	180-58-090	REP	98-05-006
180-30-515	REP-P	98-14-148	180-30-825	REP	98-19-142	180-59-005	REP	98-05-007
180-30-515	REP	98-19-142	180-30-830	REP-P	98-14-148	180-59-010	REP	98-05-007
180-30-520	REP-P	98-14-148	180-30-830	REP	98-19-142	180-59-015	REP	98-05-007
180-30-520	REP	98-19-142	180-30-845	REP-P	98-14-148	180-59-020	REP	98-05-007
180-30-575	REP-P	98-14-148	180-30-845	REP	98-19-142	180-59-025	REP	98-05-007
180-30-575	REP	98-19-142	180-31	PREP	98-06-003	180-59-030	REP	98-05-007
180-30-610	REP-P	98-14-148	180-31-005	AMD-P	98-14-150	180-59-032	REP	98-05-007
180-30-610	REP	98-19-142	180-31-005	AMD	98-19-144	180-59-035	REP	98-05-007
180-30-620	REP-P	98-14-148	180-31-020	AMD-P	98-14-150	180-59-037	REP	98-05-007
180-30-620	REP	98-19-142	180-31-020	AMD	98-19-144	180-59-040	REP	98-05-007
180-30-625	REP-P	98-14-148	180-31-025	AMD-P	98-14-150	180-59-045	REP	98-05-007
180-30-625	REP	98-19-142	180-31-025	AMD	98-19-144	180-59-047	REP	98-05-007
180-30-630	REP-P	98-14-148	180-31-035	AMD-P	98-14-150	180-59-050	REP	98-05-007
180-30-630	REP	98-19-142	180-31-035	AMD	98-19-144	180-59-055	REP	98-05-007
180-30-635	REP-P	98-14-148	180-31-040	AMD-P	98-14-150	180-59-060	REP	98-05-007
180-30-635	REP	98-19-142	180-31-040	AMD	98-19-144	180-59-065	REP	98-05-007
180-30-640	REP-P	98-14-148	180-31-045	NEW-P	98-14-150	180-59-070	REP	98-05-007
180-30-640	REP	98-19-142	180-31-045	NEW	98-19-144	180-59-075	REP	98-05-007
180-30-645	REP-P	98-14-148	180-32	PREP	98-06-002	180-59-080	REP	98-05-007
180-30-645	REP	98-19-142	180-32-005	AMD-P	98-14-151	180-59-090	REP	98-05-007
180-30-650	REP-P	98-14-148	180-32-005	AMD	98-19-145	180-59-095	REP	98-05-007
180-30-650	REP	98-19-142	180-32-020	AMD-P	98-14-151	180-59-100	REP	98-05-007
180-30-655	REP-P	98-14-148	180-32-020	AMD	98-19-145	180-59-105	REP	98-05-007
180-30-655	REP	98-19-142	180-32-025	AMD-P	98-14-151	180-59-110	REP	98-05-007
180-30-660	REP-P	98-14-148	180-32-025	AMD	98-19-145	180-59-115	REP	98-05-007
180-30-660	REP	98-19-142	180-32-035	AMD-P	98-14-151	180-59-120	REP	98-05-007
180-30-710	REP-P	98-14-148	180-32-035	AMD	98-19-145	180-59-125	REP	98-05-007
180-30-710	REP	98-19-142	180-32-040	AMD-P	98-14-151	180-59-130	REP	98-05-007
180-30-715	REP-P	98-14-148	180-32-040	AMD	98-19-145	180-59-135	REP	98-05-007
180-30-715	REP	98-19-142	180-32-050	AMD-P	98-14-151	180-59-140	REP	98-05-007
180-30-720	REP-P	98-14-148	180-32-050	AMD	98-19-145	180-59-145	REP	98-05-007
180-30-720	REP	98-19-142	180-32-055	REP-P	98-14-151	180-59-150	REP	98-05-007
180-30-725	REP-P	98-14-148	180-32-055	REP	98-19-145	180-59-155	REP	98-05-007
180-30-725	REP	98-19-142	180-33	PREP	98-06-008	180-59-160	REP	98-05-007
180-30-730	REP-P	98-14-148	180-33-005	AMD-P	98-14-144	180-59-165	REP	98-05-007
180-30-730	REP	98-19-142	180-33-005	AMD	98-19-138	180-77-122	PREP	98-16-096
180-30-735	REP-P	98-14-148	180-33-025	AMD	98-09-052	180-77-122	AMD-P	98-19-136
180-30-735	REP	98-19-142	180-33-040	AMD-P	98-14-144	180-77A-170	PREP	98-16-097
180-30-740	REP-P	98-14-148	180-33-040	AMD	98-19-138	180-77A-170	AMD-P	98-19-137
180-30-740	REP	98-19-142	180-33-042	AMD-P	98-14-144	180-78A	PREP	98-06-030
180-30-750	REP-P	98-14-148	180-33-042	AMD	98-19-138	180-78A	PREP	98-16-098
180-30-750	REP	98-19-142	180-33-043	REP-P	98-14-144	180-78A-003	AMD-P	98-19-134
180-30-755	REP-P	98-14-148	180-33-043	REP	98-19-138	180-78A-004	REP-P	98-19-134
180-30-755	REP	98-19-142	180-34-010	AMD	98-05-002	180-78A-005	AMD-P	98-19-134
180-30-760	REP-P	98-14-148	180-34-015	REP	98-05-002	180-78A-006	REP-P	98-19-134
180-30-760	REP	98-19-142	180-34-020	REP	98-05-002	180-78A-010	AMD-P	98-19-134
180-30-765	REP-P	98-14-148	180-34-025	REP	98-05-002	180-78A-012	REP-P	98-19-134
180-30-765	REP	98-19-142	180-36-007	NEW	98-05-021	180-78A-015	AMD-P	98-19-134
180-30-770	REP-P	98-14-148	180-39-025	AMD	98-05-004	180-78A-026	REP-P	98-19-134
180-30-770	REP	98-19-142	180-39-027	REP	98-05-004	180-78A-028	REP-P	98-19-134
180-30-775	REP-P	98-14-148	180-39-028	REP	98-05-004	180-78A-030	REP-P	98-19-134
180-30-775	REP	98-19-142	180-39-030	REP	98-05-004	180-78A-033	REP-P	98-19-134
180-30-780	REP-P	98-14-148	180-39-035	REP	98-05-004	180-78A-037	REP-P	98-19-134
180-30-780	REP	98-19-142	180-51	PREP	98-20-016	180-78A-047	REP-P	98-19-134
180-30-800	REP-P	98-14-148	180-51-050	PREP	98-06-028	180-78A-057	REP-P	98-19-134
180-30-800	REP	98-19-142	180-56-003	REP	98-05-005	180-78A-060	REP-P	98-19-134
180-30-805	REP-P	98-14-148	180-58-010	REP	98-05-006	180-78A-063	REP-P	98-19-134
180-30-805	REP	98-19-142	180-58-015	REP	98-05-006	180-78A-065	REP-P	98-19-134

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180-78A-073	REP-P	98-19-134	180-78A-520	NEW-P	98-19-134	180-79A-403	REP-P	98-19-134
180-78A-075	REP-P	98-19-134	180-78A-525	NEW-P	98-19-134	180-79A-405	REP-P	98-19-134
180-78A-080	REP-P	98-19-134	180-78A-530	NEW-P	98-19-134	180-79A-415	REP-P	98-19-134
180-78A-100	NEW-P	98-19-134	180-78A-535	NEW-P	98-19-134	180-79A-417	REP-P	98-19-134
180-78A-105	NEW-P	98-19-134	180-78A-540	NEW-P	98-19-134	180-79A-420	PREP	98-04-087
180-78A-110	NEW-P	98-19-134	180-78A-545	NEW-P	98-19-134	180-79A-420	AMD-P	98-10-102
180-78A-115	NEW-P	98-19-134	180-78A-550	NEW-P	98-19-134	180-79A-420	AMD	98-15-027
180-78A-120	NEW-P	98-19-134	180-78A-555	NEW-P	98-19-134	180-79A-420	REP-P	98-19-134
180-78A-125	NEW-P	98-19-134	180-78A-560	NEW-P	98-19-134	180-79A-422	PREP	98-04-087
180-78A-130	NEW-P	98-19-134	180-78A-565	NEW-P	98-19-134	180-79A-422	AMD-P	98-10-102
180-78A-135	REP-P	98-19-134	180-79A	PREP	98-16-098	180-79A-422	AMD	98-15-027
180-78A-136	NEW-P	98-19-134	180-79A-005	REP-P	98-19-134	180-79A-422	REP-P	98-19-134
180-78A-140	REP-P	98-19-134	180-79A-006	NEW-P	98-19-134	180-79A-423	REP-P	98-19-134
180-78A-142	REP-P	98-19-134	180-79A-007	NEW-P	98-19-134	180-79A-424	REP-P	98-19-134
180-78A-145	REP-P	98-19-134	180-79A-010	REP-P	98-19-134	180-79A-430	REP-P	98-19-134
180-78A-150	REP-P	98-19-134	180-79A-011	NEW-P	98-19-134	180-79A-433	AMD-P	98-10-103
180-78A-151	NEW-P	98-19-134	180-79A-012	REP-P	98-19-134	180-79A-433	AMD	98-15-028
180-78A-155	REP-P	98-19-134	180-79A-013	REP-P	98-19-134	180-79A-433	REP-P	98-19-134
180-78A-160	REP-P	98-19-134	180-79A-025	REP-P	98-19-134	180-79A-435	REP-P	98-19-134
180-78A-165	AMD	98-05-022	180-79A-030	NEW-P	98-19-134	180-79A-440	REP-P	98-19-134
180-78A-165	REP-P	98-19-134	180-79A-101	REP-P	98-19-134	180-79A-445	REP-P	98-19-134
180-78A-195	REP-P	98-19-134	180-79A-117	AMD	98-05-024	180-79A-503	REP-P	98-19-134
180-78A-197	REP-P	98-19-134	180-79A-117	AMD-P	98-19-134	180-79A-510	REP-P	98-19-134
180-78A-200	NEW-P	98-19-134	180-79A-122	REP-P	98-19-134	180-79A-515	REP-P	98-19-134
180-78A-201	REP-P	98-19-134	180-79A-123	NEW-P	98-19-134	180-79A-517	REP-P	98-19-134
180-78A-205	NEW-P	98-19-134	180-79A-124	NEW-P	98-19-134	180-79A-520	REP-P	98-19-134
180-78A-207	NEW-P	98-19-134	180-79A-125	REP-P	98-19-134	180-82	PREP	98-16-098
180-78A-209	NEW-P	98-19-134	180-79A-126	REP-P	98-19-134	180-82-002	NEW-P	98-19-134
180-78A-210	NEW-P	98-19-134	180-79A-127	NEW-P	98-19-134	180-82-004	NEW-P	98-19-134
180-78A-215	NEW-P	98-19-134	180-79A-128	NEW-P	98-19-134	180-82-105	NEW-P	98-19-134
180-78A-220	NEW-P	98-19-134	180-79A-140	AMD-P	98-19-134	180-82-110	NEW-P	98-19-134
180-78A-225	NEW-P	98-19-134	180-79A-145	NEW-P	98-19-134	180-82-115	NEW-P	98-19-134
180-78A-250	NEW-P	98-19-134	180-79A-150	AMD-P	98-19-134	180-82-120	NEW-P	98-19-134
180-78A-255	NEW-P	98-19-134	180-79A-155	NEW-P	98-19-134	180-82-125	NEW-P	98-19-134
180-78A-260	REP-P	98-19-134	180-79A-157	NEW-P	98-19-134	180-82-130	NEW-P	98-19-134
180-78A-261	NEW-P	98-19-134	180-79A-160	REP-P	98-19-134	180-82-200	NEW-P	98-19-134
180-78A-263	REP-P	98-19-134	180-79A-161	REP-P	98-19-134	180-82-201	NEW-P	98-19-134
180-78A-264	NEW-P	98-19-134	180-79A-165	REP-P	98-19-134	180-82-202	NEW-P	98-19-134
180-78A-265	REP-P	98-19-134	180-79A-170	REP-P	98-19-134	180-82-204	NEW-P	98-19-134
180-78A-266	REP-P	98-19-134	180-79A-200	REP-P	98-19-134	180-82-210	NEW-P	98-19-134
180-78A-270	NEW-P	98-19-134	180-79A-205	REP-P	98-19-134	180-82-215	NEW-P	98-19-134
180-78A-300	REP-P	98-19-134	180-79A-206	NEW-P	98-19-134	180-82-300	NEW-P	98-19-134
180-78A-301	REP-P	98-19-134	180-79A-210	REP-P	98-19-134	180-82-302	NEW-P	98-19-134
180-78A-302	REP-P	98-19-134	180-79A-211	NEW-P	98-19-134	180-82-304	NEW-P	98-19-134
180-78A-303	REP-P	98-19-134	180-79A-213	NEW-P	98-19-134	180-82-306	NEW-P	98-19-134
180-78A-304	REP-P	98-19-134	180-79A-215	REP-P	98-19-134	180-82-308	NEW-P	98-19-134
180-78A-305	REP-P	98-19-134	180-79A-220	AMD-P	98-04-089	180-82-310	NEW-P	98-19-134
180-78A-306	REP-P	98-19-134	180-79A-220	AMD	98-08-068	180-82-312	NEW-P	98-19-134
180-78A-307	NEW-P	98-19-134	180-79A-220	REP-P	98-19-134	180-82-314	NEW-P	98-19-134
180-78A-308	NEW-P	98-19-134	180-79A-221	NEW-P	98-19-134	180-82-316	NEW-P	98-19-134
180-78A-310	NEW-P	98-19-134	180-79A-223	NEW-P	98-19-134	180-82-318	NEW-P	98-19-134
180-78A-315	NEW-P	98-19-134	180-79A-225	REP-P	98-19-134	180-82-320	NEW-P	98-19-134
180-78A-317	NEW-P	98-19-134	180-79A-226	NEW-P	98-19-134	180-82-322	NEW-P	98-19-134
180-78A-320	REP-P	98-19-134	180-79A-230	REP-P	98-19-134	180-82-324	NEW-P	98-19-134
180-78A-325	NEW-P	98-19-134	180-79A-231	NEW-P	98-19-134	180-82-326	NEW-P	98-19-134
180-78A-330	NEW-P	98-19-134	180-79A-236	REP-P	98-19-134	180-82-328	NEW-P	98-19-134
180-78A-340	REP-P	98-19-134	180-79A-250	NEW-P	98-19-134	180-82-330	NEW-P	98-19-134
180-78A-345	REP-P	98-19-134	180-79A-253	NEW-P	98-19-134	180-82-332	NEW-P	98-19-134
180-78A-350	REP-P	98-19-134	180-79A-255	NEW-P	98-19-134	180-82-334	NEW-P	98-19-134
180-78A-355	REP-P	98-19-134	180-79A-257	NEW-P	98-19-134	180-82-336	NEW-P	98-19-134
180-78A-360	REP-P	98-19-134	180-79A-260	NEW-P	98-19-134	180-82-338	NEW-P	98-19-134
180-78A-365	REP-P	98-19-134	180-79A-265	NEW-P	98-19-134	180-82-339	NEW-P	98-19-134
180-78A-400	NEW-P	98-19-134	180-79A-270	NEW-P	98-19-134	180-82-340	NEW-P	98-19-134
180-78A-500	NEW-P	98-19-134	180-79A-299	NEW-P	98-19-134	180-82-342	NEW-P	98-19-134
180-78A-505	NEW-P	98-19-134	180-79A-300	AMD-P	98-23-032	180-82-343	NEW-P	98-19-134
180-78A-510	NEW-P	98-19-134	180-79A-304	AMD-P	98-19-134	180-82-344	NEW-P	98-19-134

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180- 82-348	NEW-P	98-19-134	192- 18-070	REP	98-14-031	196- 08-040	REP-P	98-08-078
180- 82-350	NEW-P	98-19-134	192- 20-010	REP-XR	98-07-024	196- 08-040	REP	98-12-045
180- 82-352	NEW-P	98-19-134	192- 20-010	REP	98-14-032	196- 08-050	REP-P	98-08-078
180- 82-354	NEW-P	98-19-134	192- 23-018	AMD	98-06-097	196- 08-050	REP	98-12-045
180- 82-356	NEW-P	98-19-134	192- 32	AMD	98-05-042	196- 08-060	REP-P	98-08-078
180- 82-358	NEW-P	98-19-134	192- 32-001	REP	98-05-042	196- 08-060	REP	98-12-045
180- 82-360	NEW-P	98-19-134	192- 32-010	AMD	98-05-042	196- 08-070	REP-P	98-08-078
180- 82-362	NEW-P	98-19-134	192- 32-015	REP	98-05-042	196- 08-070	REP	98-12-045
180- 85	PREP	98-16-098	192- 32-025	REP	98-05-042	196- 08-080	REP-P	98-08-078
180- 85-020	AMD-P	98-19-134	192- 32-035	AMD	98-05-042	196- 08-080	REP	98-12-045
180- 85-075	AMD-P	98-19-134	192- 32-045	AMD	98-05-042	196- 08-090	REP-P	98-08-078
180- 85-100	AMD	98-05-024	192- 32-050	AMD	98-05-042	196- 08-090	REP	98-12-045
180- 87	PREP	98-08-038	192- 32-055	AMD	98-05-042	196- 08-100	REP-P	98-08-078
180- 90-125	PREP	98-10-024	192- 32-065	AMD	98-05-042	196- 08-100	REP	98-12-045
182- 04-070	AMD-XA	98-13-078	192- 32-075	AMD	98-05-042	196- 08-110	REP-P	98-08-078
182- 04-070	AMD	98-17-063	192- 32-085	AMD	98-05-042	196- 08-110	REP	98-12-045
182- 25-010	AMD	98-07-002	192- 32-095	AMD	98-05-042	196- 08-120	REP-P	98-08-078
182- 25-010	AMD-XA	98-10-086	192- 32-100	NEW	98-05-042	196- 08-120	REP	98-12-045
182- 25-010	AMD	98-15-018	192- 32-105	AMD	98-05-042	196- 08-130	REP-P	98-08-078
182- 25-020	AMD	98-07-002	192- 32-115	AMD	98-05-042	196- 08-130	REP	98-12-045
182- 25-030	AMD	98-07-002	192- 32-120	REP	98-05-042	196- 08-140	REP-P	98-08-078
182- 25-040	AMD	98-07-002	192- 32-125	REP	98-05-042	196- 08-140	REP	98-12-045
182- 25-070	AMD	98-07-002	192- 32-130	NEW	98-05-042	196- 08-150	REP-P	98-08-078
182- 25-080	AMD	98-07-002	192- 32-135	NEW	98-05-042	196- 08-150	REP	98-12-045
182- 25-090	AMD	98-07-002	192- 33-005	NEW	98-05-042	196- 08-160	REP-P	98-08-078
182- 25-100	AMD	98-07-002	192- 33-006	NEW	98-05-042	196- 08-160	REP	98-12-045
182- 25-100	PREP	98-17-062	192-130-050	NEW	98-14-068	196- 08-170	REP-P	98-08-078
182- 25-100	AMD-P	98-22-070	192-210-005	NEW-E	98-13-015	196- 08-170	REP	98-12-045
182- 25-105	AMD	98-07-002	192-210-005	NEW-E	98-20-081	196- 08-180	REP-P	98-08-078
182- 25-105	PREP	98-17-062	192-210-010	NEW-E	98-13-015	196- 08-180	REP	98-12-045
182- 25-105	AMD-P	98-22-070	192-210-010	NEW-E	98-20-081	196- 08-190	REP-P	98-08-078
182- 25-110	PREP	98-17-062	192-210-015	NEW-E	98-13-015	196- 08-190	REP	98-12-045
182- 25-110	AMD-P	98-22-070	192-210-015	NEW-E	98-20-081	196- 08-200	REP-P	98-08-078
192- 12-030	AMD-P	98-09-106	192-310-010	NEW	98-14-068	196- 08-200	REP	98-12-045
192- 12-030	REP	98-14-068	192-310-020	NEW	98-14-068	196- 08-210	REP-P	98-08-078
192- 12-040	AMD-P	98-09-105	192-310-025	NEW	98-14-068	196- 08-210	REP	98-12-045
192- 12-040	REP	98-14-068	192-310-030	NEW	98-14-068	196- 08-220	REP-P	98-08-078
192- 12-041	AMD-P	98-09-105	194- 10-010	REP	98-05-027	196- 08-220	REP	98-12-045
192- 12-041	REP	98-14-068	194- 10-020	REP	98-05-027	196- 08-230	REP-P	98-08-078
192- 12-042	AMD-P	98-09-105	194- 10-030	REP	98-05-027	196- 08-230	REP	98-12-045
192- 12-042	REP	98-14-068	194- 10-040	REP	98-05-027	196- 08-240	REP-P	98-08-078
192- 12-141	AMD	98-06-097	194- 10-050	REP	98-05-027	196- 08-240	REP	98-12-045
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192- 16-024	REP	98-19-120	194- 10-070	REP	98-05-027	196- 08-250	REP	98-12-045
192- 16-051	PREP	98-08-072	194- 10-080	REP	98-05-027	196- 08-260	REP-P	98-08-078
192- 16-051	REP-E	98-13-015	194- 10-090	REP	98-05-027	196- 08-260	REP	98-12-045
192- 16-051	REP-E	98-20-081	194- 10-100	REP	98-05-027	196- 08-270	REP-P	98-08-078
192- 16-052	PREP	98-08-072	194- 10-110	REP	98-05-027	196- 08-270	REP	98-12-045
192- 16-052	REP-E	98-13-015	194- 10-120	REP	98-05-027	196- 08-280	REP-P	98-08-078
192- 16-052	REP-E	98-20-081	194- 10-130	REP	98-05-027	196- 08-280	REP	98-12-045
192- 16-057	PREP	98-08-072	194- 10-140	REP	98-05-027	196- 08-290	REP-P	98-08-078
192- 16-057	REP-E	98-20-081	194- 18-010	REP-XR	98-17-034	196- 08-290	REP	98-12-045
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192- 18-012	REP-XR	98-07-023	196- 04	PREP	98-11-025	196- 08-310	REP-P	98-08-078
192- 18-012	REP	98-14-031	196- 04-010	REP-P	98-15-019	196- 08-310	REP	98-12-045
192- 18-020	REP-XR	98-07-023	196- 04-010	REP	98-18-046	196- 08-320	REP-P	98-08-078
192- 18-020	REP	98-14-031	196- 04-020	REP-P	98-15-019	196- 08-320	REP	98-12-045
192- 18-030	REP-XR	98-07-023	196- 04-020	REP	98-18-046	196- 08-330	REP-P	98-08-078
192- 18-030	REP	98-14-031	196- 04-025	REP-P	98-15-019	196- 08-330	REP	98-12-045
192- 18-040	REP-XR	98-07-023	196- 04-025	REP	98-18-046	196- 08-340	REP-P	98-08-078
192- 18-040	REP	98-14-031	196- 04-030	REP-P	98-15-019	196- 08-340	REP	98-12-045
192- 18-050	REP-XR	98-07-023	196- 04-030	REP	98-18-046	196- 08-350	REP-P	98-08-078
192- 18-050	REP	98-14-031	196- 04-040	REP-P	98-15-019	196- 08-350	REP	98-12-045
192- 18-060	REP-XR	98-07-023	196- 04-040	REP	98-18-046	196- 08-360	REP-P	98-08-078
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196-08-370	REP	98-12-045	196-24-050	REP-P	98-08-105	204-50-120	PREP	98-19-076
196-08-380	REP-P	98-08-078	196-24-050	REP	98-12-052	204-50-120	AMD-P	98-23-084
196-08-380	REP	98-12-045	196-24-105	AMD-P	98-08-105	204-50-130	PREP	98-19-076
196-08-390	REP-P	98-08-078	196-24-105	AMD	98-12-052	204-50-130	AMD-P	98-23-084
196-08-390	REP	98-12-045	196-25-001	NEW-P	98-08-106	204-72-030	AMD	98-04-054
196-08-400	REP-P	98-08-078	196-25-001	NEW	98-12-053	204-72-040	AMD	98-04-054
196-08-400	REP	98-12-045	196-25-002	NEW-P	98-08-106	204-80-020	PREP	98-19-038
196-08-410	REP-P	98-08-078	196-25-002	NEW	98-12-053	204-80-020	AMD-P	98-23-040
196-08-410	REP	98-12-045	196-25-005	NEW-P	98-08-106	204-90-030	AMD	98-04-052
196-08-420	REP-P	98-08-078	196-25-005	NEW	98-12-053	204-90-040	AMD	98-04-052
196-08-420	REP	98-12-045	196-25-010	NEW-P	98-08-106	204-90-070	AMD	98-04-052
196-08-430	REP-P	98-08-078	196-25-010	NEW	98-12-053	204-90-120	AMD	98-04-052
196-08-430	REP	98-12-045	196-25-020	NEW-P	98-08-106	204-90-140	AMD	98-04-052
196-08-440	REP-P	98-08-078	196-25-020	NEW	98-12-053	208-418	PREP	98-13-084
196-08-440	REP	98-12-045	196-25-030	NEW-P	98-08-106	208-436	PREP	98-13-084
196-08-450	REP-P	98-08-078	196-25-030	NEW	98-12-053	208-440	PREP	98-13-084
196-08-450	REP	98-12-045	196-25-040	NEW-P	98-08-106	208-444	PREP	98-13-084
196-08-460	REP-P	98-08-078	196-25-040	NEW	98-12-053	208-444-020	AMD	98-10-072
196-08-460	REP	98-12-045	196-26-020	AMD-P	98-09-051	208-444-030	AMD	98-10-072
196-08-470	REP-P	98-08-078	196-26-020	AMD	98-12-046	208-444-040	AMD	98-10-072
196-08-470	REP	98-12-045	196-26-030	AMD-P	98-09-051	208-444-050	AMD	98-10-072
196-08-480	REP-P	98-08-078	196-26-030	AMD	98-12-046	208-464	PREP	98-13-084
196-08-480	REP	98-12-045	197-11-680	AMD	98-06-092	208-464	REP-XR	98-23-061
196-08-490	REP-P	98-08-078	204-10-020	AMD	98-04-053	208-464	PREP	98-23-062
196-08-490	REP	98-12-045	204-10-020	PREP	98-11-036	208-464-010	REP-XR	98-23-061
196-08-500	REP-P	98-08-078	204-10-020	AMD-P	98-15-083	208-464-020	REP-XR	98-23-061
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196-08-510	REP	98-12-045	204-10-090	AMD	98-04-053	208-464-050	REP-XR	98-23-061
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196-08-520	REP	98-12-045	204-10-110	REP	98-04-053	208-464-070	REP-XR	98-23-061
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196-08-540	REP-P	98-08-078	204-10-150	REP	98-04-053	208-472	PREP	98-13-084
196-08-540	REP	98-12-045	204-24-050	PREP	98-11-035	208-480	PREP	98-13-084
196-08-550	REP-P	98-08-078	204-24-050	AMD-P	98-15-056	208-480	REP-XR	98-23-061
196-08-550	REP	98-12-045	204-24-050	AMD	98-19-042	208-480-010	REP-XR	98-23-061
196-08-560	REP-P	98-08-078	204-24-050	AMD-E	98-24-033	208-480-020	REP-XR	98-23-061
196-08-560	REP	98-12-045	204-46-010	PREP	98-14-049	208-480-030	REP-XR	98-23-061
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196-08-570	REP	98-12-045	204-46-010	NEW	98-23-002	208-480-050	REP-XR	98-23-061
196-08-580	REP-P	98-08-078	204-46-020	PREP	98-14-049	208-480-060	REP-XR	98-23-061
196-08-580	REP	98-12-045	204-46-020	NEW-P	98-18-073	208-480-070	REP-XR	98-23-061
196-08-590	REP-P	98-08-078	204-46-020	NEW	98-23-002	210-01-020	AMD-P	98-21-062
196-08-590	REP	98-12-045	204-46-030	PREP	98-14-049	210-01-020	AMD	98-24-060
196-09-010	NEW-P	98-08-078	204-46-030	NEW-P	98-18-073	210-01-080	AMD-P	98-21-062
196-09-010	NEW	98-12-045	204-46-030	NEW	98-23-002	210-01-080	AMD	98-24-060
196-09-020	NEW-P	98-08-078	204-50-010	PREP	98-19-076	210-01-090	AMD-P	98-21-062
196-09-020	NEW	98-12-045	204-50-010	AMD-P	98-23-084	210-01-090	AMD	98-24-060
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196-12-010	AMD	98-12-052	204-50-020	AMD-P	98-23-084	212-17-190	REP-XR	98-07-019
196-12-020	AMD-P	98-08-105	204-50-030	PREP	98-19-076	212-17-190	REP	98-13-038
196-12-020	AMD	98-12-052	204-50-030	AMD-P	98-23-084	212-17-190	REP-E	98-13-039
196-12-030	AMD-P	98-08-105	204-50-040	PREP	98-19-076	212-17-195	REP-XR	98-07-019
196-12-030	AMD	98-12-052	204-50-040	AMD-P	98-23-084	212-17-195	REP	98-13-038
196-12-045	NEW-P	98-08-105	204-50-040	AMD-P	98-23-084	212-17-195	REP-E	98-13-039
196-12-045	NEW	98-12-052	204-50-050	PREP	98-19-076	212-17-200	REP-XR	98-07-019
196-12-050	AMD-P	98-08-105	204-50-050	AMD-P	98-23-084	212-17-200	REP	98-13-038
196-12-050	AMD	98-12-052	204-50-060	PREP	98-19-076	212-17-200	REP-E	98-13-039
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196-12-060	REP	98-12-052	204-50-070	PREP	98-19-076	212-17-205	REP	98-13-038
196-12-085	REP-P	98-08-105	204-50-070	AMD-P	98-23-084	212-17-205	REP	98-13-038
196-12-085	REP	98-12-052	204-50-080	PREP	98-19-076	212-17-205	REP-E	98-13-039
196-24-030	REP-P	98-08-105	204-50-080	AMD-P	98-23-084	212-17-210	REP-XR	98-07-019
196-24-030	REP	98-12-052	204-50-090	PREP	98-19-076	212-17-210	REP	98-13-038
196-24-040	REP-P	98-08-105	204-50-090	AMD-P	98-23-084	212-17-210	REP-E	98-13-039
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212-17-21509	NEW	98-04-007	220-24-02000H	NEW-E	98-12-076	220-40-021	AMD	98-15-081
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212-17-21513	NEW	98-04-007	220-32-05100D	NEW-E	98-04-056	220-40-027	AMD	98-15-081
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220-16-005	NEW-P	98-11-086	220-32-05100G	REP-E	98-19-019	220-44-050000	NEW-E	98-10-059
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220-16-550	AMD-P	98-11-086	220-32-05500S	REP-E	98-20-017	220-47-307	AMD	98-15-081
220-16-550	AMD	98-15-081	220-32-05500S	NEW-E	98-20-017	220-47-30700A	NEW-E	98-16-009
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246-316-230	DECOD	98-20-021	246-320-735	NEW-P	98-21-083	246-359-510	NEW-P	98-21-085
246-316-240	DECOD	98-20-021	246-320-745	NEW-P	98-21-083	246-359-520	NEW-P	98-21-085
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246-316-260	DECOD	98-20-021	246-320-765	NEW-P	98-21-083	246-359-540	NEW-P	98-21-085
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246-316-320	DECOD	98-20-021	246-320-99902	NEW-P	98-21-083	246-359-590	NEW-P	98-21-085
246-316-330	DECOD	98-20-021	246-327-990	AMD-P	98-09-112	246-359-600	NEW-P	98-21-085
246-316-335	DECOD	98-20-021	246-327-990	AMD	98-13-036	246-359-700	NEW-P	98-21-085
246-316-340	DECOD	98-20-021	246-328-100	REP	98-05-060	246-359-710	NEW-P	98-21-085
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246-316-990	AMD-E	98-14-087	246-331-990	AMD-P	98-09-112	246-359-740	NEW-P	98-21-085
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246-316-990	DECOD	98-20-021	246-336-990	AMD-P	98-09-112	246-359-760	NEW-P	98-21-085
246-318-990	AMD-P	98-09-109	246-336-990	AMD	98-13-036	246-359-800	NEW-P	98-21-085
246-318-990	AMD	98-13-035	246-338	PREP	98-17-100	246-359-990	NEW-P	98-21-085
246-320-001	NEW-P	98-21-083	246-340-085	REP	98-09-120	246-490-019	REP	98-18-067
246-320-010	NEW-P	98-21-083	246-358-600	NEW-E	98-11-001	246-560	PREP	98-18-071
246-320-025	NEW-P	98-21-083	246-358-610	NEW-E	98-11-001	246-560	PREP-W	98-20-064
246-320-045	NEW-P	98-21-083	246-358-620	NEW-E	98-11-001	246-560-001	AMD-P	98-24-107
246-320-065	NEW-P	98-21-083	246-358-630	NEW-E	98-11-001	246-560-002	NEW-P	98-24-107
246-320-085	NEW-P	98-21-083	246-358-640	NEW-E	98-11-001	246-560-010	AMD-P	98-24-107
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246-562-130	NEW	98-20-067	246-812-301	RE-AD-P	98-14-124	246-817-990	AMD	98-05-060
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246-562-150	NEW	98-20-067	246-812-330	RE-AD-P	98-14-124	246-824-020	AMD	98-05-060
246-710-001	AMD-P	98-20-107	246-812-330	RE-AD	98-20-068	246-824-040	AMD	98-05-060
246-710-010	AMD-P	98-20-107	246-812-340	RE-AD-P	98-14-124	246-824-071	AMD	98-05-060
246-710-020	REP-P	98-20-107	246-812-340	RE-AD	98-20-068	246-824-073	AMD	98-05-060
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246-710-050	AMD-P	98-20-107	246-812-350	RE-AD	98-20-068	246-824-075	AMD	98-05-060
246-710-060	AMD-P	98-20-107	246-812-360	RE-AD-P	98-14-124	246-824-170	AMD	98-05-060
246-710-070	AMD-P	98-20-107	246-812-360	RE-AD	98-20-068	246-824-990	AMD	98-05-060
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246-802-025	AMD	98-05-060	246-812-410	RE-AD-P	98-14-124	246-826-995	NEW-W	98-05-059
246-802-090	AMD	98-05-060	246-812-410	RE-AD	98-20-068	246-828-005	AMD	98-06-079
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246-802-990	AMD	98-05-060	246-812-420	RE-AD	98-20-068	246-828-005	REP	98-15-089
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246-808-106	REP	98-05-060	246-812-430	RE-AD	98-20-068	246-828-015	REP	98-15-089A
246-808-150	AMD	98-05-060	246-812-440	RE-AD-P	98-14-124	246-828-020	AMD-P	98-07-084
246-808-155	AMD	98-05-060	246-812-440	RE-AD	98-20-068	246-828-020	AMD	98-13-110
246-808-160	REP	98-05-060	246-812-450	RE-AD-P	98-14-124	246-828-025	NEW-P	98-07-083
246-808-165	AMD	98-05-060	246-812-450	RE-AD	98-20-068	246-828-025	NEW	98-13-109
246-808-180	AMD	98-05-060	246-812-460	RE-AD-P	98-14-124	246-828-030	AMD	98-06-079
246-808-181	NEW	98-05-060	246-812-460	RE-AD	98-20-068	246-828-050	REP	98-05-060
246-808-185	REP	98-05-060	246-812-501	AMD-P	98-14-124	246-828-075	AMD	98-06-079
246-808-215	AMD	98-05-060	246-812-501	AMD	98-20-068	246-828-080	AMD	98-06-079
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246-810-022	REP	98-05-060	246-812-520	RE-AD	98-20-068	246-828-100	AMD	98-06-079
246-810-080	AMD	98-05-060	246-812-601	RE-AD-P	98-14-124	246-828-105	NEW-P	98-08-117
246-810-130	AMD	98-05-060	246-812-601	RE-AD	98-20-068	246-828-105	NEW	98-14-055
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246-812-125	RE-AD	98-20-068	246-815-060	REP-XR	98-07-087	246-828-260	REP-XR	98-22-081
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246-812-130	AMD	98-20-068	246-815-070	REP	98-14-123	246-828-295	AMD-W	98-05-058
246-812-140	REP	98-05-060	246-815-080	REP-XR	98-07-087	246-828-295	AMD	98-05-060
246-812-150	RE-AD-P	98-14-124	246-815-080	REP	98-14-123	246-828-300	AMD-W	98-05-058
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246-812-160	AMD	98-05-060	246-815-140	AMD	98-05-060	246-828-330	AMD	98-06-079
246-812-160	RE-AD-P	98-14-124	246-815-150	REP	98-05-060	246-828-340	AMD	98-06-079
246-812-160	RE-AD	98-20-068	246-815-300	REP	98-05-060	246-828-340	REP-XR	98-22-080
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246-828-560	REP	98-05-060	246-841-610	AMD	98-05-060	246-853-080	AMD	98-05-060
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246-830-465	REP	98-05-060	246-843-160	REP	98-05-060	246-853-275	REP	98-05-060
246-830-470	REP	98-05-060	246-843-162	AMD	98-05-060	246-853-990	AMD	98-05-060
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246-830-990	AMD	98-05-060	246-843-200	REP-XR	98-19-094	246-854-080	AMD	98-05-060
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246-834-060	AMD	98-05-060	246-843-225	REP-XR	98-19-095	246-855-100	AMD	98-05-060
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255- 01-020	NEW-P	98-04-060	263- 12-175	PREP	98-15-133	275- 37-010	AMD	98-18-056
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255- 01-070	NEW	98-07-071	275- 27-020	AMD-P	98-16-091	275- 46-015	NEW	98-18-056
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255- 01-110	NEW	98-07-071	275- 27-040	AMD-P	98-16-091	275- 46-050	AMD-P	98-14-061
255- 01-120	NEW-P	98-04-060	275- 27-040	AMD	98-20-044	275- 46-050	AMD	98-18-056
255- 01-120	NEW	98-07-071	275- 27-050	AMD-E	98-13-041	275- 46-060	PREP	98-10-125
255- 01-130	NEW-P	98-04-060	275- 27-050	AMD-P	98-16-091	275- 46-060	AMD-P	98-14-061
255- 01-130	NEW	98-07-071	275- 27-050	AMD	98-20-044	275- 46-060	AMD	98-18-056
255- 01-140	NEW-P	98-04-060	275- 27-180	PREP	98-10-040	275- 46-065	NEW-P	98-14-061
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255- 02-050	NEW-P	98-04-059	275- 27-194	NEW-P	98-23-095	275- 46-100	NEW	98-18-056
255- 02-050	NEW	98-11-005	275- 27-195	PREP	98-10-040	275- 59	PREP	98-10-105
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255- 02-060	NEW	98-11-005	275- 27-196	NEW-P	98-23-095	284- 05-040	AMD-XA	98-07-105
255- 02-070	NEW-P	98-04-059	275- 27-197	NEW-P	98-23-095	284- 05-040	AMD	98-11-089
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255- 02-080	NEW-P	98-04-059	275- 27-199	NEW-P	98-23-095	284- 05-060	AMD	98-11-089
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255- 02-090	NEW-P	98-04-059	275- 27-200	NEW-P	98-23-095	284- 05-070	REP	98-11-089
255- 02-090	NEW	98-11-005	275- 27-202	NEW-P	98-23-095	284- 10	REP-C	98-03-004
255- 02-100	NEW-P	98-04-059	275- 27-204	NEW-P	98-23-095	284- 10-010	REP	98-04-005
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255- 02-110	NEW	98-11-005	275- 27-211	NEW-P	98-23-095	284- 10-030	REP	98-04-005
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260- 40	PREP	98-24-091	275- 27-230	AMD-P	98-16-091	284- 10-140	REP	98-04-005
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284-19-030	REP	98-13-095	284-23-250	AMD	98-11-003	284-43	PREP	98-22-108
284-19-040	AMD-XA	98-08-097	284-23-260	REP-P	98-04-083	284-43-040	REP	98-04-005
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284-19-110	AMD	98-13-095	284-24	PREP	98-05-102	284-43-410	NEW-W	98-10-082
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284-19-120	AMD	98-13-095	284-24-005	NEW	98-20-102	284-43-610	NEW-W	98-10-082
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284-19-140	AMD-XA	98-08-097	284-24-060	AMD-P	98-13-092	284-43-640	NEW-W	98-10-082
284-19-140	AMD	98-13-095	284-24-060	AMD	98-20-102	284-43-650	NEW-W	98-10-082
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284-19-150	AMD	98-13-095	284-24-062	NEW	98-20-102	284-43-710	NEW	98-04-005
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284-19-160	AMD	98-13-095	284-24-065	AMD-P	98-13-092	284-43-730	NEW	98-04-005
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284-19-180	AMD-XA	98-08-097	284-24-070	AMD	98-20-102	284-43-905	NEW	98-04-011
284-19-180	AMD	98-13-095	284-24-080	AMD-P	98-13-092	284-43-910	NEW	98-04-011
284-20-006	AMD-XA	98-13-093	284-24-080	AMD	98-20-102	284-43-915	NEW	98-04-011
284-20-006	AMD	98-22-109	284-24-100	AMD-P	98-13-092	284-43-920	NEW	98-04-011
284-20-020	AMD-XA	98-13-093	284-24-100	AMD	98-20-102	284-43-925	NEW	98-04-011
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284-23	AMD-C	98-03-076	284-36A-025	REP-XA	98-20-101	284-44-140	REP	98-04-011
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286- 13-100	AMD-P	98-04-079	292-100-190	AMD-P	98-22-071	296- 04-420	REP-W	98-12-074
286- 13-100	AMD	98-08-014	292-100-200	AMD-P	98-22-071	296- 04-430	REP-W	98-12-074
286- 26-020	AMD-P	98-04-079	292-100-210	NEW-P	98-22-071	296- 04-440	REP-W	98-12-074
286- 26-020	AMD	98-08-014	292-110-010	AMD	98-08-054	296- 04-460	REP-W	98-12-074
286- 26-110	AMD-P	98-04-079	292-110-050	NEW	98-03-045	296- 04-470	REP-W	98-12-074
286- 26-110	AMD	98-08-014	292-110-060	NEW	98-04-001	296- 04-480	REP-W	98-12-074
286- 27-040	AMD-P	98-04-079	292-130-010	NEW-P	98-16-006	296- 04A-001	NEW-W	98-07-058
286- 27-040	AMD	98-08-014	292-130-010	NEW	98-22-072	296- 04A-003	NEW-W	98-07-058
286- 27-055	AMD-P	98-04-079	292-130-020	NEW-P	98-16-006	296- 04A-006	NEW-W	98-07-058
286- 27-055	AMD	98-08-014	292-130-020	NEW	98-22-072	296- 04A-009	NEW-W	98-07-058
286- 27-065	AMD-P	98-04-079	292-130-030	NEW-P	98-16-006	296- 04A-012	NEW-W	98-07-058
286- 27-065	AMD	98-08-014	292-130-030	NEW	98-22-072	296- 04A-015	NEW-W	98-07-058
286- 27-075	AMD-P	98-04-079	292-130-040	NEW-P	98-16-006	296- 04A-018	NEW-W	98-07-058
286- 27-075	AMD	98-08-014	292-130-040	NEW	98-22-072	296- 04A-025	NEW-W	98-07-058
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286- 30-050	NEW	98-08-014	292-130-050	NEW	98-22-072	296- 04A-034	NEW-W	98-07-058
286- 35-060	AMD-P	98-04-079	292-130-060	NEW-P	98-16-006	296- 04A-037	NEW-W	98-07-058
286- 35-060	AMD	98-08-014	292-130-060	NEW	98-22-072	296- 04A-040	NEW-W	98-07-058
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288- 04-010	NEW	98-17-003	292-130-070	NEW	98-22-072	296- 04A-046	NEW-W	98-07-058
288- 04-020	NEW-P	98-14-060	292-130-080	NEW-P	98-16-006	296- 04A-049	NEW-W	98-07-058

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296-04A-150	NEW-W	98-07-058	296-14-010	REP-P	98-12-079	296-17	AMD-P	98-12-079
296-04A-200	NEW-W	98-07-058	296-14-010	REP	98-18-042	296-17	PREP	98-14-140
296-04A-210	NEW-W	98-07-058	296-14-015	REP-P	98-12-079	296-17	AMD	98-18-042
296-04A-230	NEW-W	98-07-058	296-14-015	REP	98-18-042	296-17-310	REP-P	98-12-079
296-04A-300	NEW-W	98-07-058	296-14-900	AMD-P	98-13-125	296-17-310	REP	98-18-042
296-04A-30001	NEW-W	98-07-058	296-14-900	AMD	98-19-001	296-17-31001	NEW-P	98-12-079
296-04A-330	NEW-W	98-07-058	296-14-910	AMD-P	98-13-125	296-17-31001	NEW	98-18-042
296-04A-340	NEW-W	98-07-058	296-14-910	AMD	98-19-001	296-17-31002	NEW-P	98-12-079
296-04A-350	NEW-W	98-07-058	296-14-920	AMD-P	98-13-125	296-17-31002	NEW	98-18-042
296-04A-351	NEW-W	98-07-058	296-14-920	AMD	98-19-001	296-17-31003	NEW-P	98-12-079
296-04A-360	NEW-W	98-07-058	296-14-930	AMD-P	98-13-125	296-17-31003	NEW	98-18-042
296-04A-370	NEW-W	98-07-058	296-14-930	AMD	98-19-001	296-17-31004	NEW-P	98-12-079
296-04A-380	NEW-W	98-07-058	296-14-940	AMD-P	98-13-125	296-17-31004	NEW	98-18-042
296-04A-390	NEW-W	98-07-058	296-14-940	AMD	98-19-001	296-17-31005	NEW-P	98-12-079
296-04A-400	NEW-W	98-07-058	296-15-001	NEW-P	98-19-148	296-17-31005	NEW	98-18-042
296-04A-410	NEW-W	98-07-058	296-15-001	NEW	98-24-121	296-17-31006	NEW-P	98-12-079
296-04A-420	NEW-W	98-07-058	296-15-02606	REP-P	98-19-148	296-17-31006	NEW	98-18-042
296-04A-430	NEW-W	98-07-058	296-15-02606	REP	98-24-120	296-17-31007	NEW-P	98-12-079
296-04A-440	NEW-W	98-07-058	296-15-02606	REP	98-24-121	296-17-31007	NEW	98-18-042
296-04A-460	NEW-W	98-07-058	296-15-070	REP-P	98-19-148	296-17-31008	NEW-P	98-12-079
296-04A-470	NEW-W	98-07-058	296-15-070	REP	98-24-120	296-17-31008	NEW	98-18-042
296-04A-480	NEW-W	98-07-058	296-15-070	REP	98-24-121	296-17-31009	NEW-P	98-12-079
296-08-001	REP-XR	98-08-102	296-15-072	REP-P	98-19-148	296-17-31009	NEW	98-18-042
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296-08-030	REP-XR	98-08-102	296-15-072	REP	98-24-121	296-17-31010	NEW	98-18-042
296-08-040	REP-XR	98-08-102	296-15-100	REP-P	98-19-148	296-17-31011	NEW-P	98-12-079
296-08-050	REP-XR	98-08-102	296-15-100	REP	98-24-120	296-17-31011	NEW	98-18-042
296-08-060	REP-XR	98-08-102	296-15-100	REP	98-24-121	296-17-31012	NEW-P	98-12-079
296-08-070	REP-XR	98-08-102	296-15-160	REP-P	98-19-148	296-17-31012	NEW	98-18-042
296-08-080	REP-XR	98-08-102	296-15-160	REP	98-24-120	296-17-31013	NEW-P	98-12-079
296-08-090	REP-XR	98-08-102	296-15-160	REP	98-24-121	296-17-31013	NEW	98-18-042
296-08-100	REP-XR	98-08-102	296-15-180	REP-P	98-19-148	296-17-31014	NEW-P	98-12-079
296-08-110	REP-XR	98-08-102	296-15-180	REP	98-24-120	296-17-31014	NEW	98-18-042
296-08-120	REP-XR	98-08-102	296-15-180	REP	98-24-121	296-17-31015	NEW-P	98-12-079
296-08-130	REP-XR	98-08-102	296-15-190	REP-P	98-19-148	296-17-31015	NEW	98-18-042
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296-08-150	REP-XR	98-08-102	296-15-190	REP	98-24-121	296-17-31016	NEW	98-18-042
296-08-160	REP-XR	98-08-102	296-15-21002	REP-P	98-19-148	296-17-31017	NEW-P	98-12-079
296-08-170	REP-XR	98-08-102	296-15-21002	REP	98-24-120	296-17-31017	NEW	98-18-042
296-08-180	REP-XR	98-08-102	296-15-21002	REP	98-24-121	296-17-31018	NEW-P	98-12-079
296-08-190	REP-XR	98-08-102	296-15-230	REP-P	98-19-148	296-17-31018	NEW	98-18-042
296-08-200	REP-XR	98-08-102	296-15-230	REP	98-24-120	296-17-31019	NEW-P	98-12-079
296-08-210	REP-XR	98-08-102	296-15-230	REP	98-24-121	296-17-31019	NEW	98-18-042
296-08-220	REP-XR	98-08-102	296-15-240	REP-P	98-19-148	296-17-31020	NEW-P	98-12-079
296-08-370	REP-XR	98-08-102	296-15-240	REP	98-24-120	296-17-31020	NEW	98-18-042
296-08-380	REP-XR	98-08-102	296-15-240	REP	98-24-121	296-17-31021	NEW-P	98-12-079
296-08-390	REP-XR	98-08-102	296-15-250	REP-P	98-19-148	296-17-31021	NEW	98-18-042
296-08-400	REP-XR	98-08-102	296-15-250	REP	98-24-120	296-17-31022	NEW-P	98-12-079
296-08-410	REP-XR	98-08-102	296-15-250	REP	98-24-121	296-17-31022	NEW	98-18-042
296-08-420	REP-XR	98-08-102	296-15-265	REP-P	98-19-148	296-17-31023	NEW-P	98-12-079
296-08-430	REP-XR	98-08-102	296-15-265	REP	98-24-120	296-17-31023	NEW	98-18-042
296-08-440	REP-XR	98-08-102	296-15-265	REP	98-24-121	296-17-31024	NEW-P	98-12-079
296-08-450	REP-XR	98-08-102	296-15-300	NEW-P	98-19-148	296-17-31024	NEW	98-18-042
296-08-460	REP-XR	98-08-102	296-15-305	NEW-P	98-19-148	296-17-31025	NEW-P	98-12-079
296-08-470	REP-XR	98-08-102	296-15-320	NEW-P	98-19-148	296-17-31025	NEW	98-18-042
296-08-480	REP-XR	98-08-102	296-15-350	NEW-P	98-19-148	296-17-31026	NEW-P	98-12-079
296-08-490	REP-XR	98-08-102	296-15-380	NEW-P	98-19-148	296-17-31026	NEW	98-18-042
296-08-500	REP-XR	98-08-102	296-15-390	NEW-P	98-19-148	296-17-31027	NEW-P	98-12-079
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296-17-31029	NEW-P	98-12-079	296-17-50601	AMD	98-18-042	296-17-52118	AMD-P	98-12-079
296-17-31029	NEW	98-18-042	296-17-50602	AMD-P	98-12-079	296-17-52118	AMD	98-18-042
296-17-320	REP-P	98-12-079	296-17-50602	AMD	98-18-042	296-17-52119	AMD-P	98-12-079
296-17-320	REP	98-18-042	296-17-50603	AMD-P	98-12-079	296-17-52119	AMD	98-18-042
296-17-345	REP-P	98-12-079	296-17-50603	AMD	98-18-042	296-17-52120	AMD-P	98-12-079
296-17-345	REP	98-18-042	296-17-508	AMD-P	98-12-079	296-17-52120	AMD	98-18-042
296-17-350	REP-P	98-12-079	296-17-508	AMD	98-18-042	296-17-52121	AMD-P	98-12-079
296-17-350	REP	98-18-042	296-17-509	AMD-P	98-12-079	296-17-52121	AMD	98-18-042
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296-17-35202	NEW	98-18-042	296-17-50908	AMD-P	98-12-079	296-17-52122	AMD	98-18-042
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296-17-35204	NEW-P	98-12-079	296-17-50910	AMD	98-18-042	296-17-52124	AMD-P	98-12-079
296-17-35204	NEW	98-18-042	296-17-50912	AMD-P	98-12-079	296-17-52124	AMD	98-18-042
296-17-360	REP-P	98-12-079	296-17-50912	AMD	98-18-042	296-17-52125	AMD-P	98-12-079
296-17-360	REP	98-18-042	296-17-50915	AMD-P	98-12-079	296-17-52125	AMD	98-18-042
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296-17-370	REP	98-18-042	296-17-50917	AMD-P	98-12-079	296-17-52126	AMD	98-18-042
296-17-380	REP-P	98-12-079	296-17-50917	AMD	98-18-042	296-17-522	AMD-P	98-12-079
296-17-380	REP	98-18-042	296-17-510	AMD-P	98-12-079	296-17-522	AMD	98-18-042
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296-17-390	REP	98-18-042	296-17-511	AMD-P	98-12-079	296-17-523	AMD	98-18-042
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296-17-410	REP	98-18-042	296-17-51101	AMD	98-18-042	296-17-525	AMD	98-18-042
296-17-411	REP-P	98-12-079	296-17-512	AMD-P	98-12-079	296-17-526	AMD-P	98-12-079
296-17-411	REP	98-18-042	296-17-512	AMD	98-18-042	296-17-526	AMD	98-18-042
296-17-420	REP-P	98-12-079	296-17-513	AMD-P	98-12-079	296-17-527	AMD-P	98-12-079
296-17-420	REP	98-18-042	296-17-513	AMD	98-18-042	296-17-527	AMD	98-18-042
296-17-430	REP-P	98-12-079	296-17-51301	AMD-P	98-12-079	296-17-52701	AMD-P	98-12-079
296-17-430	REP	98-18-042	296-17-51301	AMD	98-18-042	296-17-52701	AMD	98-18-042
296-17-440	REP-P	98-12-079	296-17-516	AMD-P	98-12-079	296-17-528	AMD-P	98-12-079
296-17-440	REP	98-18-042	296-17-516	AMD	98-18-042	296-17-528	AMD	98-18-042
296-17-440	REP	98-18-042	296-17-517	AMD-P	98-12-079	296-17-529	AMD-P	98-12-079
296-17-44001	REP-P	98-12-079	296-17-517	AMD	98-18-042	296-17-529	AMD	98-18-042
296-17-44001	REP	98-18-042	296-17-519	AMD-P	98-12-079	296-17-532	AMD-P	98-12-079
296-17-441	REP-P	98-12-079	296-17-519	AMD	98-18-042	296-17-532	AMD	98-18-042
296-17-441	REP	98-18-042	296-17-52001	AMD-P	98-12-079	296-17-534	AMD-P	98-12-079
296-17-450	REP-P	98-12-079	296-17-52001	AMD	98-18-042	296-17-534	AMD	98-18-042
296-17-450	REP	98-18-042	296-17-52002	AMD-P	98-12-079	296-17-535	AMD-P	98-12-079
296-17-45001	REP-P	98-12-079	296-17-52002	AMD	98-18-042	296-17-535	AMD	98-18-042
296-17-45001	REP	98-18-042	296-17-521	AMD-P	98-12-079	296-17-53501	AMD-P	98-12-079
296-17-45002	REP-P	98-12-079	296-17-521	AMD	98-18-042	296-17-53501	AMD	98-18-042
296-17-45002	REP	98-18-042	296-17-52101	AMD-P	98-12-079	296-17-53502	AMD-P	98-12-079
296-17-45003	REP-P	98-12-079	296-17-52101	AMD	98-18-042	296-17-53502	AMD	98-18-042
296-17-45003	REP	98-18-042	296-17-52102	AMD-P	98-12-079	296-17-53504	AMD-P	98-12-079
296-17-45004	REP-P	98-12-079	296-17-52102	AMD	98-18-042	296-17-53504	AMD	98-18-042
296-17-45004	REP	98-18-042	296-17-52103	AMD-P	98-12-079	296-17-536	AMD-P	98-12-079
296-17-45005	REP-P	98-12-079	296-17-52103	AMD	98-18-042	296-17-536	AMD	98-18-042
296-17-45005	REP	98-18-042	296-17-52104	AMD-P	98-12-079	296-17-537	AMD-P	98-12-079
296-17-45006	REP-P	98-12-079	296-17-52104	AMD	98-18-042	296-17-537	AMD	98-18-042
296-17-45006	REP	98-18-042	296-17-52105	AMD-P	98-12-079	296-17-538	AMD-P	98-12-079
296-17-455	REP-P	98-12-079	296-17-52105	AMD	98-18-042	296-17-538	AMD	98-18-042
296-17-455	REP	98-18-042	296-17-52106	AMD-P	98-12-079	296-17-538	AMD	98-18-042
296-17-460	REP-P	98-12-079	296-17-52106	AMD	98-18-042	296-17-53801	AMD-P	98-12-079
296-17-460	REP	98-18-042	296-17-52108	AMD-P	98-12-079	296-17-53801	AMD	98-18-042
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296-17-503	AMD	98-18-042	296-17-52110	AMD	98-18-042	296-17-53805	AMD	98-18-042
296-17-504	AMD-P	98-12-079	296-17-52111	AMD-P	98-12-079	296-17-53806	AMD-P	98-12-079
296-17-504	AMD	98-18-042	296-17-52111	AMD	98-18-042	296-17-53806	AMD	98-18-042
296-17-504	AMD	98-18-042	296-17-52113	AMD-P	98-12-079	296-17-539	AMD-P	98-12-079
296-17-505	AMD-P	98-12-079	296-17-52113	AMD	98-18-042	296-17-539	AMD	98-18-042
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296-17-541	AMD	98-18-042	296-17-57003	AMD-P	98-12-079	296-17-596	AMD	98-18-042
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296-17-54101	AMD	98-18-042	296-17-571	AMD-P	98-12-079	296-17-597	AMD	98-18-042
296-17-542	AMD-P	98-12-079	296-17-571	AMD	98-18-042	296-17-599	AMD-P	98-12-079
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296-17-544	AMD	98-18-042	296-17-573	AMD-P	98-12-079	296-17-600	AMD	98-18-042
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296-17-54401	AMD	98-18-042	296-17-574	AMD-P	98-12-079	296-17-604	AMD	98-18-042
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296-17-55201	AMD	98-18-042	296-17-58201	AMD-P	98-12-079	296-17-61804	AMD	98-18-042
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296-17-557	AMD	98-18-042	296-17-584	AMD-P	98-12-079	296-17-620	AMD	98-18-042
296-17-560	AMD-P	98-12-079	296-17-584	AMD	98-18-042	296-17-622	AMD-P	98-12-079
296-17-560	AMD	98-18-042	296-17-585	AMD-P	98-12-079	296-17-622	AMD	98-18-042
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296-17-56601	AMD-P	98-12-079	296-17-587	AMD	98-18-042	296-17-63501	AMD-P	98-12-079
296-17-56601	AMD	98-18-042	296-17-590	AMD-P	98-12-079	296-17-63501	AMD	98-18-042
296-17-56602	AMD-P	98-12-079	296-17-590	AMD	98-18-042	296-17-636	AMD-P	98-12-079
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296-17-64903	AMD	98-18-042	296-17-67901	AMD-P	98-12-079	296-17-71301	AMD	98-18-042
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296-17-64904	AMD	98-18-042	296-17-680	AMD-P	98-12-079	296-17-714	AMD	98-18-042
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296-17-650	AMD	98-18-042	296-17-682	AMD	98-18-042	296-17-717	AMD	98-18-042
296-17-651	AMD-P	98-12-079	296-17-684	AMD-P	98-12-079	296-17-718	AMD-P	98-12-079
296-17-651	AMD	98-18-042	296-17-684	AMD	98-18-042	296-17-718	AMD	98-18-042
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296-17-652	AMD	98-18-042	296-17-685	AMD	98-18-042	296-17-719	AMD	98-18-042
296-17-653	AMD-P	98-12-079	296-17-686	AMD-P	98-12-079	296-17-721	REP-P	98-12-079
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296-17-656	AMD	98-18-042	296-17-688	AMD	98-18-042	296-17-72202	NEW	98-18-042
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296-17-657	AMD	98-18-042	296-17-689	AMD	98-18-042	296-17-723	AMD	98-18-042
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296-17-659	AMD	98-18-042	296-17-692	AMD	98-18-042	296-17-726	AMD	98-18-042
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296-17-660	AMD	98-18-042	296-17-693	AMD	98-18-042	296-17-727	AMD	98-18-042
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296-17-66001	AMD	98-18-042	296-17-694	AMD	98-18-042	296-17-729	AMD	98-18-042
296-17-66002	AMD-P	98-12-079	296-17-695	AMD-P	98-12-079	296-17-730	AMD-P	98-12-079
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296-17-66003	AMD-P	98-12-079	296-17-696	AMD-P	98-12-079	296-17-73105	AMD-P	98-12-079
296-17-66003	AMD	98-18-042	296-17-696	AMD	98-18-042	296-17-73105	AMD	98-18-042
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296-17-66004	AMD	98-18-042	296-17-697	AMD	98-18-042	296-17-73106	AMD	98-18-042
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296-17-661	AMD	98-18-042	296-17-698	AMD	98-18-042	296-17-73107	AMD	98-18-042
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296-17-663	AMD	98-18-042	296-17-699	AMD	98-18-042	296-17-73108	AMD	98-18-042
296-17-666	AMD-P	98-12-079	296-17-700	AMD-P	98-12-079	296-17-73109	NEW	98-18-042
296-17-666	AMD	98-18-042	296-17-700	AMD	98-18-042	296-17-73111	AMD-P	98-12-079
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296-17-670	AMD	98-18-042	296-17-704	AMD	98-18-042	296-17-737	AMD-P	98-12-079
296-17-673	AMD-P	98-12-079	296-17-706	AMD-P	98-12-079	296-17-737	AMD	98-18-042
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296-17-754	AMD-P	98-12-079	296-17-880	AMD	98-24-094	296-17-913	REP-P	98-21-077
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296-17-760	AMD-P	98-12-079	296-17-904	REP	98-24-072	296-17-91406	NEW-P	98-21-077
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296-17-761	AMD-P	98-12-079	296-17-910	REP	98-24-072	296-17-915	REP-P	98-21-077
296-17-761	AMD	98-18-042	296-17-911	REP-P	98-21-077	296-17-915	REP	98-24-072
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296-17-91905	REP-P	98-21-077	296-24-20507	AMD	98-10-073	296-31-069	AMD	98-24-095
296-17-91905	REP	98-24-072	296-24-20507	AMD	98-24-120	296-31-071	PREP	98-22-106
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296-44-12515	REP	98-07-009	296-44-350	REP	98-07-009	296-44-88007	REP	98-07-009
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296-44-19433	REP	98-07-009	296-44-39855	REP	98-07-009	296-45-175	NEW	98-07-009
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296-44-26333	REP	98-07-009	296-44-45219	REP	98-07-009	296-45-25510	NEW	98-07-009
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296-45-465	NEW	98-07-009	296-45-905	NEW	98-07-009	296-56-60085	AMD-P	98-17-079
296-45-475	NEW	98-07-009	296-46	PREP	98-13-123	296-56-60087	AMD-P	98-17-079
296-45-485	NEW	98-07-009	296-46-090	AMD-P	98-22-107	296-56-60093	AMD-P	98-17-079
296-45-48505	NEW	98-07-009	296-46-100	NEW-P	98-07-097	296-56-60097	AMD-P	98-17-079
296-45-48510	NEW	98-07-009	296-46-100	NEW	98-12-042	296-56-60098	AMD-P	98-17-079
296-45-48515	NEW	98-07-009	296-46-140	AMD-P	98-07-097	296-56-60103	AMD-P	98-17-079
296-45-48520	NEW	98-07-009	296-46-140	AMD	98-12-042	296-56-60113	AMD-P	98-17-079
296-45-48525	NEW	98-07-009	296-46-155	NEW-P	98-07-097	296-56-60115	AMD-P	98-17-079
296-45-48530	NEW	98-07-009	296-46-155	NEW	98-12-042	296-56-60123	AMD-P	98-17-079
296-45-48535	NEW	98-07-009	296-46-21052	AMD-P	98-07-097	296-56-60211	AMD-P	98-17-079
296-45-48540	NEW	98-07-009	296-46-21052	AMD	98-12-042	296-56-60217	AMD-P	98-17-079
296-45-48545	NEW	98-07-009	296-46-225	AMD-P	98-07-097	296-56-60235	AMD-P	98-23-085
296-45-48550	NEW	98-07-009	296-46-225	AMD	98-12-042	296-61-010	REP-XR	98-19-057
296-45-48555	NEW	98-07-009	296-46-23028	AMD-P	98-07-097	296-61-020	REP-XR	98-19-057
296-45-48560	NEW	98-07-009	296-46-23028	AMD	98-12-042	296-61-030	REP-XR	98-19-057
296-45-525	NEW	98-07-009	296-46-23040	AMD-P	98-22-107	296-61-040	REP-XR	98-19-057
296-45-52505	NEW	98-07-009	296-46-30001	AMD-P	98-07-097	296-61-050	REP-XR	98-19-057
296-45-52510	NEW	98-07-009	296-46-30001	AMD	98-12-042	296-61-060	REP-XR	98-19-057
296-45-52515	NEW	98-07-009	296-46-348	AMD-P	98-07-097	296-61-070	REP-XR	98-19-057
296-45-52520	NEW	98-07-009	296-46-348	AMD	98-12-042	296-61-080	REP-XR	98-19-057
296-45-52525	NEW	98-07-009	296-46-370	AMD-P	98-22-107	296-61-090	REP-XR	98-19-057
296-45-52530	NEW	98-07-009	296-46-495	AMD-P	98-07-097	296-61-100	REP-XR	98-19-057
296-45-52535	NEW	98-07-009	296-46-495	AMD	98-12-042	296-61-110	REP-XR	98-19-057
296-45-52540	NEW	98-07-009	296-46-495	AMD-P	98-22-107	296-61-120	REP-XR	98-19-057
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296-45-65005	REP	98-07-009	296-46-910	AMD	98-12-042	296-61-190	REP-XR	98-19-057
296-45-65009	REP	98-07-009	296-46-910	AMD-XA	98-18-101	296-61-200	REP-XR	98-19-057
296-45-65011	REP	98-07-009	296-46-910	AMD	98-22-063	296-61-210	REP-XR	98-19-057
296-45-65013	REP	98-07-009	296-46-910	PREP	98-22-105	296-61-220	REP-XR	98-19-057
296-45-65015	REP	98-07-009	296-46-915	AMD-P	98-07-097	296-61-230	REP-XR	98-19-057
296-45-65017	REP	98-07-009	296-46-915	AMD	98-12-042	296-61-240	REP-XR	98-19-057
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296-45-65026	REP	98-07-009	296-46-930	AMD-P	98-07-097	296-61-280	REP-XR	98-19-057
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296-45-65031	REP	98-07-009	296-46-940	AMD-P	98-07-097	296-61-310	REP-XR	98-19-057
296-45-65033	REP	98-07-009	296-46-940	AMD	98-12-042	296-61-320	REP-XR	98-19-057
296-45-65035	REP	98-07-009	296-46-940	AMD-P	98-22-107	296-62	PREP	98-08-104
296-45-65037	REP	98-07-009	296-46-950	AMD-P	98-22-107	296-62	PREP	98-12-082
296-45-65038	REP	98-07-009	296-52-489	AMD-XA	98-12-103	296-62	PREP	98-12-084
296-45-65039	REP	98-07-009	296-52-489	AMD	98-19-056	296-62	PREP	98-24-071
296-45-65041	REP	98-07-009	296-56	PREP	98-08-104	296-62-071	AMD-P	98-23-085
296-45-65043	REP	98-07-009	296-56	PREP	98-12-080	296-62-07101	AMD-P	98-23-085
296-45-65045	REP	98-07-009	296-56-60001	AMD-P	98-17-079	296-62-07102	NEW-P	98-23-085
296-45-65047	REP	98-07-009	296-56-60005	AMD-P	98-17-079	296-62-07103	AMD-P	98-23-085
296-45-660	REP	98-07-009	296-56-60006	NEW-P	98-17-079	296-62-07105	AMD-P	98-23-085
296-45-66001	REP	98-07-009	296-56-60009	AMD-P	98-17-079	296-62-07107	AMD-P	98-23-085
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296-62-07192	NEW-P	98-23-085	296-62-07369	AMD-P	98-23-085	296-86-080	REP-P	98-07-094
296-62-07194	NEW-P	98-23-085	296-62-07379	REP-P	98-23-085	296-86-080	REP	98-12-043
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296-62-07217	NEW-P	98-23-085	296-62-07515	AMD	98-10-029	296-86A-028	NEW	98-12-043
296-62-07218	NEW-P	98-23-085	296-62-07521	AMD-P	98-23-085	296-86A-030	NEW-P	98-07-094
296-62-07219	NEW-P	98-23-085	296-62-07523	AMD-P	98-23-085	296-86A-030	NEW	98-12-043
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296-62-07235	NEW-P	98-23-085	296-62-07666	REP-P	98-23-085	296-86A-073	NEW-P	98-07-094
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296-62-07267	NEW-P	98-23-085	296-78-71019	AMD-P	98-23-085	296-104-017	NEW	98-22-024
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296-104-102	AMD	98-22-024	296-125-0260	NEW-P	98-20-093	296-150C-1080	AMD-P	98-07-095
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296-104-200	AMD	98-22-024	296-125-0264	NEW-P	98-20-093	296-150C-1303	NEW-P	98-07-095
296-104-265	AMD-P	98-16-079	296-125-0265	NEW-P	98-20-093	296-150C-1303	NEW	98-14-078
296-104-265	AMD	98-22-024	296-125-0266	NEW-P	98-20-093	296-150C-1580	AMD-P	98-07-095
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296-104-307	NEW	98-22-024	296-125-0275	NEW-P	98-20-093	296-150C-1590	AMD	98-14-078
296-104-310	AMD-P	98-16-079	296-125-028	REP-P	98-20-093	296-150C-1600	AMD-P	98-07-095
296-104-310	AMD	98-22-024	296-125-0280	NEW-P	98-20-093	296-150C-1600	AMD	98-14-078
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296-104-540	NEW-P	98-16-079	296-125-0710	NEW-P	98-20-093	296-150C-1754	NEW	98-14-078
296-104-540	NEW	98-22-024	296-125-0720	NEW-P	98-20-093	296-150C-1755	NEW-P	98-07-095
296-104-600	REP-P	98-16-079	296-125-0721	NEW-P	98-20-093	296-150C-1755	NEW	98-14-078
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296-104-805	REP-P	98-16-079	296-125-0770	NEW-P	98-20-093	296-150C-1760	NEW-P	98-07-095
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296-124-020	REP	98-14-042	296-150C	PREP	98-22-105	296-150F-0020	AMD-P	98-07-095
296-124-021	REP-XR	98-07-093	296-150C-0020	AMD-P	98-07-095	296-150F-0020	AMD	98-14-078
296-124-021	REP	98-14-042	296-150C-0020	AMD	98-14-078	296-150F-0130	NEW-P	98-07-095
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296-125-0222	NEW-P	98-20-093	296-150C-0820	AMD-P	98-07-095	296-150M-0306	NEW-P	98-07-095
296-125-0223	NEW-P	98-20-093	296-150C-0820	AMD	98-14-078	296-150M-0306	NEW	98-14-078
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296-125-0230	NEW-P	98-20-093	296-150C-0960	AMD	98-14-078	296-150M-0307	NEW	98-14-078
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296-307-25015	AMD	98-24-096	296-307-34503	AMD	98-24-096	296-307-41001	AMD-P	98-16-100
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296-307-26033	AMD-P	98-16-100	296-307-35015	AMD-P	98-16-100	296-307-41025	AMD	98-24-096
296-307-26033	AMD	98-24-096	296-307-35015	AMD	98-24-096	296-307-41027	AMD-P	98-16-100
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296-307-41047	AMD-P	98-16-100	296-307-48033	AMD	98-24-096	296-400A-027	NEW	98-13-126
296-307-41047	AMD	98-24-096	296-307-48501	AMD-P	98-16-100	296-400A-030	AMD-P	98-09-124
296-307-41049	AMD-P	98-16-100	296-307-48501	AMD	98-24-096	296-400A-030	AMD	98-13-126
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296-307-41501	AMD	98-24-096	296-307-49005	AMD-P	98-16-100	296-400A-035	AMD-P	98-09-124
296-307-41507	AMD-P	98-16-100	296-307-49005	AMD	98-24-096	296-400A-035	AMD	98-13-126
296-307-41507	AMD	98-24-096	296-307-49007	AMD-P	98-16-100	296-400A-045	AMD-P	98-07-096
296-307-41513	AMD-P	98-16-100	296-307-49007	AMD	98-24-096	296-400A-045	AMD-P	98-09-124
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296-307-42007	AMD	98-24-096	296-307-49011	AMD	98-24-096	296-400A-070	AMD	98-13-126
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296-307-42023	AMD	98-24-096	296-307-49501	AMD	98-24-096	296-400A-120	AMD	98-13-126
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296-307-42519	AMD	98-24-096	296-307-50009	AMD	98-24-096	296-401-020	REP	98-12-042
296-307-42521	AMD-P	98-16-100	296-307-50011	AMD-P	98-16-100	296-401-030	REP-P	98-07-097
296-307-42521	AMD	98-24-096	296-307-50011	AMD	98-24-096	296-401-030	REP	98-12-042
296-307-42523	AMD-P	98-16-100	296-307-50013	AMD-P	98-16-100	296-401-060	REP-P	98-07-097
296-307-42523	AMD	98-24-096	296-307-50013	AMD	98-24-096	296-401-060	REP	98-12-042
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296-307-43001	AMD	98-24-096	296-307-50019	AMD	98-24-096	296-401-075	REP	98-12-042
296-307-43501	AMD-P	98-16-100	296-307-50021	AMD-P	98-16-100	296-401-080	REP-P	98-07-097
296-307-43501	AMD	98-24-096	296-307-50021	AMD	98-24-096	296-401-080	REP	98-12-042
296-307-43503	AMD-P	98-16-100	296-307-50023	AMD-P	98-16-100	296-401-085	REP-P	98-07-097
296-307-43503	AMD	98-24-096	296-307-50023	AMD	98-24-096	296-401-085	REP	98-12-042
296-307-43509	AMD-P	98-16-100	296-307-50027	AMD-P	98-16-100	296-401-087	REP-P	98-07-097
296-307-43509	AMD	98-24-096	296-307-50027	AMD	98-24-096	296-401-087	REP	98-12-042
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296-307-43511	AMD	98-24-096	296-307-52001	AMD	98-24-096	296-401-090	REP	98-12-042
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296-307-43515	AMD	98-24-096	296-307-52003	AMD	98-24-096	296-401-100	REP	98-12-042
296-307-44001	AMD-P	98-16-100	296-307-52005	AMD-P	98-16-100	296-401-110	REP-P	98-07-097
296-307-44001	AMD	98-24-096	296-307-52005	AMD	98-24-096	296-401-110	REP	98-12-042
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296-307-44007	AMD	98-24-096	296-307-52009	AMD	98-24-096	296-401-120	REP	98-12-042
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296-307-45001	AMD	98-24-096	296-307-52011	AMD	98-24-096	296-401-150	REP	98-12-042
296-307-45003	AMD-P	98-16-100	296-307-52013	AMD-P	98-16-100	296-401-160	REP-P	98-07-097
296-307-45003	AMD	98-24-096	296-307-52013	AMD	98-24-096	296-401-160	REP	98-12-042
296-307-45009	AMD-P	98-16-100	296-307-52015	AMD-P	98-16-100	296-401-163	REP-P	98-07-097
296-307-45009	AMD	98-24-096	296-307-52015	AMD	98-24-096	296-401-163	REP	98-12-042
296-307-45017	AMD-P	98-16-100	296-307-52017	AMD-P	98-16-100	296-401-165	REP-P	98-07-097
296-307-45017	AMD	98-24-096	296-307-52017	AMD	98-24-096	296-401-165	REP	98-12-042
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296-307-45021	AMD	98-24-096	296-307-52047	AMD	98-24-096	296-401-168	REP	98-12-042
296-307-45023	AMD-P	98-16-100	296-307-53001	AMD-P	98-16-100	296-401-170	REP-P	98-07-097
296-307-45023	AMD	98-24-096	296-307-53001	AMD	98-24-096	296-401-170	REP	98-12-042
296-307-45027	AMD-P	98-16-100	296-307-53005	AMD-P	98-16-100	296-401-175	REP-P	98-07-097
296-307-45027	AMD	98-24-096	296-307-53005	AMD	98-24-096	296-401-175	REP	98-12-042
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296-307-48023	AMD	98-24-096	296-400A-005	AMD-P	98-09-124	296-401-180	REP	98-12-042
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296-401A-105	NEW	98-12-042	296-401A-810	NEW	98-12-042	308-48-800	AMD-P	98-17-035
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296-401A-120	NEW	98-12-042	296-401A-910	NEW	98-12-042	308-56A-005	REP-P	98-08-049
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296-401A-130	NEW	98-12-042	296-401A-920	NEW	98-12-042	308-56A-010	PREP	98-03-024
296-401A-140	NEW-P	98-07-097	296-401A-930	NEW-P	98-07-097	308-56A-010	AMD-P	98-08-049
296-401A-140	NEW	98-12-042	296-401A-930	NEW	98-12-042	308-56A-010	AMD	98-12-099
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296-401A-160	NEW	98-12-042	308-04-010	AMD-W	98-07-018	308-56A-020	AMD-P	98-08-049
296-401A-200	NEW-P	98-07-097	308-04-010	PREP	98-17-071	308-56A-020	AMD	98-12-099
296-401A-200	NEW	98-12-042	308-04-010	AMD-P	98-22-052	308-56A-021	PREP	98-03-024
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296-401A-210	NEW	98-12-042	308-04-020	AMD-P	98-06-080	308-56A-021	AMD	98-12-099
296-401A-220	NEW-P	98-07-097	308-04-020	AMD-W	98-07-018	308-56A-022	PREP	98-03-024
296-401A-220	NEW	98-12-042	308-04-020	PREP	98-17-071	308-56A-022	AMD-P	98-08-049
296-401A-230	NEW-P	98-07-097	308-04-020	AMD-P	98-22-052	308-56A-022	AMD	98-12-099
296-401A-230	NEW	98-12-042	308-11-010	REP-P	98-13-027	308-56A-023	PREP	98-03-024
296-401A-300	NEW-P	98-07-097	308-11-010	REP	98-16-061	308-56A-023	AMD-P	98-08-049
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296-401A-310	NEW	98-12-042	308-11-035	AMD-P	98-13-027	308-56A-025	REP-P	98-20-033
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296-401A-500	NEW-P	98-07-097	308-12-115	AMD-P	98-14-043	308-56A-055	REP-P	98-20-033
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296-401A-530	NEW	98-12-042	308-33-011	AMD-P	98-13-028	308-56A-085	REP	98-12-099
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296-401A-540	NEW	98-12-042	308-33-020	REP	98-18-053	308-56A-090	AMD	98-12-099
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296-401A-550	NEW	98-12-042	308-33-060	AMD	98-18-053	308-56A-105	REP-P	98-20-033
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296-401A-600	NEW	98-12-042	308-33-071	AMD	98-18-053	308-56A-110	AMD-P	98-20-033
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296-401A-630	NEW	98-12-042	308-33-095	AMD	98-18-053	308-56A-135	PREP	98-14-080
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308-56A-205	PREP	98-24-003	308-66-214	AMD	98-20-039	308-77-040	AMD-P	98-18-059
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308-56A-210	PREP	98-24-003	308-66-227	AMD	98-20-039	308-77-042	REP-P	98-18-059
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308-56A-270	PREP	98-22-030	308-72-501	NEW	98-24-011	308-77-050	AMD	98-24-011
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308-56A-280	PREP	98-22-030	308-72-502	REP	98-24-011	308-77-060	REP	98-24-011
308-56A-285	PREP	98-22-030	308-72-503	NEW-P	98-18-059	308-77-070	REP-P	98-18-059
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308-56A-300	PREP	98-24-007	308-72-504	REP-P	98-18-059	308-77-091	NEW-P	98-18-059
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308-56A-315	PREP	98-24-007	308-72-505	NEW	98-24-011	308-77-095	AMD	98-24-011
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308-56A-325	PREP	98-24-007	308-72-508	REP	98-24-011	308-77-100	REP	98-24-011
308-56A-330	PREP	98-24-007	308-72-509	AMD-P	98-18-059	308-77-105	NEW-P	98-18-059
308-56A-335	PREP	98-16-071	308-72-509	AMD	98-24-011	308-77-105	NEW	98-24-011
308-56A-340	PREP	98-16-071	308-72-512	AMD-P	98-18-059	308-77-110	AMD-P	98-18-059
308-56A-345	PREP	98-16-071	308-72-512	AMD	98-24-011	308-77-110	AMD	98-24-011
308-56A-350	PREP	98-16-071	308-72-520	REP-P	98-18-059	308-77-115	NEW-P	98-18-059
308-56A-355	PREP	98-16-071	308-72-520	REP	98-24-011	308-77-115	NEW	98-24-011
308-56A-360	PREP	98-16-071	308-72-530	REP-P	98-18-059	308-77-120	REP-P	98-18-059
308-56A-365	PREP	98-16-071	308-72-530	REP	98-24-011	308-77-120	REP	98-24-011
308-56A-420	PREP	98-18-002	308-72-540	AMD-P	98-18-059	308-77-125	REP-P	98-18-059
308-56A-420	AMD-P	98-19-109	308-72-540	AMD	98-24-011	308-77-125	REP	98-24-011
308-56A-420	AMD-S	98-23-083	308-72-542	AMD-P	98-18-059	308-77-130	REP-P	98-18-059
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308-66-110	AMD-P	98-16-007	308-72-550	AMD-P	98-18-059	308-77-150	AMD-P	98-18-059
308-66-110	AMD	98-20-039	308-72-550	AMD	98-24-011	308-77-150	AMD	98-24-011
308-66-120	AMD-P	98-16-007	308-72-555	NEW-P	98-18-059	308-77-160	AMD-P	98-18-059
308-66-120	AMD	98-20-039	308-72-555	NEW	98-24-011	308-77-160	AMD	98-24-011
308-66-140	AMD-P	98-16-007	308-72-557	NEW-P	98-18-059	308-77-165	AMD-P	98-18-059
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308-66-145	AMD-P	98-16-007	308-72-560	AMD-P	98-18-059	308-77-190	AMD-P	98-18-059
308-66-145	AMD	98-20-039	308-72-560	AMD	98-24-011	308-77-190	AMD	98-24-011
308-66-152	AMD-P	98-16-007	308-72-570	AMD-P	98-18-059	308-77-220	AMD-P	98-18-059
308-66-152	AMD	98-20-039	308-72-570	AMD	98-24-011	308-77-220	AMD	98-24-011
308-66-155	AMD-P	98-16-007	308-72-600	REP-P	98-18-059	308-77-225	NEW-P	98-18-059
308-66-155	AMD	98-20-039	308-72-600	REP	98-24-011	308-77-225	NEW	98-24-011
308-66-156	REP-P	98-16-007	308-72-610	AMD-P	98-18-059	308-77-230	AMD-P	98-18-059
308-66-156	REP	98-20-039	308-72-610	AMD	98-24-011	308-77-230	AMD	98-24-011
308-66-157	AMD-P	98-16-007	308-72-615	NEW-P	98-18-059	308-77-250	AMD-P	98-18-059
308-66-157	AMD	98-20-039	308-72-615	NEW	98-24-011	308-77-250	AMD	98-24-011
308-66-160	AMD-P	98-16-007	308-72-620	AMD-P	98-18-059	308-77-260	AMD-P	98-18-059
308-66-160	AMD	98-20-039	308-72-620	AMD	98-24-011	308-77-260	AMD	98-24-011
308-66-170	AMD-P	98-16-007	308-72-630	AMD-P	98-18-059	308-93	PREP	98-18-083
308-66-170	AMD	98-20-039	308-72-630	AMD	98-24-011	308-93	PREP	98-22-031
308-66-190	AMD-P	98-16-007	308-72-640	AMD-P	98-18-059	308-93-010	AMD-E	98-09-001
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308-66-196	REP	98-20-039	308-72-670	AMD	98-24-011	308-93-050	AMD	98-16-029
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308-66-210	AMD-P	98-16-007	308-77-010	AMD	98-24-011	308-93-055	NEW	98-16-029
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308-93-079	PREP	98-03-026	308-93-290	REP-P	98-16-075	308-94-030	AMD	98-08-070
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308-93-087	AMD-P	98-21-060	308-93-330	REP-P	98-13-044	308-94-090	REP-P	98-04-072
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308-93-120	REP-P	98-16-075	308-93-370	PREP	98-22-031	308-96A-010	REP-P	98-14-012
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308-93-180	REP	98-21-001	308-93-410	REP-P	98-22-094	308-96A-021	PREP	98-03-021
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308-93-190	REP-P	98-16-075	308-93-420	REP-P	98-13-044	308-96A-021	AMD	98-19-075
308-93-190	REP	98-21-001	308-93-420	REP	98-16-030	308-96A-025	PREP	98-03-021
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308-93-215	REP-P	98-16-075	308-93-460	AMD	98-09-023	308-96A-035	REP	98-19-075
308-93-215	REP	98-21-001	308-93-470	AMD-P	98-05-068	308-96A-040	PREP	98-03-021
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308-96A-071	AMD-P	98-04-071	308-96A-306	AMD-P	98-15-014	308-97-205	REP-P	98-18-024
308-96A-071	AMD	98-09-024	308-96A-306	AMD	98-22-032	308-97-205	REP	98-23-026
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308-96A-080	AMD-P	98-12-073	308-96A-311	NEW-P	98-15-014	308-124	AMD-S	98-24-079
308-96A-080	AMD	98-16-002	308-96A-311	NEW	98-22-032	308-124-001	PREP	98-13-071
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308-96A-085	AMD-P	98-12-073	308-96A-312	NEW-P	98-15-014	308-124-001	REP-S	98-24-079
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308-96A-207	AMD-P	98-21-059	308-96A-415	PREP	98-24-005	308-124F-020	REP-P	98-22-003
308-96A-208	PREP	98-16-010	308-96A-420	PREP	98-24-005	308-124F-020	REP-S	98-24-079
308-96A-208	AMD-P	98-21-059	308-97-010	PREP	98-14-081	308-124F-030	PREP	98-13-071
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388- 15-171	NEW-E	98-14-035	388- 15-222	AMD	98-04-026	388- 49-060	REP-P	98-11-084
388- 15-171	NEW	98-22-008	388- 15-222	AMD-E	98-09-042	388- 49-060	REP	98-16-044
388- 15-174	NEW-P	98-14-034	388- 15-222	PREP	98-11-032	388- 49-070	REP-P	98-11-084
388- 15-174	NEW-E	98-14-035	388- 15-222	AMD-P	98-15-138	388- 49-070	REP	98-16-044
388- 15-174	NEW	98-22-008	388- 15-222	AMD-E	98-17-030	388- 49-080	REP-P	98-11-084
388- 15-175	NEW-P	98-14-034	388- 15-222	AMD	98-19-055	388- 49-080	REP	98-16-044
388- 15-175	NEW-E	98-14-035	388- 15-300	REP	98-02-058	388- 49-090	REP-P	98-11-084
388- 15-175	NEW	98-22-008	388- 15-310	REP	98-02-058	388- 49-090	REP	98-16-044
388- 15-176	NEW-P	98-14-034	388- 15-320	REP	98-02-058	388- 49-100	REP-P	98-11-084
388- 15-176	NEW-E	98-14-035	388- 15-330	REP	98-02-058	388- 49-100	REP	98-16-044
388- 15-176	NEW	98-22-008	388- 15-600	PREP	98-11-031	388- 49-110	REP-P	98-11-084

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388-49-120	REP-P	98-11-084	388-49-390	REP-P	98-11-084	388-49-640	REP-P	98-11-084
388-49-120	REP	98-16-044	388-49-390	REP	98-16-044	388-49-640	REP	98-16-044
388-49-150	REP-P	98-11-084	388-49-400	REP-P	98-11-084	388-49-650	REP-P	98-11-084
388-49-150	REP	98-16-044	388-49-400	REP	98-16-044	388-49-650	REP	98-16-044
388-49-160	REP-P	98-11-084	388-49-410	REP-P	98-11-084	388-49-660	REP-P	98-11-084
388-49-160	REP	98-16-044	388-49-410	REP	98-16-044	388-49-660	REP	98-16-044
388-49-170	REP-P	98-11-084	388-49-420	REP-P	98-11-084	388-49-670	REP-P	98-11-084
388-49-170	REP	98-16-044	388-49-420	REP	98-16-044	388-49-670	REP	98-16-044
388-49-180	REP-P	98-11-084	388-49-430	REP-P	98-11-084	388-49-680	REP-P	98-11-084
388-49-180	REP	98-16-044	388-49-430	REP	98-16-044	388-49-680	REP	98-16-044
388-49-190	REP-P	98-11-084	388-49-440	REP-P	98-11-084	388-49-690	REP-P	98-11-084
388-49-190	REP	98-16-044	388-49-440	REP	98-16-044	388-49-690	REP	98-16-044
388-49-200	REP-P	98-11-084	388-49-450	REP-P	98-11-084	388-49-700	REP-P	98-11-084
388-49-200	REP	98-16-044	388-49-450	REP	98-16-044	388-49-700	REP	98-16-044
388-49-210	REP-P	98-11-084	388-49-460	REP-P	98-11-084	388-55-006	REP-P	98-11-084
388-49-210	REP	98-16-044	388-49-460	REP	98-16-044	388-55-006	REP	98-16-044
388-49-220	REP-P	98-11-084	388-49-470	REP-P	98-11-084	388-55-008	REP-P	98-11-084
388-49-220	REP	98-16-044	388-49-470	REP	98-16-044	388-55-008	REP	98-16-044
388-49-230	REP-P	98-11-084	388-49-480	REP-P	98-11-084	388-55-010	REP-P	98-11-084
388-49-230	REP	98-16-044	388-49-480	REP	98-16-044	388-55-010	REP	98-16-044
388-49-240	REP-P	98-11-084	388-49-485	REP-P	98-11-084	388-55-020	REP-P	98-11-084
388-49-240	REP	98-16-044	388-49-485	REP	98-16-044	388-55-020	REP	98-16-044
388-49-250	REP-P	98-11-084	388-49-490	REP-P	98-11-084	388-55-030	REP-P	98-11-084
388-49-250	REP	98-16-044	388-49-490	REP	98-16-044	388-55-030	REP	98-16-044
388-49-260	REP-P	98-11-084	388-49-500	REP-P	98-11-084	388-55-040	REP-P	98-11-084
388-49-260	REP	98-16-044	388-49-500	REP	98-16-044	388-55-040	REP	98-16-044
388-49-270	REP-P	98-11-084	388-49-505	REP-P	98-11-084	388-55-060	REP-P	98-11-084
388-49-270	REP	98-16-044	388-49-505	REP	98-16-044	388-55-060	REP	98-16-044
388-49-280	REP-P	98-11-084	388-49-510	AMD	98-03-049	388-61-001	AMD	98-07-040
388-49-280	REP	98-16-044	388-49-510	REP-P	98-11-084	388-73	PREP	98-08-084
388-49-290	REP-P	98-11-084	388-49-510	REP	98-16-044	388-73-012	AMD-P	98-20-042
388-49-290	REP	98-16-044	388-49-515	REP-P	98-11-084	388-73-101	NEW-P	98-20-042
388-49-300	REP-P	98-11-084	388-49-515	REP	98-16-044	388-73-104	AMD-P	98-20-042
388-49-300	REP	98-16-044	388-49-520	REP-P	98-11-084	388-76-540	AMD-S	98-02-077
388-49-310	REP-P	98-11-084	388-49-520	REP	98-16-044	388-76-540	AMD	98-11-095
388-49-310	REP	98-16-044	388-49-535	REP-P	98-11-084	388-76-550	AMD-S	98-02-077
388-49-320	REP-P	98-11-084	388-49-535	REP	98-16-044	388-76-550	AMD	98-11-095
388-49-320	REP	98-16-044	388-49-550	AMD-P	98-04-039	388-76-560	AMD-S	98-02-077
388-49-330	REP-P	98-11-084	388-49-550	AMD-E	98-04-040	388-76-560	AMD	98-11-095
388-49-330	REP	98-16-044	388-49-550	AMD	98-10-025	388-76-561	NEW-S	98-04-032
388-49-340	REP-P	98-11-084	388-49-550	REP-P	98-11-084	388-76-561	NEW-W	98-17-072
388-49-340	REP	98-16-044	388-49-550	REP	98-16-044	388-76-570	AMD-S	98-02-077
388-49-350	REP-P	98-11-084	388-49-560	REP-P	98-04-039	388-76-570	AMD	98-11-095
388-49-350	REP	98-16-044	388-49-560	REP-E	98-04-040	388-76-590	AMD-S	98-04-032
388-49-355	REP-P	98-11-084	388-49-560	AMD	98-10-025	388-76-590	AMD-W	98-08-091
388-49-355	REP	98-16-044	388-49-560	REP-P	98-11-084	388-76-590	AMD	98-12-054
388-49-360	AMD-W	98-06-076	388-49-560	REP	98-16-044	388-76-59000	NEW	98-12-054
388-49-360	REP-P	98-11-084	388-49-570	REP-P	98-04-039	388-76-59010	NEW	98-12-054
388-49-360	REP	98-16-044	388-49-570	REP-E	98-04-040	388-76-59020	NEW	98-12-054
388-49-362	REP-P	98-11-084	388-49-570	AMD	98-10-025	388-76-59050	NEW	98-12-054
388-49-362	REP	98-16-044	388-49-570	REP-P	98-11-084	388-76-59060	NEW	98-12-054
388-49-364	REP-P	98-11-084	388-49-570	REP	98-16-044	388-76-59070	NEW	98-12-054
388-49-364	REP	98-16-044	388-49-580	REP-P	98-04-039	388-76-59080	NEW	98-12-054
388-49-366	REP-P	98-11-084	388-49-580	REP-E	98-04-040	388-76-59090	NEW	98-12-054
388-49-366	REP	98-16-044	388-49-580	AMD	98-10-025	388-76-59100	NEW	98-12-054
388-49-368	REP-P	98-11-084	388-49-580	REP-P	98-11-084	388-76-59110	NEW	98-12-054
388-49-368	REP	98-16-044	388-49-580	REP	98-16-044	388-76-59120	NEW	98-12-054
388-49-369	REP-P	98-11-084	388-49-590	REP-P	98-11-084	388-76-595	AMD-S	98-02-077
388-49-369	REP	98-16-044	388-49-590	REP	98-16-044	388-76-595	AMD	98-11-095
388-49-370	REP-P	98-11-084	388-49-600	REP-P	98-11-084	388-76-600	AMD-S	98-04-032
388-49-370	REP	98-16-044	388-49-600	REP	98-16-044	388-76-600	AMD	98-12-054
388-49-380	AMD-W	98-06-076	388-49-610	REP-P	98-11-084	388-76-60000	NEW	98-12-054
388-49-380	REP-P	98-11-084	388-49-610	REP	98-16-044	388-76-60010	NEW	98-12-054
388-49-380	REP	98-16-044	388-49-620	REP-P	98-11-084	388-76-60020	NEW	98-12-054
388-49-385	AMD-W	98-06-076	388-49-620	REP	98-16-044	388-76-60030	NEW	98-12-054
388-49-385	REP-P	98-11-084	388-49-630	REP-P	98-11-084	388-76-60040	NEW	98-12-054

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388-76-60060	NEW	98-12-054	388-78A-120	RECOD	98-20-021	388-96-010	AMD-P	98-15-141
388-76-60070	NEW	98-12-054	388-78A-130	RECOD	98-20-021	388-96-010	AMD	98-20-023
388-76-605	AMD-S	98-02-077	388-78A-140	RECOD	98-20-021	388-96-020	AMD-P	98-15-141
388-76-605	AMD	98-11-095	388-78A-150	RECOD	98-20-021	388-96-020	AMD	98-20-023
388-76-610	AMD-S	98-04-032	388-78A-160	RECOD	98-20-021	388-96-023	REP-P	98-15-141
388-76-610	AMD-W	98-08-091	388-78A-170	RECOD	98-20-021	388-96-023	REP	98-20-023
388-76-610	AMD	98-12-054	388-78A-180	RECOD	98-20-021	388-96-026	AMD-P	98-15-141
388-76-61000	NEW	98-12-054	388-78A-190	RECOD	98-20-021	388-96-026	AMD	98-20-023
388-76-61010	NEW	98-12-054	388-78A-200	RECOD	98-20-021	388-96-029	REP-P	98-15-141
388-76-61020	NEW	98-12-054	388-78A-210	RECOD	98-20-021	388-96-029	REP	98-20-023
388-76-61030	NEW	98-12-054	388-78A-220	RECOD	98-20-021	388-96-032	REP-P	98-15-141
388-76-61040	NEW	98-12-054	388-78A-230	RECOD	98-20-021	388-96-032	REP	98-20-023
388-76-61050	NEW	98-12-054	388-78A-240	RECOD	98-20-021	388-96-101	REP-P	98-15-141
388-76-61060	NEW	98-12-054	388-78A-250	RECOD	98-20-021	388-96-101	REP	98-20-023
388-76-61070	NEW	98-12-054	388-78A-260	RECOD	98-20-021	388-96-104	REP-P	98-15-141
388-76-61080	NEW	98-12-054	388-78A-265	RECOD	98-20-021	388-96-104	REP	98-20-023
388-76-615	AMD-S	98-04-032	388-78A-268	RECOD	98-20-021	388-96-108	AMD-P	98-15-141
388-76-615	AMD	98-12-054	388-78A-280	RECOD	98-20-021	388-96-108	AMD	98-20-023
388-76-61500	NEW	98-12-054	388-78A-290	RECOD	98-20-021	388-96-110	REP-P	98-15-141
388-76-61510	NEW	98-12-054	388-78A-300	RECOD	98-20-021	388-96-110	REP	98-20-023
388-76-61520	NEW	98-12-054	388-78A-310	RECOD	98-20-021	388-96-113	REP-P	98-15-141
388-76-61530	NEW	98-12-054	388-78A-320	RECOD	98-20-021	388-96-113	REP	98-20-023
388-76-61540	NEW	98-12-054	388-78A-330	RECOD	98-20-021	388-96-119	AMD-P	98-15-141
388-76-61550	NEW	98-12-054	388-78A-335	RECOD	98-20-021	388-96-119	AMD	98-20-023
388-76-61560	NEW	98-12-054	388-78A-340	RECOD	98-20-021	388-96-122	AMD-P	98-15-141
388-76-61570	NEW	98-12-054	388-78A-990	RECOD	98-20-021	388-96-122	AMD	98-20-023
388-76-620	AMD-S	98-02-077	388-78A-990	AMD-P	98-20-097	388-96-128	REP-P	98-15-141
388-76-620	AMD	98-11-095	388-78A-990	AMD	98-24-038	388-96-128	REP	98-20-023
388-76-635	AMD-S	98-02-077	388-79	NEW-C	98-05-053	388-96-131	REP-P	98-15-141
388-76-635	AMD	98-11-095	388-79-010	NEW-P	98-03-085	388-96-131	REP	98-20-023
388-76-640	AMD-W	98-08-091	388-79-010	NEW	98-10-055	388-96-134	REP-P	98-15-141
388-76-655	AMD-S	98-02-077	388-79-020	NEW-P	98-03-085	388-96-134	REP	98-20-023
388-76-655	AMD	98-11-095	388-79-020	NEW	98-10-055	388-96-202	NEW-P	98-15-141
388-76-660	AMD-S	98-02-077	388-79-030	NEW-P	98-03-085	388-96-202	NEW	98-20-023
388-76-660	AMD	98-11-095	388-79-030	NEW	98-10-055	388-96-204	REP-P	98-15-141
388-76-665	AMD-S	98-02-077	388-79-040	NEW-P	98-03-085	388-96-204	REP	98-20-023
388-76-665	AMD	98-11-095	388-79-040	NEW	98-10-055	388-96-207	REP-P	98-15-141
388-76-670	AMD-S	98-02-077	388-86	PREP	98-10-106	388-96-207	REP	98-20-023
388-76-670	AMD	98-11-095	388-86-005	AMD-P	98-15-140	388-96-210	REP-P	98-15-141
388-76-675	AMD-S	98-02-077	388-86-005	AMD	98-18-079	388-96-210	REP	98-20-023
388-76-675	AMD	98-11-095	388-86-015	REP-P	98-13-082	388-96-213	REP-P	98-15-141
388-76-680	AMD-S	98-02-077	388-86-015	REP	98-16-050	388-96-213	REP	98-20-023
388-76-680	AMD	98-11-095	388-86-024	PREP	98-15-112	388-96-218	NEW-P	98-15-141
388-76-685	AMD-S	98-02-077	388-86-027	AMD-P	98-11-084	388-96-218	NEW	98-20-023
388-76-685	AMD	98-11-095	388-86-027	AMD	98-16-044	388-96-220	REP-P	98-15-141
388-76-690	AMD-S	98-02-077	388-86-045	PREP	98-13-086	388-96-220	REP	98-20-023
388-76-690	AMD	98-11-095	388-86-080	REP-P	98-13-082	388-96-221	REP-P	98-15-141
388-76-695	AMD-S	98-02-077	388-86-080	REP	98-16-050	388-96-221	REP	98-20-023
388-76-695	AMD	98-11-095	388-86-085	PREP	98-22-058	388-96-224	REP-P	98-15-141
388-76-705	AMD-S	98-02-077	388-86-086	PREP	98-22-058	388-96-224	REP	98-20-023
388-76-705	AMD	98-11-095	388-86-095	REP-P	98-13-082	388-96-226	REP-P	98-15-141
388-76-765	AMD-W	98-08-091	388-86-095	REP-W	98-15-101	388-96-226	REP	98-20-023
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388-78A-010	AMD-P	98-20-097	388-86-100	AMD-P	98-19-014	388-96-228	REP	98-20-023
388-78A-010	AMD	98-24-038	388-86-110	REP-P	98-19-014	388-96-229	REP-P	98-15-141
388-78A-020	RECOD	98-20-021	388-86-110	REP-W	98-21-004	388-96-229	REP	98-20-023
388-78A-030	RECOD	98-20-021	388-86-112	PREP	98-23-092	388-96-501	REP-P	98-15-141
388-78A-040	RECOD	98-20-021	388-86-200	AMD-P	98-19-014	388-96-501	REP	98-20-023
388-78A-045	RECOD	98-20-021	388-87	PREP	98-10-106	388-96-502	AMD-P	98-15-141
388-78A-050	RECOD	98-20-021	388-87	PREP	98-13-086	388-96-502	AMD	98-20-023
388-78A-055	RECOD	98-20-021	388-87-035	PREP	98-22-058	388-96-503	REP-P	98-15-141
388-78A-060	RECOD	98-20-021	388-87-036	PREP	98-22-058	388-96-503	REP	98-20-023
388-78A-070	RECOD	98-20-021	388-87-110	REP-S	98-22-099	388-96-505	AMD-P	98-15-141
388-78A-080	RECOD	98-20-021	388-96	PREP	98-03-077	388-96-505	AMD	98-20-023
388-78A-090	RECOD	98-20-021	388-96	PREP	98-06-066	388-96-507	REP-P	98-15-141
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388-96-508	REP	98-20-023	388-96-722	REP-P	98-15-141	388-96-804	REP	98-20-023
388-96-509	REP-P	98-15-141	388-96-722	REP	98-20-023	388-96-807	REP-P	98-15-141
388-96-509	REP	98-20-023	388-96-723	NEW-P	98-15-141	388-96-807	REP	98-20-023
388-96-513	REP-P	98-15-141	388-96-723	NEW	98-20-023	388-96-810	REP-P	98-15-141
388-96-513	REP	98-20-023	388-96-724	NEW-P	98-15-141	388-96-810	REP	98-20-023
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388-96-525	AMD-P	98-15-141	388-96-726	NEW	98-20-023	388-96-901	AMD-P	98-15-141
388-96-525	AMD	98-20-023	388-96-727	REP-P	98-15-141	388-96-901	AMD	98-20-023
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388-96-532	NEW	98-20-023	388-96-737	REP-P	98-15-141	388-150-010	AMD	98-24-052
388-96-533	REP-P	98-15-141	388-96-737	REP	98-20-023	388-150-180	PREP	98-02-057
388-96-533	REP	98-20-023	388-96-738	NEW-P	98-15-141	388-150-180	AMD-P	98-20-098
388-96-535	AMD-P	98-15-141	388-96-738	NEW	98-20-023	388-150-180	AMD	98-24-052
388-96-535	AMD	98-20-023	388-96-739	NEW-P	98-15-141	388-150-190	PREP	98-02-057
388-96-536	NEW-P	98-15-141	388-96-739	NEW	98-20-023	388-150-200	PREP	98-02-057
388-96-536	NEW	98-20-023	388-96-740	NEW-P	98-15-141	388-150-200	AMD-P	98-20-098
388-96-540	NEW-P	98-15-141	388-96-740	NEW	98-20-023	388-150-200	AMD	98-24-052
388-96-540	NEW	98-20-023	388-96-741	NEW-P	98-15-141	388-150-470	PREP	98-02-057
388-96-542	NEW-P	98-15-141	388-96-741	NEW	98-20-023	388-150-470	AMD-P	98-20-098
388-96-542	NEW	98-20-023	388-96-742	NEW-P	98-15-141	388-150-470	AMD	98-24-052
388-96-543	REP-P	98-15-141	388-96-742	NEW	98-20-023	388-151	PREP	98-10-104
388-96-543	REP	98-20-023	388-96-744	NEW-P	98-15-141	388-151-010	AMD-P	98-20-098
388-96-555	REP-P	98-15-141	388-96-744	NEW	98-20-023	388-151-010	AMD	98-24-052
388-96-555	REP	98-20-023	388-96-745	REP-P	98-15-141	388-151-180	PREP	98-02-057
388-96-557	REP-P	98-15-141	388-96-745	REP	98-20-023	388-151-180	AMD-P	98-20-098
388-96-557	REP	98-20-023	388-96-746	NEW-P	98-15-141	388-151-180	AMD	98-24-052
388-96-567	REP-P	98-15-141	388-96-746	NEW	98-20-023	388-151-190	PREP	98-02-057
388-96-567	REP	98-20-023	388-96-747	NEW-P	98-15-141	388-151-190	AMD-P	98-20-098
388-96-569	REP-P	98-15-141	388-96-747	NEW	98-20-023	388-151-190	AMD	98-24-052
388-96-569	REP	98-20-023	388-96-752	REP-P	98-15-141	388-151-200	PREP	98-02-057
388-96-571	REP-P	98-15-141	388-96-752	REP	98-20-023	388-151-200	AMD-P	98-20-098
388-96-571	REP	98-20-023	388-96-754	REP-P	98-15-141	388-151-200	AMD	98-24-052
388-96-573	REP-P	98-15-141	388-96-754	REP	98-20-023	388-151-470	PREP	98-02-057
388-96-573	REP	98-20-023	388-96-757	AMD-P	98-15-141	388-151-470	AMD-P	98-20-098
388-96-580	AMD-P	98-15-141	388-96-757	AMD	98-20-023	388-151-470	AMD	98-24-052
388-96-580	AMD	98-20-023	388-96-760	AMD-P	98-15-141	388-155-010	AMD-P	98-20-098
388-96-585	AMD-P	98-15-141	388-96-760	AMD	98-20-023	388-155-010	AMD	98-24-052
388-96-585	AMD	98-20-023	388-96-761	REP-P	98-15-141	388-155-180	PREP	98-02-057
388-96-704	AMD-P	98-15-141	388-96-761	REP	98-20-023	388-155-180	AMD-P	98-20-098
388-96-704	AMD	98-20-023	388-96-763	REP-P	98-15-141	388-155-180	AMD	98-24-052
388-96-708	AMD-P	98-15-141	388-96-763	REP	98-20-023	388-155-190	PREP	98-02-057
388-96-708	AMD	98-20-023	388-96-764	REP-P	98-15-141	388-155-200	PREP	98-02-057
388-96-709	AMD-P	98-15-141	388-96-764	REP	98-20-023	388-155-200	AMD-P	98-20-098
388-96-709	AMD	98-20-023	388-96-765	REP-P	98-15-141	388-155-200	AMD	98-24-052
388-96-710	AMD-P	98-15-141	388-96-765	REP	98-20-023	388-155-470	PREP	98-02-057
388-96-710	AMD	98-20-023	388-96-768	REP-P	98-15-141	388-155-470	AMD-P	98-20-098
388-96-713	AMD-P	98-15-141	388-96-768	REP	98-20-023	388-155-470	AMD	98-24-052
388-96-713	AMD	98-20-023	388-96-769	REP-P	98-15-141	388-160	PREP	98-08-084
388-96-716	REP-P	98-15-141	388-96-769	REP	98-20-023	388-200-1100	REP-P	98-11-084
388-96-716	REP	98-20-023	388-96-774	REP-P	98-15-141	388-200-1100	REP	98-16-044
388-96-717	REP-P	98-15-141	388-96-774	REP	98-20-023	388-200-1150	REP-P	98-11-084
388-96-717	REP	98-20-023	388-96-776	AMD-P	98-15-141	388-200-1150	REP	98-16-044
388-96-718	NEW-E	98-11-094	388-96-776	AMD	98-20-023	388-210-1000	REP-P	98-11-084
388-96-718	NEW-P	98-15-103	388-96-778	REP-P	98-15-141	388-210-1000	REP	98-16-044
388-96-718	NEW-E	98-19-061	388-96-778	REP	98-20-023	388-210-1010	REP-P	98-11-084
388-96-718	NEW	98-19-062	388-96-801	REP-P	98-15-141	388-210-1010	REP	98-16-044
388-96-719	REP-P	98-15-141	388-96-801	REP	98-20-023	388-210-1020	REP-P	98-11-084



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388-216-2850	REP	98-16-044	388-218-1440	REP-P	98-11-084	388-219-0100	REP	98-16-044
388-216-2900	REP-P	98-11-084	388-218-1440	REP	98-16-044	388-219-0200	REP-P	98-11-084
388-216-2900	REP	98-16-044	388-218-1470	REP-P	98-11-084	388-219-0200	REP	98-16-044
388-216-3000	REP-P	98-11-084	388-218-1470	REP	98-16-044	388-219-1000	REP-P	98-11-084
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388-217-3150	REP	98-16-044	388-218-1540	REP-P	98-11-084	388-219-1700	REP	98-16-044
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388-217-3250	REP-P	98-11-084	388-218-1600	REP	98-16-044	388-219-2500	REP-P	98-11-084
388-217-3250	REP	98-16-044	388-218-1605	REP-P	98-11-084	388-219-2500	REP	98-16-044
388-217-3300	REP-P	98-11-084	388-218-1605	REP	98-16-044	388-219-2600	REP-P	98-11-084
388-217-3300	REP	98-16-044	388-218-1610	REP-P	98-11-084	388-219-2600	REP	98-16-044
388-217-3350	REP-P	98-11-084	388-218-1610	REP	98-16-044	388-219-3000	REP-P	98-11-084
388-217-3350	REP	98-16-044	388-218-1620	REP-P	98-11-084	388-219-3000	REP	98-16-044
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388-218-1010	REP	98-16-044	388-218-1620	REP	98-16-044	388-219-3500	REP	98-16-044
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388-218-1050	REP	98-16-044	388-218-1630	REP	98-16-044	388-220-0001	REP	98-16-044
388-218-1100	REP-P	98-11-084	388-218-1640	REP-P	98-11-084	388-220-0030	REP-P	98-11-084
388-218-1100	REP	98-16-044	388-218-1640	REP	98-16-044	388-220-0030	REP	98-16-044
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388-218-1120	REP	98-16-044	388-218-1660	REP	98-16-044	388-225-0010	REP-P	98-11-084
388-218-1130	REP-P	98-11-084	388-218-1670	REP-P	98-11-084	388-225-0010	REP	98-16-044
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388-218-1140	REP	98-16-044	388-218-1680	REP	98-16-044	388-225-0050	REP-P	98-11-084
388-218-1200	REP-P	98-11-084	388-218-1690	REP-P	98-11-084	388-225-0050	REP	98-16-044
388-218-1200	REP	98-16-044	388-218-1690	REP	98-16-044	388-225-0060	REP-P	98-11-084
388-218-1210	REP-P	98-11-084	388-218-1695	REP-P	98-16-044	388-225-0060	REP	98-16-044
388-218-1210	REP	98-16-044	388-218-1700	REP-P	98-03-084	388-225-0070	REP-P	98-11-084
388-218-1220	REP-P	98-11-084	388-218-1700	REP	98-06-056	388-225-0070	REP	98-16-044
388-218-1220	REP	98-16-044	388-218-1710	REP-P	98-11-084	388-225-0080	REP-P	98-11-084
388-218-1230	REP-P	98-11-084	388-218-1710	REP	98-16-044	388-225-0080	REP	98-16-044
388-218-1230	REP	98-16-044	388-218-1720	REP-P	98-11-084	388-225-0090	REP-P	98-11-084
388-218-1300	REP-P	98-11-084	388-218-1720	REP	98-16-044	388-225-0090	REP	98-16-044
388-218-1300	REP	98-16-044	388-218-1735	REP-P	98-11-084	388-225-0100	REP-P	98-11-084
388-218-1310	REP-P	98-11-084	388-218-1735	REP	98-16-044	388-225-0100	REP	98-16-044
388-218-1310	REP	98-16-044	388-218-1740	REP-P	98-11-084	388-225-0120	REP-P	98-11-084
388-218-1320	REP-P	98-11-084	388-218-1740	REP	98-16-044	388-225-0120	REP	98-16-044
388-218-1320	REP	98-16-044	388-218-1800	REP-P	98-03-084	388-225-0150	REP-P	98-11-084
388-218-1330	REP-P	98-11-084	388-218-1800	REP	98-06-056	388-225-0150	REP	98-16-044
388-218-1330	REP	98-16-044	388-218-1810	REP-P	98-11-084	388-225-0160	REP-P	98-11-084
388-218-1340	REP-P	98-11-084	388-218-1810	REP	98-16-044	388-225-0160	REP	98-16-044
388-218-1340	REP	98-16-044	388-218-1820	REP-P	98-11-084	388-225-0170	REP-P	98-11-084
388-218-1350	REP-P	98-11-084	388-218-1820	REP	98-16-044	388-225-0170	REP	98-16-044
388-218-1350	REP	98-16-044	388-218-1830	REP-P	98-11-084	388-225-0180	REP-P	98-11-084
388-218-1360	REP-P	98-11-084	388-218-1830	REP	98-16-044	388-225-0180	REP	98-16-044
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388-218-1390	NEW-P	98-07-100	388-218-1900	REP	98-16-044	388-225-0190	REP	98-16-044
388-218-1390	NEW	98-10-041	388-218-1910	REP-P	98-11-084	388-230-0010	REP-P	98-11-084
388-218-1390	REP-P	98-11-084	388-218-1910	REP	98-16-044	388-230-0010	REP	98-16-044
388-218-1390	REP	98-16-044	388-218-1920	REP-P	98-11-084	388-230-0030	REP-P	98-11-084
388-218-1400	REP-P	98-11-084	388-218-1920	REP	98-16-044	388-230-0030	REP	98-16-044
388-218-1400	REP	98-16-044	388-218-1930	REP-P	98-11-084	388-230-0050	REP-P	98-11-084
388-218-1410	REP-P	98-11-084	388-218-1930	REP	98-16-044	388-230-0050	REP	98-16-044
388-218-1410	REP	98-16-044	388-218-1940	REP-P	98-03-084	388-230-0060	REP-P	98-11-084
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388-230-0080	REP	98-16-044	388-245-1170	REP-P	98-11-084	388-250-1300	REP	98-16-044
388-230-0090	REP-P	98-11-084	388-245-1170	REP	98-16-044	388-250-1310	REP-P	98-11-084
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388-230-0110	REP-P	98-11-084	388-245-1210	REP	98-16-044	388-250-1350	REP-P	98-11-084
388-230-0110	REP	98-16-044	388-245-1300	REP-P	98-11-084	388-250-1350	REP	98-16-044
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388-230-0140	REP	98-16-044	388-245-1315	REP-P	98-11-084	388-250-1450	REP	98-16-044
388-233-0010	REP-P	98-11-084	388-245-1315	REP	98-16-044	388-250-1500	REP-P	98-11-084
388-233-0010	REP	98-16-044	388-245-1320	REP-P	98-11-084	388-250-1500	REP	98-16-044
388-233-0020	REP-P	98-11-084	388-245-1320	REP	98-16-044	388-250-1550	REP-P	98-11-084
388-233-0020	REP	98-16-044	388-245-1350	REP-P	98-11-084	388-250-1550	REP	98-16-044
388-233-0030	REP-P	98-11-084	388-245-1350	REP	98-16-044	388-250-1600	REP-P	98-11-084
388-233-0030	REP	98-16-044	388-245-1400	REP-P	98-11-084	388-250-1600	REP	98-16-044
388-233-0035	NEW-E	98-14-086	388-245-1400	REP	98-16-044	388-250-1650	REP-P	98-11-084
388-233-0040	REP-P	98-11-084	388-245-1410	REP-P	98-11-084	388-250-1650	REP	98-16-044
388-233-0040	REP	98-16-044	388-245-1410	REP	98-16-044	388-250-1700	AMD	98-06-057
388-233-0050	REP-P	98-11-084	388-245-1500	REP-P	98-11-084	388-250-1700	REP-P	98-11-084
388-233-0050	REP	98-16-044	388-245-1500	REP	98-16-044	388-250-1700	REP	98-16-044
388-233-0060	REP-P	98-11-084	388-245-1510	AMD	98-04-016	388-250-1750	REP-P	98-11-084
388-233-0060	REP	98-16-044	388-245-1510	REP-P	98-11-084	388-250-1750	REP	98-16-044
388-233-0070	REP-P	98-11-084	388-245-1510	REP	98-16-044	388-255-1350	REP-P	98-11-084
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388-233-0080	REP	98-16-044	388-245-1600	REP-P	98-11-084	388-255-1400	REP	98-16-044
388-233-0090	REP-P	98-11-084	388-245-1600	REP	98-16-044	388-265	PREP	98-07-099
388-233-0090	REP	98-16-044	388-245-1610	REP-P	98-11-084	388-265-1010	REP-P	98-11-084
388-233-0100	REP-P	98-11-084	388-245-1610	REP	98-16-044	388-265-1010	REP	98-16-044
388-233-0100	REP	98-16-044	388-245-1700	REP-P	98-11-084	388-265-1050	REP-P	98-11-084
388-235	PREP	98-07-038	388-245-1700	REP	98-16-044	388-265-1050	REP	98-16-044
388-235-0010	REP-P	98-11-084	388-245-1710	REP-P	98-11-084	388-265-1100	REP-P	98-11-084
388-235-0010	REP	98-16-044	388-245-1710	REP	98-16-044	388-265-1100	REP	98-16-044
388-235-0020	REP-P	98-11-084	388-245-1715	REP-P	98-11-084	388-265-1150	AMD-P	98-11-074
388-235-0020	REP	98-16-044	388-245-1715	REP	98-16-044	388-265-1150	AMD	98-24-051
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388-235-0030	AMD-E	98-14-086	388-245-1720	REP	98-16-044	388-265-1155	NEW	98-24-051
388-235-0030	REP	98-16-044	388-245-1730	REP-P	98-11-084	388-265-1200	AMD-P	98-11-074
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388-235-0050	REP-P	98-11-084	388-245-1740	REP	98-16-044	388-265-1250	AMD	98-24-051
388-235-0050	REP	98-16-044	388-245-2010	REP-P	98-11-084	388-265-1275	AMD-P	98-11-074
388-235-0060	REP-P	98-11-084	388-245-2010	REP	98-16-044	388-265-1275	AMD	98-24-051
388-235-0060	REP	98-16-044	388-245-2020	REP-P	98-11-084	388-265-1300	AMD-P	98-11-074
388-235-0070	REP-P	98-11-084	388-245-2020	REP	98-16-044	388-265-1300	AMD	98-24-051
388-235-0070	REP	98-16-044	388-245-2030	REP-P	98-11-084	388-265-1375	NEW-P	98-11-074
388-235-0080	REP-P	98-11-084	388-245-2030	REP	98-16-044	388-265-1375	NEW	98-24-051
388-235-0080	REP	98-16-044	388-245-2040	REP-P	98-11-084	388-265-1400	REP-P	98-11-074
388-235-0090	REP-P	98-11-084	388-245-2040	REP	98-16-044	388-265-1400	REP	98-24-051
388-235-0090	REP	98-16-044	388-245-2050	REP-P	98-11-084	388-265-1450	AMD-P	98-11-074
388-235-0100	REP-P	98-11-084	388-245-2050	REP	98-16-044	388-265-1450	AMD	98-24-051
388-235-0100	REP	98-16-044	388-250-1010	REP-P	98-11-084	388-265-1500	AMD-P	98-11-074
388-235-0110	REP-P	98-11-084	388-250-1010	REP	98-16-044	388-265-1500	AMD-W	98-16-038
388-235-0110	REP	98-16-044	388-250-1050	REP-P	98-11-084	388-265-1500	AMD	98-24-051
388-235-2000	REP-P	98-11-084	388-250-1050	REP	98-16-044	388-265-1550	REP-P	98-11-074
388-235-2000	REP	98-16-044	388-250-1100	REP-P	98-11-084	388-265-1550	REP-P	98-11-084
388-235-3000	REP-P	98-11-084	388-250-1100	REP	98-16-044	388-265-1550	REP-W	98-16-038
388-235-3000	REP	98-16-044	388-250-1150	REP-P	98-11-084	388-265-1550	REP	98-16-044
388-235-4000	REP-P	98-11-084	388-250-1150	REP	98-16-044	388-265-1550	REP	98-24-051
388-235-4000	REP	98-16-044	388-250-1200	REP-P	98-11-084	388-265-1600	AMD-P	98-11-074
388-245-1000	REP-P	98-11-084	388-250-1200	REP	98-16-044	388-265-1600	AMD	98-24-051
388-245-1000	REP	98-16-044	388-250-1225	REP-P	98-11-084	388-265-1700	REP-P	98-11-074
388-245-1150	AMD	98-04-015	388-250-1225	REP	98-16-044	388-265-1700	REP-P	98-11-084
388-245-1150	REP-P	98-11-084	388-250-1250	AMD	98-08-037	388-265-1700	REP	98-16-044
388-245-1150	REP	98-16-044	388-250-1250	REP-P	98-11-084	388-265-1700	REP	98-24-051

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WAC #	ACTION	WSR #	WAC #	ACTION	WSR #	WAC #	ACTION	WSR #
388-265-1800	REP-P	98-11-084	388-290-050	AMD-P	98-03-083	388-406-0040	NEW	98-16-044
388-265-1800	REP	98-16-044	388-290-050	AMD	98-08-021	388-406-0045	NEW-P	98-11-084
388-265-1850	REP-P	98-11-084	388-290-055	PREP	98-08-075	388-406-0045	NEW	98-16-044
388-265-1850	REP	98-16-044	388-290-055	AMD-E	98-16-026	388-406-0050	NEW-P	98-11-084
388-265-1900	REP-P	98-11-084	388-290-055	RESCIND	98-16-040	388-406-0050	NEW	98-16-044
388-265-1900	REP	98-16-044	388-290-055	AMD-E	98-16-093	388-406-0055	NEW-P	98-11-084
388-265-1950	REP-P	98-11-084	388-290-055	AMD-P	98-17-080	388-406-0055	NEW	98-16-044
388-265-1950	REP	98-16-044	388-290-055	AMD	98-21-005	388-406-0060	NEW-P	98-11-084
388-265-2000	REP-P	98-11-084	388-290-090	AMD-P	98-03-083	388-406-0060	NEW	98-16-044
388-265-2000	REP	98-16-044	388-290-090	AMD	98-08-021	388-406-0065	NEW-P	98-11-084
388-270-1005	REP-P	98-11-084	388-290-090	PREP	98-08-075	388-406-0065	NEW	98-16-044
388-270-1005	REP	98-16-044	388-310	PREP	98-19-124	388-408-0005	NEW-P	98-11-084
388-270-1010	REP-P	98-11-084	388-310-0400	AMD-P	98-15-139	388-408-0005	NEW	98-16-044
388-270-1010	REP	98-16-044	388-310-0400	AMD	98-23-037	388-408-0010	NEW-P	98-11-084
388-270-1025	REP-P	98-11-084	388-310-0500	AMD-P	98-15-139	388-408-0010	NEW	98-16-044
388-270-1025	REP	98-16-044	388-310-0500	AMD	98-23-037	388-408-0015	NEW-P	98-11-084
388-270-1075	REP-P	98-11-084	388-310-1000	AMD-P	98-15-139	388-408-0015	NEW	98-16-044
388-270-1075	REP	98-16-044	388-310-1000	AMD	98-23-037	388-408-0020	NEW-P	98-11-084
388-270-1100	REP-P	98-11-084	388-310-1050	NEW-P	98-15-139	388-408-0020	NEW	98-16-044
388-270-1100	REP	98-16-044	388-310-1050	NEW	98-23-037	388-408-0025	NEW-P	98-11-084
388-270-1110	REP-P	98-11-084	388-310-1300	NEW-S	98-03-080	388-408-0025	NEW	98-16-044
388-270-1110	REP	98-16-044	388-310-1300	NEW-S	98-07-042	388-408-0030	NEW-P	98-11-084
388-270-1125	REP-P	98-11-084	388-310-1300	NEW	98-10-054	388-408-0030	NEW	98-16-044
388-270-1125	REP	98-16-044	388-310-1600	AMD-P	98-15-139	388-408-0035	NEW-P	98-11-084
388-270-1150	REP-P	98-11-084	388-310-1600	AMD	98-23-037	388-408-0035	NEW	98-16-044
388-270-1150	REP	98-16-044	388-320	PREP	98-22-059	388-408-0040	NEW-P	98-11-084
388-270-1200	REP-P	98-11-084	388-320-340	REP-P	98-08-076	388-408-0040	NEW	98-16-044
388-270-1200	REP	98-16-044	388-320-340	REP	98-11-034	388-408-0045	NEW-P	98-11-084
388-270-1250	REP-P	98-11-084	388-400-0005	NEW-P	98-11-084	388-408-0045	NEW	98-16-044
388-270-1250	REP	98-16-044	388-400-0005	NEW	98-16-044	388-408-0050	NEW-P	98-11-084
388-270-1300	REP-P	98-11-084	388-400-0010	NEW-P	98-11-084	388-408-0050	NEW	98-16-044
388-270-1300	REP	98-16-044	388-400-0010	NEW	98-16-044	388-408-0055	NEW-P	98-11-084
388-270-1400	REP-P	98-11-084	388-400-0015	NEW-P	98-11-084	388-408-0055	NEW	98-16-044
388-270-1400	REP	98-16-044	388-400-0015	NEW	98-16-044	388-410-0001	NEW-P	98-11-084
388-270-1500	REP-P	98-11-084	388-400-0020	NEW-P	98-11-084	388-410-0001	NEW	98-16-044
388-270-1500	REP	98-16-044	388-400-0020	NEW	98-16-044	388-410-0005	NEW-P	98-11-084
388-270-1550	REP-P	98-11-084	388-400-0025	NEW-P	98-11-084	388-410-0005	NEW	98-16-044
388-270-1550	REP	98-16-044	388-400-0025	NEW	98-16-044	388-410-0010	NEW-P	98-11-084
388-270-1600	REP-P	98-11-084	388-400-0030	NEW-P	98-11-084	388-410-0010	NEW	98-16-044
388-270-1600	REP	98-16-044	388-400-0030	NEW	98-16-044	388-410-0015	NEW-P	98-11-084
388-275	PREP	98-07-036	388-400-0035	NEW-P	98-11-084	388-410-0015	NEW	98-16-044
388-275-0020	REP-P	98-11-084	388-400-0035	NEW	98-16-044	388-410-0020	NEW-P	98-11-084
388-275-0020	REP	98-16-044	388-400-0040	NEW-P	98-11-084	388-410-0020	NEW	98-16-044
388-275-0030	REP-P	98-11-084	388-400-0040	NEW	98-16-044	388-410-0025	NEW-P	98-11-084
388-275-0030	REP	98-16-044	388-400-0045	NEW-P	98-13-080	388-410-0025	NEW	98-16-044
388-275-0050	REP-P	98-11-084	388-400-0045	NEW	98-16-044	388-410-0030	NEW-P	98-11-084
388-275-0050	REP	98-16-044	388-404-0005	NEW-P	98-11-084	388-410-0030	NEW	98-16-044
388-275-0060	REP-P	98-11-084	388-404-0005	NEW	98-16-044	388-410-0035	NEW-P	98-11-084
388-275-0060	REP	98-16-044	388-404-0010	NEW-P	98-11-084	388-410-0035	NEW	98-16-044
388-275-0070	REP-P	98-11-084	388-404-0010	NEW	98-16-044	388-410-0040	NEW-P	98-11-084
388-275-0070	REP	98-16-044	388-404-0015	NEW-P	98-11-084	388-410-0040	NEW	98-16-044
388-275-0090	REP-P	98-11-084	388-404-0015	NEW	98-16-044	388-412	PREP	98-16-089
388-275-0090	REP	98-16-044	388-406-0005	NEW-P	98-11-084	388-412	PREP	98-22-096
388-280	PREP	98-07-037	388-406-0005	NEW	98-16-044	388-412-0005	NEW-P	98-11-084
388-290	PREP	98-08-075	388-406-0010	NEW-P	98-11-084	388-412-0005	NEW	98-16-044
388-290	PREP	98-20-096	388-406-0010	NEW	98-16-044	388-412-0005	AMD-P	98-23-094
388-290-010	AMD-P	98-03-083	388-406-0015	NEW-P	98-11-084	388-412-0010	NEW-P	98-11-084
388-290-010	AMD	98-08-021	388-406-0015	NEW	98-16-044	388-412-0010	NEW	98-16-044
388-290-010	AMD-P	98-17-080	388-406-0020	NEW-P	98-11-084	388-412-0015	NEW-P	98-11-084
388-290-010	AMD-E	98-18-078	388-406-0020	NEW	98-16-044	388-412-0015	NEW	98-16-044
388-290-010	AMD	98-21-005	388-406-0025	NEW-P	98-11-084	388-412-0020	NEW-P	98-11-084
388-290-020	AMD-P	98-03-083	388-406-0025	NEW	98-16-044	388-412-0020	NEW	98-16-044
388-290-020	AMD	98-08-021	388-406-0030	NEW-P	98-11-084	388-412-0020	AMD-P	98-23-094
388-290-025	AMD-P	98-03-083	388-406-0030	NEW	98-16-044	388-412-0025	NEW-P	98-11-084
388-290-025	AMD	98-08-021	388-406-0035	NEW-P	98-11-084	388-412-0025	NEW	98-16-044
388-290-035	AMD-P	98-03-083	388-406-0035	NEW	98-16-044	388-412-0030	NEW-P	98-11-084
388-290-035	AMD	98-08-021	388-406-0040	NEW-P	98-11-084	388-412-0030	NEW	98-16-044

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WAC #	ACTION	WSR #	WAC #	ACTION	WSR #	WAC #	ACTION	WSR #
388-412-0030	AMD-P	98-23-094	388-430-0001	NEW-P	98-11-084	388-444-0035	PREP	98-21-073
388-412-0035	NEW-P	98-11-084	388-430-0001	NEW	98-16-044	388-444-0040	NEW-P	98-11-084
388-412-0035	NEW	98-16-044	388-430-0005	NEW-P	98-11-084	388-444-0040	NEW	98-16-044
388-412-0035	AMD-P	98-23-094	388-430-0005	NEW	98-16-044	388-444-0040	PREP	98-21-073
388-412-0040	NEW-P	98-11-084	388-430-0010	NEW-P	98-11-084	388-444-0045	NEW-P	98-11-084
388-412-0040	NEW	98-16-044	388-430-0010	NEW	98-16-044	388-444-0045	NEW	98-16-044
388-412-0045	NEW-P	98-23-094	388-430-0015	NEW-P	98-11-084	388-444-0045	PREP	98-21-073
388-414-0001	NEW-P	98-11-084	388-430-0015	NEW	98-16-044	388-444-0050	NEW-P	98-11-084
388-414-0001	NEW	98-16-044	388-430-0020	NEW-P	98-11-084	388-444-0050	NEW	98-16-044
388-416-0005	NEW-P	98-11-084	388-430-0020	NEW	98-16-044	388-444-0055	NEW-P	98-11-084
388-416-0005	NEW	98-16-044	388-430-0025	NEW-P	98-11-084	388-444-0055	NEW	98-16-044
388-416-0010	NEW-P	98-11-084	388-430-0025	NEW	98-16-044	388-444-0060	NEW-P	98-11-084
388-416-0010	NEW	98-16-044	388-430-0025	NEW	98-16-044	388-444-0060	NEW	98-16-044
388-416-0015	NEW-P	98-11-084	388-434-0005	NEW-P	98-11-084	388-444-0065	NEW-P	98-11-084
388-416-0015	NEW	98-16-044	388-434-0005	NEW	98-16-044	388-444-0065	NEW	98-16-044
388-416-0020	NEW-P	98-11-084	388-434-0010	NEW-P	98-11-084	388-444-0070	NEW-P	98-11-084
388-416-0020	NEW	98-16-044	388-434-0010	NEW	98-16-044	388-444-0070	NEW	98-16-044
388-416-0025	NEW-P	98-11-084	388-436-0001	NEW-P	98-11-084	388-444-0075	NEW-P	98-11-084
388-416-0025	NEW	98-16-044	388-436-0001	NEW	98-16-044	388-444-0075	NEW	98-16-044
388-416-0030	NEW-P	98-11-084	388-436-0005	NEW-P	98-11-084	388-444-0080	NEW-P	98-11-084
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388-416-0035	NEW-P	98-11-084	388-436-0010	NEW-P	98-11-084	388-446-0001	NEW	98-16-044
388-416-0035	NEW	98-16-044	388-436-0010	NEW	98-16-044	388-446-0005	NEW-P	98-11-084
388-418	PREP	98-22-096	388-436-0015	NEW-P	98-11-084	388-446-0005	NEW	98-16-044
388-418-0005	NEW-P	98-11-084	388-436-0015	NEW	98-16-044	388-446-0010	NEW-P	98-11-084
388-418-0005	NEW	98-16-044	388-436-0020	NEW-P	98-11-084	388-446-0010	NEW	98-16-044
388-418-0010	NEW-P	98-11-084	388-436-0020	NEW	98-16-044	388-446-0015	NEW-P	98-11-084
388-418-0010	NEW	98-16-044	388-436-0025	NEW-P	98-11-084	388-446-0015	NEW	98-16-044
388-418-0015	NEW-P	98-11-084	388-436-0025	NEW	98-16-044	388-446-0020	NEW-P	98-11-084
388-418-0015	NEW	98-16-044	388-436-0030	NEW-P	98-11-084	388-446-0020	NEW	98-16-044
388-418-0020	NEW-P	98-11-084	388-436-0030	NEW	98-16-044	388-448-0001	NEW-P	98-11-084
388-418-0020	NEW	98-16-044	388-436-0035	NEW-P	98-11-084	388-448-0001	NEW	98-16-044
388-418-0025	NEW-P	98-11-084	388-436-0035	NEW	98-16-044	388-448-0005	NEW-P	98-11-084
388-418-0025	NEW	98-16-044	388-436-0040	NEW-P	98-11-084	388-448-0005	NEW	98-16-044
388-418-0025	PREP	98-22-098	388-436-0040	NEW	98-16-044	388-450-0005	NEW-P	98-11-084
388-418-0030	NEW-P	98-11-084	388-436-0045	NEW-P	98-11-084	388-450-0005	NEW	98-16-044
388-418-0030	NEW	98-16-044	388-436-0045	NEW	98-16-044	388-450-0010	NEW-P	98-11-084
388-420-010	NEW-P	98-11-084	388-436-0050	NEW-P	98-11-084	388-450-0010	NEW	98-16-044
388-420-010	NEW	98-16-044	388-436-0050	NEW-W	98-13-054	388-450-0015	NEW-P	98-11-084
388-422-0005	NEW-P	98-11-084	388-436-0050	NEW-P	98-13-080	388-450-0015	NEW	98-16-044
388-422-0005	NEW	98-16-044	388-436-0050	NEW	98-16-044	388-450-0020	NEW-P	98-11-084
388-422-0010	NEW-P	98-11-084	388-437-0001	NEW-P	98-11-084	388-450-0020	NEW	98-16-044
388-422-0010	NEW	98-16-044	388-437-0001	NEW	98-16-044	388-450-0025	NEW-P	98-11-084
388-422-0020	NEW-P	98-11-084	388-438-0100	NEW-P	98-11-084	388-450-0025	NEW	98-16-044
388-422-0020	NEW	98-16-044	388-438-0100	NEW	98-16-044	388-450-0030	NEW-P	98-11-084
388-422-0030	NEW-P	98-11-084	388-438-0110	NEW-P	98-11-084	388-450-0030	NEW	98-16-044
388-422-0030	NEW	98-16-044	388-438-0110	NEW	98-16-044	388-450-0035	NEW-P	98-11-084
388-424-0005	NEW-P	98-11-084	388-440-0001	NEW-P	98-11-084	388-450-0035	NEW	98-16-044
388-424-0005	NEW	98-16-044	388-440-0001	NEW	98-16-044	388-450-0040	NEW-P	98-11-084
388-424-0005	PREP	98-22-095	388-440-0005	NEW-P	98-11-084	388-450-0040	NEW	98-16-044
388-424-0010	NEW-P	98-11-084	388-440-0005	NEW	98-16-044	388-450-0045	NEW-P	98-11-084
388-424-0010	NEW	98-16-044	388-442-0010	NEW-P	98-11-084	388-450-0045	NEW	98-16-044
388-424-0010	PREP	98-22-095	388-442-0010	NEW	98-16-044	388-450-0050	NEW-P	98-11-084
388-424-0015	NEW-P	98-11-084	388-444-0005	NEW-P	98-11-084	388-450-0050	NEW	98-16-044
388-424-0015	NEW	98-16-044	388-444-0005	NEW	98-16-044	388-450-0055	NEW-P	98-11-084
388-424-0020	NEW-P	98-11-084	388-444-0005	PREP	98-21-073	388-450-0055	NEW	98-16-044
388-424-0020	NEW	98-16-044	388-444-0010	NEW-P	98-11-084	388-450-0060	NEW-P	98-11-084
388-424-0020	AMD-P	98-21-075	388-444-0010	NEW	98-16-044	388-450-0060	NEW	98-16-044
388-424-0020	AMD-E	98-21-076	388-444-0015	NEW-P	98-11-084	388-450-0065	NEW-P	98-11-084
388-424-0025	NEW-P	98-11-084	388-444-0015	NEW	98-16-044	388-450-0065	NEW	98-16-044
388-424-0025	NEW	98-16-044	388-444-0020	NEW-P	98-11-084	388-450-0070	NEW-P	98-11-084
388-426-0005	NEW-P	98-11-084	388-444-0020	NEW	98-16-044	388-450-0070	NEW	98-16-044
388-426-0005	NEW	98-16-044	388-444-0020	PREP	98-21-073	388-450-0075	NEW-P	98-11-084
388-428-0005	NEW-P	98-11-084	388-444-0025	NEW	98-16-044	388-450-0075	NEW	98-16-044
388-428-0005	NEW-W	98-15-113	388-444-0030	NEW-P	98-11-084	388-450-0080	NEW-P	98-11-084
388-428-0010	NEW-P	98-11-084	388-444-0030	NEW	98-16-044	388-450-0080	NEW	98-16-044
388-428-0010	NEW	98-16-044	388-444-0035	NEW-P	98-11-084	388-450-0085	NEW-P	98-11-084
			388-444-0035	NEW	98-16-044			

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388-450-0085	NEW	98-16-044	388-450-0235	NEW	98-16-044	388-470-0005	NEW	98-16-044
388-450-0090	NEW-P	98-11-084	388-450-0240	NEW-P	98-11-084	388-470-0010	NEW-P	98-11-084
388-450-0090	NEW	98-16-044	388-450-0240	NEW	98-16-044	388-470-0010	NEW	98-16-044
388-450-0095	NEW-P	98-11-084	388-450-0245	NEW-P	98-11-084	388-470-0015	NEW-P	98-11-084
388-450-0095	NEW	98-16-044	388-450-0245	NEW	98-16-044	388-470-0015	NEW	98-16-044
388-450-0100	NEW-P	98-11-084	388-450-0250	NEW-P	98-11-084	388-470-0020	NEW-P	98-11-084
388-450-0100	NEW	98-16-044	388-450-0250	NEW	98-16-044	388-470-0020	NEW	98-16-044
388-450-0105	NEW-P	98-11-084	388-452-0005	NEW-P	98-11-084	388-470-0025	NEW-P	98-11-084
388-450-0105	NEW	98-16-044	388-452-0005	NEW	98-16-044	388-470-0025	NEW	98-16-044
388-450-0106	NEW-XA	98-19-126	388-452-0005	PREP	98-22-097	388-470-0030	NEW-P	98-11-084
388-450-0106	NEW	98-24-037	388-452-0010	NEW-P	98-11-084	388-470-0030	NEW	98-16-044
388-450-0110	NEW-P	98-11-084	388-452-0010	NEW	98-16-044	388-470-0035	NEW-P	98-11-084
388-450-0110	NEW	98-16-044	388-454-0005	NEW-P	98-11-084	388-470-0035	NEW	98-16-044
388-450-0115	NEW-P	98-11-084	388-454-0005	NEW	98-16-044	388-470-0040	NEW-P	98-11-084
388-450-0115	NEW	98-16-044	388-454-0010	NEW-P	98-11-084	388-470-0040	NEW	98-16-044
388-450-0116	NEW-XA	98-19-126	388-454-0010	NEW	98-16-044	388-470-0045	NEW-P	98-11-084
388-450-0116	NEW	98-24-037	388-454-0015	NEW-P	98-11-084	388-470-0045	NEW	98-16-044
388-450-0120	NEW-P	98-11-084	388-454-0015	NEW	98-16-044	388-470-0050	NEW-P	98-11-084
388-450-0120	NEW	98-16-044	388-454-0020	NEW-P	98-11-084	388-470-0050	NEW	98-16-044
388-450-0125	NEW-P	98-11-084	388-454-0020	NEW	98-16-044	388-470-0055	NEW-P	98-11-084
388-450-0125	NEW	98-16-044	388-454-0025	NEW-P	98-11-084	388-470-0055	NEW	98-16-044
388-450-0130	NEW-P	98-11-084	388-454-0025	NEW	98-16-044	388-470-0060	NEW-P	98-11-084
388-450-0130	NEW	98-16-044	388-456-0001	NEW-P	98-11-084	388-470-0060	NEW	98-16-044
388-450-0135	NEW-P	98-11-084	388-456-0001	NEW	98-16-044	388-470-0065	NEW-P	98-11-084
388-450-0135	NEW	98-16-044	388-456-0001	NEW	98-16-044	388-470-0065	NEW	98-16-044
388-450-0140	NEW-P	98-11-084	388-456-0005	NEW-P	98-11-084	388-470-0070	NEW-P	98-11-084
388-450-0140	NEW	98-16-044	388-456-0005	NEW	98-16-044	388-470-0070	NEW	98-16-044
388-450-0145	NEW-P	98-11-084	388-456-0010	NEW-P	98-11-084	388-470-0075	NEW-P	98-11-084
388-450-0145	NEW	98-16-044	388-456-0010	NEW	98-16-044	388-470-0075	NEW	98-16-044
388-450-0150	NEW-P	98-11-084	388-456-0015	NEW-P	98-11-084	388-470-0080	NEW-P	98-11-084
388-450-0150	NEW	98-16-044	388-456-0015	NEW	98-16-044	388-470-0080	NEW	98-16-044
388-450-0155	NEW-P	98-11-084	388-458-0005	NEW-P	98-11-084	388-472-0005	NEW-P	98-11-084
388-450-0155	NEW	98-16-044	388-458-0005	NEW	98-16-044	388-472-0005	NEW	98-16-044
388-450-0160	NEW-P	98-11-084	388-458-0010	NEW-P	98-11-084	388-474-0001	NEW-P	98-11-084
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388-450-0170	NEW-P	98-11-084	388-460-0001	NEW-P	98-11-084	388-474-0010	NEW-P	98-11-084
388-450-0170	NEW	98-16-044	388-460-0001	NEW	98-16-044	388-474-0010	NEW	98-16-044
388-450-0175	NEW-P	98-11-084	388-460-0005	NEW-P	98-11-084	388-474-0015	NEW-P	98-11-084
388-450-0175	NEW	98-16-044	388-460-0005	NEW	98-16-044	388-474-0015	NEW	98-16-044
388-450-0180	NEW-P	98-11-084	388-460-0010	NEW-P	98-11-084	388-474-0020	NEW-P	98-11-084
388-450-0180	NEW	98-16-044	388-460-0010	NEW	98-16-044	388-474-0020	NEW	98-16-044
388-450-0185	NEW-P	98-11-084	388-460-0010	AMD-P	98-23-094	388-474-0025	NEW-P	98-11-084
388-450-0185	NEW	98-16-044	388-460-0015	NEW-P	98-11-084	388-476-0005	NEW-P	98-11-084
388-450-0185	NEW	98-16-044	388-460-0015	NEW	98-16-044	388-476-0005	NEW	98-16-044
388-450-0185	PREP	98-23-090	388-462-0005	NEW-P	98-11-084	388-478-0005	NEW-P	98-11-084
388-450-0190	NEW-P	98-11-084	388-462-0005	NEW	98-16-044	388-478-0005	NEW	98-16-044
388-450-0190	NEW	98-16-044	388-462-0010	NEW-P	98-11-084	388-478-0010	NEW-P	98-11-084
388-450-0195	NEW-P	98-11-084	388-462-0010	NEW	98-16-044	388-478-0010	NEW	98-16-044
388-450-0195	NEW	98-16-044	388-462-0015	NEW-P	98-11-084	388-478-0015	NEW-P	98-11-084
388-450-0195	AMD-P	98-21-025	388-462-0015	NEW	98-16-044	388-478-0015	NEW	98-16-044
388-450-0195	AMD-E	98-21-026	388-464-0001	NEW-P	98-11-084	388-478-0015	PREP	98-17-081
388-450-0200	NEW-P	98-11-084	388-464-0001	NEW	98-16-044	388-478-0020	NEW-P	98-11-084
388-450-0200	NEW	98-16-044	388-466-0005	NEW-P	98-11-084	388-478-0020	NEW	98-16-044
388-450-0205	NEW-P	98-11-084	388-466-0005	NEW	98-16-044	388-478-0025	NEW-P	98-11-084
388-450-0205	NEW	98-16-044	388-466-0005	NEW	98-16-044	388-478-0025	NEW	98-16-044
388-450-0210	NEW-P	98-11-084	388-466-0010	NEW-P	98-11-084	388-478-0030	NEW-P	98-11-084
388-450-0210	NEW	98-16-044	388-466-0010	NEW	98-16-044	388-478-0030	NEW	98-16-044
388-450-0215	NEW-P	98-11-084	388-466-0015	NEW-P	98-11-084	388-478-0035	NEW-P	98-11-084
388-450-0215	NEW	98-16-044	388-466-0015	NEW	98-16-044	388-478-0035	NEW	98-16-044
388-450-0220	NEW-P	98-11-084	388-466-0020	NEW-P	98-11-084	388-478-0040	NEW-P	98-11-084
388-450-0220	NEW	98-16-044	388-466-0020	NEW	98-16-044	388-478-0040	NEW	98-16-044
388-450-0225	NEW-P	98-11-084	388-466-0025	NEW-P	98-11-084	388-478-0045	NEW-P	98-11-084
388-450-0225	NEW	98-16-044	388-466-0025	NEW	98-16-044	388-478-0045	NEW	98-16-044
388-450-0230	NEW-P	98-11-084	388-468-0005	NEW	98-16-044	388-478-0050	NEW-P	98-11-084
388-450-0230	NEW	98-16-044	388-468-0010	NEW-P	98-11-084	388-478-0050	NEW	98-16-044
388-450-0235	NEW-P	98-11-084	388-470	PREP	98-22-096	388-478-0055	NEW-P	98-16-044
			388-470-0005	NEW-P	98-11-084			

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WAC #	ACTION	WSR #	WAC #	ACTION	WSR #	WAC #	ACTION	WSR #
388-478-0055	NEW	98-16-044	388-503-0520	NEW-P	98-11-084	388-507-0720	REP-P	98-13-082
388-478-0055	PREP	98-21-024	388-503-0520	NEW-W	98-16-037	388-507-0720	REP	98-16-050
388-478-0060	NEW-P	98-11-084	388-504	PREP	98-10-106	388-507-0730	REP-P	98-13-082
388-478-0060	NEW	98-16-044	388-504-0405	REP-P	98-13-082	388-507-0730	REP	98-16-050
388-478-0060	AMD-E	98-20-043	388-504-0405	REP	98-16-050	388-507-0740	AMD-P	98-08-081
388-478-0065	NEW-P	98-11-084	388-504-0410	REP-P	98-13-082	388-507-0740	AMD-E	98-08-088
388-478-0065	NEW	98-16-044	388-504-0410	REP	98-16-050	388-507-0740	REP-P	98-13-082
388-478-0070	NEW-P	98-11-084	388-504-0420	REP-P	98-13-082	388-507-0740	AMD	98-15-066
388-478-0070	NEW	98-16-044	388-504-0420	REP	98-16-050	388-507-0740	REP	98-16-050
388-478-0075	NEW-P	98-11-084	388-504-0430	REP-P	98-13-082	388-508	PREP	98-10-106
388-478-0075	NEW	98-16-044	388-504-0430	REP	98-16-050	388-508-0805	PREP	98-07-039
388-478-0080	NEW-P	98-11-084	388-504-0440	REP-P	98-13-082	388-508-0805	AMD-E	98-08-085
388-478-0080	NEW	98-16-044	388-504-0440	REP	98-16-050	388-508-0805	REP-P	98-13-082
388-478-0085	NEW-P	98-11-084	388-504-0450	REP-P	98-13-082	388-508-0805	AMD-P	98-15-053
388-478-0085	NEW	98-16-044	388-504-0450	REP	98-16-050	388-508-0805	AMD-E	98-16-036
388-480-0001	NEW-P	98-11-084	388-504-0460	REP-P	98-13-082	388-508-0805	REP	98-16-050
388-480-0001	NEW	98-16-044	388-504-0460	REP	98-16-050	388-508-0805	AMD-W	98-17-064
388-482-0005	NEW-P	98-11-084	388-504-0470	REP-P	98-13-082	388-508-0810	REP-P	98-13-082
388-482-0005	NEW	98-16-044	388-504-0470	REP	98-16-050	388-508-0810	REP	98-16-050
388-484-0005	NEW-P	98-11-084	388-504-0480	REP-P	98-13-082	388-508-0820	REP-P	98-13-082
388-484-0005	NEW	98-16-044	388-504-0480	REP	98-16-050	388-508-0820	REP	98-16-050
388-486-0005	NEW-P	98-11-084	388-504-0485	REP-P	98-13-082	388-508-0830	REP-P	98-13-082
388-486-0005	NEW	98-16-044	388-504-0485	REP	98-16-050	388-508-0830	REP	98-16-050
388-486-0010	NEW-P	98-11-084	388-505	PREP	98-10-106	388-508-0835	REP-P	98-13-082
388-486-0010	NEW	98-16-044	388-505-0110	NEW-P	98-11-084	388-508-0835	REP	98-16-050
388-488-0005	NEW-P	98-11-084	388-505-0110	NEW	98-16-044	388-508-0840	REP-P	98-13-082
388-488-0005	NEW	98-16-044	388-505-0210	NEW-P	98-11-084	388-508-0840	REP	98-16-050
388-488-0010	NEW-P	98-11-084	388-505-0210	NEW	98-16-044	388-509	PREP	98-10-106
388-488-0010	NEW	98-16-044	388-505-0210	PREP	98-22-095	388-509-0905	REP-P	98-13-082
388-490-0005	NEW-P	98-11-084	388-505-0220	NEW-P	98-11-084	388-509-0905	REP	98-16-050
388-490-0005	NEW	98-16-044	388-505-0220	NEW	98-16-044	388-509-0910	REP-P	98-13-082
388-500	PREP	98-10-106	388-505-0501	REP-P	98-13-082	388-509-0910	REP	98-16-050
388-500-0005	AMD-P	98-08-081	388-505-0501	REP	98-16-050	388-509-0920	PREP	98-07-039
388-500-0005	AMD-E	98-08-088	388-505-0505	REP-P	98-13-082	388-509-0920	AMD-E	98-08-085
388-500-0005	AMD	98-15-066	388-505-0505	REP	98-16-050	388-509-0920	REP-P	98-13-082
388-501	PREP	98-10-106	388-505-0505	REP	98-16-050	388-509-0920	AMD-P	98-15-053
388-501-0105	REP-P	98-13-082	388-505-0510	REP-P	98-13	388-509-0920	AMD-E	98-16-036
388-501-0105	REP	98-16-050	388-505-0510	REP	98-16-	388-509-0920	REP	98-16-050
388-501-0110	REP-P	98-13-082	388-505-0520	AMD-P	98-08-081	388-509-0920	AMD-W	98-17-064
388-501-0110	REP	98-16-050	388-505-0520	AMD-E	98-08-088	388-509-0920	REP-P	98-13-082
388-501-0135	AMD-P	98-11-084	388-505-0520	REP-P	98-13-082	388-509-0940	REP	98-16-050
388-501-0135	AMD	98-16-044	388-505-0520	AMD	98-15-066	388-509-0940	REP	98-16-050
388-501-0140	REP-P	98-13-082	388-505-0520	REP	98-16-050	388-509-0960	PREP	98-07-039
388-501-0140	REP	98-16-050	388-505-0530	REP-P	98-13-082	388-509-0960	AMD-E	98-08-085
388-501-0150	REP-P	98-13-082	388-505-0530	REP	98-16-050	388-509-0960	REP-P	98-13-082
388-501-0170	REP-P	98-13-082	388-505-0540	AMD-P	98-11-084	388-509-0960	AMD-P	98-15-053
388-501-0170	REP	98-16-050	388-505-0540	AMD	98-16-044	388-509-0960	AMD-E	98-16-036
388-501-0190	REP-P	98-13-082	388-505-0560	REP-P	98-13-082	388-509-0960	REP	98-16-050
388-501-0190	REP	98-16-050	388-505-0560	REP	98-16-050	388-509-0960	AMD-W	98-17-064
388-503	PREP	98-10-106	388-505-0570	REP-P	98-13-082	388-509-0970	REP-P	98-13-082
388-503-0305	REP-P	98-13-082	388-505-0570	REP	98-16-050	388-509-0970	REP	98-16-050
388-503-0305	REP	98-16-050	388-505-0580	REP-P	98-13-082	388-510	PREP	98-10-106
388-503-0310	AMD-P	98-08-081	388-505-0580	REP	98-16-050	388-510-1005	NEW-P	98-08-081
388-503-0310	AMD-E	98-08-088	388-505-0590	REP-P	98-13-082	388-510-1005	NEW-E	98-08-088
388-503-0310	AMD	98-15-066	388-505-0590	REP	98-16-050	388-510-1005	NEW	98-15-066
388-503-0320	REP-P	98-13-082	388-506	PREP	98-10-106	388-510-1020	AMD-P	98-08-081
388-503-0320	REP	98-16-050	388-506-0610	REP-P	98-13-082	388-510-1020	AMD-E	98-08-088
388-503-0350	REP-P	98-13-082	388-506-0610	REP	98-16-050	388-510-1020	REP-P	98-13-082
388-503-0350	REP	98-16-050	388-506-0620	AMD-P	98-15-140	388-510-1020	AMD	98-15-066
388-503-0370	REP-P	98-13-082	388-506-0620	AMD	98-18-079	388-510-1020	REP	98-16-050
388-503-0370	REP	98-16-050	388-506-0630	REP-P	98-13-082	388-510-1030	REP-P	98-13-082
388-503-0505	NEW-P	98-11-084	388-506-0630	REP	98-16-050	388-510-1030	REP	98-16-050
388-503-0505	NEW	98-16-044	388-507	PREP	98-10-106	388-511	PREP	98-10-106
388-503-0510	NEW-P	98-11-084	388-507-0710	AMD-P	98-08-082	388-511-1105	AMD-P	98-15-140
388-503-0510	NEW	98-16-044	388-507-0710	AMD-E	98-08-087	388-511-1105	AMD	98-18-079
388-503-0515	NEW-P	98-11-084	388-507-0710	AMD	98-11-033	388-511-1110	REP-P	98-13-082
388-503-0515	NEW	98-16-044	388-507-0710	REP-P	98-13-082	388-511-1110	REP	98-16-050
			388-507-0710	REP	98-16-050	388-511-1115	REP-P	98-13-082

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388-511-1140	REP-P	98-13-082	388-517-1750	REP-P	98-13-082	388-522-2230	REP-P	98-13-082
388-511-1140	REP	98-16-050	388-517-1750	REP	98-16-050	388-522-2230	REP	98-16-050
388-511-1150	REP-P	98-13-082	388-517-1760	REP-P	98-08-083	388-523	PREP	98-10-106
388-511-1150	REP	98-16-050	388-517-1760	REP-E	98-08-086	388-523-0100	NEW-P	98-11-084
388-511-1160	AMD	98-04-031	388-517-1760	REP	98-11-073	388-523-0100	NEW	98-16-044
388-511-1160	REP-P	98-13-082	388-517-1770	NEW-P	98-08-083	388-523-2305	PREP	98-03-079
388-511-1160	REP	98-16-050	388-517-1770	NEW-E	98-08-086	388-523-2305	AMD-P	98-08-081
388-511-1170	REP-P	98-13-082	388-517-1770	NEW	98-11-073	388-523-2305	AMD-E	98-08-088
388-511-1170	REP	98-16-050	388-517-1770	REP-P	98-13-082	388-523-2305	REP-P	98-13-082
388-512	PREP	98-10-106	388-517-1770	REP	98-16-050	388-523-2305	AMD	98-15-066
388-512-1275	AMD	98-04-004	388-518	PREP	98-10-106	388-523-2305	REP	98-16-050
388-512-1280	REP	98-04-004	388-518-1805	REP-P	98-13-082	388-523-2320	REP-P	98-13-082
388-513	PREP	98-10-106	388-518-1805	REP	98-16-050	388-523-2320	REP	98-16-050
388-513-1305	AMD-P	98-24-126	388-518-1810	REP-P	98-13-082	388-524	PREP	98-10-106
388-513-1315	AMD	98-04-003	388-518-1810	REP	98-16-050	388-524-2405	REP-P	98-13-082
388-513-1315	AMD-P	98-24-126	388-518-1820	REP-P	98-13-082	388-524-2405	REP	98-16-050
388-513-1320	AMD-P	98-24-126	388-518-1820	REP	98-16-050	388-524-2420	REP-P	98-13-082
388-513-1330	AMD-P	98-24-126	388-518-1830	REP-P	98-13-082	388-524-2420	REP	98-16-050
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388-513-1340	AMD-P	98-24-127	388-518-1840	REP-P	98-13-082	388-525-2505	REP-P	98-13-082
388-513-1345	PREP	98-05-052	388-518-1840	REP	98-16-050	388-525-2505	REP	98-16-050
388-513-1345	AMD-P	98-24-127	388-518-1840	REP	98-16-050	388-525-2520	REP-P	98-13-082
388-513-1350	AMD-P	98-08-082	388-518-1850	REP-P	98-13-082	388-525-2520	REP	98-16-050
388-513-1350	AMD-E	98-08-087	388-518-1850	REP	98-16-050	388-525-2570	REP-P	98-13-082
388-513-1350	AMD	98-11-033	388-519	PREP	98-10-106	388-525-2570	REP	98-16-050
388-513-1350	AMD-P	98-24-126	388-519-0100	NEW-P	98-11-084	388-526	PREP	98-10-106
388-513-1360	AMD-P	98-24-126	388-519-0100	NEW	98-16-044	388-527	PREP	98-10-106
388-513-1365	AMD-P	98-24-126	388-519-0110	NEW-P	98-11-084	388-528	PREP	98-10-106
388-513-1380	AMD-P	98-03-085	388-519-0110	NEW	98-16-044	388-528	PREP	98-10-106
388-513-1380	AMD-C	98-05-053	388-519-0120	NEW-P	98-11-084	388-529	PREP	98-10-106
388-513-1380	AMD	98-08-077	388-519-0120	NEW	98-16-044	388-529-0100	NEW-P	98-11-084
388-513-1380	AMD-E	98-14-126	388-519-0120	NEW	98-16-044	388-529-0100	NEW	98-16-044
388-513-1380	PREP	98-21-023	388-519-1905	REP-P	98-13-082	388-529-0200	NEW-P	98-11-084
388-513-1395	AMD-P	98-24-126	388-519-1905	REP	98-16-050	388-529-0200	NEW	98-16-044
388-515	PREP	98-10-106	388-519-1910	REP-P	98-13-082	388-529-2910	REP-P	98-13-082
388-515-1505	PREP	98-05-051	388-519-1910	REP	98-16-050	388-529-2910	REP	98-16-050
388-515-1505	AMD-P	98-24-127	388-519-1930	REP-P	98-13-082	388-529-2910	REP-P	98-13-082
388-515-1510	AMD-P	98-24-126	388-519-1930	REP	98-16-050	388-529-2920	REP-P	98-13-082
388-515-1530	AMD-P	98-24-126	388-519-1950	REP-P	98-13-082	388-529-2920	REP	98-16-050
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392-139-690	REP-P	98-05-040	392-140-728	NEW	98-07-061	392-170-080	AMD	98-12-002
392-139-690	REP	98-08-096	392-140-730	NEW-P	98-03-067	392-170-090	AMD	98-12-002
392-139-691	REP-P	98-05-040	392-140-730	NEW	98-07-061	392-172	PREP	98-05-039
392-139-691	REP	98-08-096	392-140-731	NEW-P	98-03-067	392-182-020	AMD	98-04-025
392-140-601	AMD-P	98-04-036	392-140-731	NEW	98-07-061	399- 10-010	AMD-P	98-07-033
392-140-601	AMD	98-08-013	392-140-732	NEW-P	98-03-067	399- 10-010	AMD-S	98-18-019
392-140-602	AMD-P	98-04-036	392-140-732	NEW	98-07-061	399- 10-010	AMD	98-24-010
392-140-602	AMD	98-08-013	392-140-733	NEW-P	98-03-067	399- 10-020	AMD-S	98-18-019
392-140-605	AMD-P	98-04-036	392-140-733	NEW	98-07-061	399- 10-020	AMD	98-24-010
392-140-605	AMD	98-08-013	392-140-735	NEW-P	98-03-067	399- 10-030	AMD-P	98-07-033
392-140-616	AMD-P	98-04-036	392-140-735	NEW	98-07-061	399- 10-030	AMD-S	98-18-019
392-140-616	AMD	98-08-013	392-140-736	NEW-P	98-03-067	399- 10-030	AMD	98-24-010
392-140-625	AMD-P	98-04-036	392-140-736	NEW	98-07-061	399- 20-010	AMD-S	98-18-019
392-140-625	AMD	98-08-013	392-140-740	NEW-P	98-03-067	399- 20-010	AMD	98-24-010
392-140-630	NEW-P	98-04-036	392-140-740	NEW	98-07-061	399- 20-020	AMD-S	98-18-019
392-140-630	NEW	98-08-013	392-140-741	NEW-P	98-03-067	399- 20-020	AMD	98-24-010
392-140-640	AMD-P	98-04-036	392-140-741	NEW	98-07-061	399- 20-030	AMD-S	98-18-019
392-140-640	AMD	98-08-013	392-140-742	NEW-P	98-03-067	399- 20-030	AMD	98-24-010
392-140-656	AMD-P	98-04-036	392-140-742	NEW	98-07-061	399- 20-040	AMD-S	98-18-019
392-140-656	AMD	98-08-013	392-140-743	NEW-P	98-03-067	399- 20-040	AMD	98-24-010
392-140-660	AMD-P	98-04-036	392-140-743	NEW	98-07-061	399- 20-060	AMD-P	98-07-033
392-140-660	AMD	98-08-013	392-140-744	NEW-P	98-03-067	399- 20-060	AMD-S	98-18-019
392-140-665	AMD-P	98-04-036	392-140-744	NEW	98-07-061	399- 20-060	AMD	98-24-010
392-140-665	AMD	98-08-013	392-140-745	NEW-P	98-03-067	399- 20-070	AMD-P	98-07-033
392-140-675	AMD-P	98-04-036	392-140-745	NEW	98-07-061	399- 20-070	AMD-S	98-18-019
392-140-675	AMD	98-08-013	392-140-746	NEW-P	98-03-067	399- 20-070	AMD	98-24-010
392-140-680	AMD-P	98-04-036	392-140-746	NEW	98-07-061	399- 20-080	AMD-S	98-18-019
392-140-680	AMD	98-08-013	392-140-747	NEW-P	98-03-067	399- 20-080	AMD	98-24-010
392-140-685	AMD-P	98-04-036	392-140-747	NEW	98-07-061	399- 20-090	AMD-S	98-18-019
392-140-685	AMD	98-08-013	392-140-747	NEW	98-07-061	399- 20-090	AMD	98-24-010
392-140-700	NEW-P	98-03-067	392-140-800	NEW	98-04-080	399- 20-100	AMD-P	98-07-033
392-140-700	NEW	98-07-061	392-140-802	NEW	98-04-080	399- 20-100	AMD-S	98-18-019
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392-140-701	NEW	98-07-061	392-140-806	NEW	98-04-080	399- 20-110	AMD-S	98-18-019
392-140-702	NEW-P	98-03-067	392-140-808	NEW	98-04-080	399- 20-110	AMD-S	98-18-019
392-140-702	NEW	98-07-061	392-140-810	NEW	98-04-080	399- 20-110	AMD	98-24-010
392-140-710	NEW-P	98-03-067	392-140-812	NEW	98-04-080	399- 20-120	AMD-P	98-07-033
392-140-710	NEW	98-07-061	392-140-814	NEW	98-04-080	399- 20-120	AMD-S	98-18-019
392-140-711	NEW-P	98-03-067	392-140-816	NEW	98-04-080	399- 20-120	AMD	98-24-010
392-140-711	NEW	98-07-061	392-140-818	NEW	98-04-080	399- 30-010	AMD-S	98-18-019
392-140-712	NEW-P	98-03-067	392-140-820	NEW	98-04-080	399- 30-010	AMD	98-24-010
392-140-712	NEW	98-07-061	392-140-822	NEW	98-04-080	399- 30-020	AMD-P	98-07-033
392-140-713	NEW-P	98-03-067	392-140-824	NEW	98-04-080	399- 30-020	AMD-S	98-18-019
392-140-713	NEW	98-07-061	392-140-826	NEW	98-04-080	399- 30-020	AMD	98-24-010
392-140-714	NEW-P	98-03-067	392-140-828	NEW	98-04-080	399- 30-030	AMD-P	98-07-033
392-140-714	NEW	98-07-061	392-140-830	NEW	98-04-080	399- 30-030	AMD-S	98-18-019
392-140-715	NEW-P	98-03-067	392-140-832	NEW	98-04-080	399- 30-030	AMD	98-24-010
392-140-715	NEW	98-07-061	392-140-834	NEW	98-04-080	399- 30-040	AMD-S	98-18-019
392-140-716	NEW-P	98-03-067	392-140-836	NEW	98-04-080	399- 30-040	AMD	98-24-010
392-140-716	NEW	98-07-061	392-141	PREP	98-09-091	399- 30-042	AMD-S	98-18-019
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392-140-721	NEW-P	98-03-067	392-141-148	AMD-P	98-14-011	399- 30-045	AMD-S	98-18-019
392-140-721	NEW	98-07-061	392-141-148	AMD	98-17-007	399- 30-045	AMD	98-24-010
392-140-722	NEW-P	98-03-067	392-141-150	AMD-P	98-14-011	399- 30-050	AMD-S	98-18-019
392-140-722	NEW	98-07-061	392-141-150	AMD	98-17-007	399- 30-050	AMD	98-24-010
392-140-723	NEW-P	98-03-067	392-141-152	NEW-P	98-14-011	399- 30-060	AMD-P	98-07-033
392-140-723	NEW	98-07-061	392-141-152	NEW	98-17-007	399- 30-060	AMD-S	98-18-019
392-140-724	NEW-P	98-03-067	392-141-160	AMD-P	98-14-011	399- 30-060	AMD	98-24-010
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415-108-0110	NEW	98-09-059	415-512-090	AMD	98-20-047	434-60-160	DECOD	98-08-010
415-108-0111	NEW	98-09-059	415-512-095	NEW-P	98-15-098	434-60-170	DECOD	98-08-010
415-108-441	NEW	98-09-059	415-512-095	NEW	98-20-047	434-60-180	DECOD	98-08-010
415-108-443	NEW	98-09-059	415-512-110	AMD-P	98-15-098	434-60-190	DECOD	98-08-010
415-108-445	NEW	98-09-059	415-512-110	AMD	98-20-047	434-60-200	DECOD	98-08-010
415-108-450	REP	98-09-059	415-524-010	AMD-P	98-15-098	434-60-210	DECOD	98-08-010
415-108-451	NEW	98-09-059	415-524-010	AMD	98-20-047	434-60-215	DECOD	98-08-010
415-108-453	NEW	98-09-059	415-544-010	AMD-P	98-15-098	434-60-220	DECOD	98-08-010
415-108-455	NEW	98-09-059	415-544-010	AMD	98-20-047	434-60-230	DECOD	98-08-010
415-108-456	NEW	98-09-059	415-548-010	AMD-P	98-15-098	434-60-240	DECOD	98-08-010
415-108-457	NEW	98-09-059	415-548-010	AMD	98-20-047	434-60-250	DECOD	98-08-010
415-108-458	NEW	98-09-059	415-560-010	AMD-P	98-15-098	434-60-260	DECOD	98-08-010
415-108-459	NEW	98-09-059	415-560-010	AMD	98-20-047	434-60-270	DECOD	98-08-010
415-108-460	REP	98-09-059	434-08-010	DECOD	98-08-010	434-60-280	DECOD	98-08-010
415-108-463	NEW	98-09-059	434-08-020	DECOD	98-08-010	434-60-290	DECOD	98-08-010
415-108-464	NEW	98-09-059	434-08-030	DECOD	98-08-010	434-60-300	DECOD	98-08-010
415-108-465	NEW	98-09-059	434-08-040	DECOD	98-08-010	434-60-310	DECOD	98-08-010
415-108-466	NEW	98-09-059	434-08-050	DECOD	98-08-010	434-60-320	DECOD	98-08-010
415-108-467	NEW	98-09-059	434-08-060	DECOD	98-08-010	434-60-330	DECOD	98-08-010
415-108-468	NEW	98-09-059	434-08-070	DECOD	98-08-010	434-60-340	DECOD	98-08-010
415-108-469	NEW	98-09-059	434-08-080	DECOD	98-08-010	434-60-350	DECOD	98-08-010
415-108-475	NEW	98-09-059	434-08-090	DECOD	98-08-010	434-69-005	DECOD	98-08-010
415-108-477	NEW	98-09-059	434-24-065	DECOD	98-08-010	434-69-010	DECOD	98-08-010
415-108-479	NEW	98-09-059	434-26-005	DECOD	98-08-010	434-69-020	DECOD	98-08-010
415-108-482	NEW	98-09-059	434-26-010	DECOD	98-08-010	434-69-030	DECOD	98-08-010
415-108-483	NEW	98-09-059	434-26-015	DECOD	98-08-010	434-69-040	DECOD	98-08-010
415-108-484	NEW	98-09-059	434-26-020	DECOD	98-08-010	434-69-050	DECOD	98-08-010
415-108-487	NEW	98-09-059	434-26-025	DECOD	98-08-010	434-69-060	DECOD	98-08-010
415-108-488	NEW	98-09-059	434-26-030	DECOD	98-08-010	434-69-070	DECOD	98-08-010
415-108-490	REP	98-09-059	434-26-035	DECOD	98-08-010	434-69-080	DECOD	98-08-010
415-108-491	NEW	98-09-059	434-26-040	DECOD	98-08-010	434-80-010	DECOD	98-08-010
415-112-445	AMD	98-09-059	434-26-045	DECOD	98-08-010	434-80-020	DECOD	98-08-010
415-112-4608	AMD	98-09-059	434-26-050	DECOD	98-08-010	434-80-030	DECOD	98-08-010
415-112-4609	AMD	98-09-059	434-26-055	DECOD	98-08-010	434-80-040	DECOD	98-08-010
415-114	AMD-P	98-21-064	434-26-060	DECOD	98-08-010	434-80-050	DECOD	98-08-010
415-114	AMD	98-24-083	434-26-065	DECOD	98-08-010	434-80-060	DECOD	98-08-010
415-114-100	AMD-P	98-21-064	434-26-900	DECOD	98-08-010	434-80-070	DECOD	98-08-010
415-114-100	AMD	98-24-083	434-30-150	AMD	98-03-033	434-81-010	DECOD	98-08-010
415-114-200	AMD-P	98-21-064	434-30-150	DECOD	98-03-033	434-81-020	DECOD	98-08-010
415-114-200	AMD	98-24-083	434-32-010	DECOD	98-08-010	434-81-030	DECOD	98-08-010
415-114-300	REP-P	98-21-064	434-57-010	DECOD	98-08-010	434-81-040	DECOD	98-08-010
415-114-300	REP	98-24-083	434-57-020	DECOD	98-08-010	434-81-050	DECOD	98-08-010
415-114-400	AMD-P	98-21-064	434-57-030	DECOD	98-08-010	434-81-060	DECOD	98-08-010
415-114-400	AMD	98-24-083	434-57-040	DECOD	98-08-010	434-81-070	DECOD	98-08-010
415-114-500	REP-P	98-21-064	434-57-050	DECOD	98-08-010	434-81-080	DECOD	98-08-010
415-114-500	REP	98-24-083	434-57-070	DECOD	98-08-010	434-81-090	DECOD	98-08-010
415-114-550	REP-P	98-21-064	434-57-080	DECOD	98-08-010	434-81-100	DECOD	98-08-010
415-114-550	REP	98-24-083	434-57-090	DECOD	98-08-010	434-91-010	DECOD	98-08-010
415-114-600	REP-P	98-21-064	434-57-100	DECOD	98-08-010	434-91-020	DECOD	98-08-010
415-114-600	REP	98-24-083	434-57-120	DECOD	98-08-010	434-91-030	DECOD	98-08-010
415-114-700	AMD-P	98-21-064	434-57-130	DECOD	98-08-010	434-91-040	DECOD	98-08-010
415-114-700	AMD	98-24-083	434-57-150	DECOD	98-08-010	434-91-050	DECOD	98-08-010
415-512-015	AMD-P	98-15-098	434-60-010	DECOD	98-08-010	434-91-060	DECOD	98-08-010
415-512-015	AMD	98-20-047	434-60-020	DECOD	98-08-010	434-91-070	DECOD	98-08-010
415-512-020	AMD-P	98-15-098	434-60-030	DECOD	98-08-010	434-91-080	DECOD	98-08-010
415-512-020	AMD	98-20-047	434-60-040	DECOD	98-08-010	434-91-090	DECOD	98-08-010
415-512-030	AMD-P	98-15-098	434-60-050	DECOD	98-08-010	434-91-100	DECOD	98-08-010
415-512-030	AMD	98-20-047	434-60-060	DECOD	98-08-010	434-91-110	DECOD	98-08-010
415-512-050	AMD-P	98-15-098	434-60-070	DECOD	98-08-010	434-91-120	DECOD	98-08-010
415-512-050	AMD	98-20-047	434-60-080	DECOD	98-08-010	434-91-130	DECOD	98-08-010
415-512-070	AMD-P	98-15-098	434-60-090	DECOD	98-08-010	434-91-140	DECOD	98-08-010
415-512-070	AMD	98-20-047	434-60-100	DECOD	98-08-010	434-91-150	DECOD	98-08-010
415-512-075	AMD-P	98-15-098	434-60-110	DECOD	98-08-010	434-91-160	DECOD	98-08-010
415-512-075	AMD	98-20-047	434-60-120	DECOD	98-08-010	434-91-170	DECOD	98-08-010
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434-110-060	AMD	98-17-075	434-257-130	RECOD	98-08-010	434-326-005	RECOD	98-08-010
434-120-300	AMD-P	98-13-098	434-257-150	RECOD	98-08-010	434-326-010	RECOD	98-08-010
434-120-300	AMD	98-18-034	434-260-010	RECOD	98-08-010	434-326-015	RECOD	98-08-010
434-120-305	AMD-P	98-13-098	434-260-020	RECOD	98-08-010	434-326-020	RECOD	98-08-010
434-120-305	AMD	98-18-034	434-260-030	RECOD	98-08-010	434-326-025	RECOD	98-08-010
434-120-310	AMD-P	98-13-098	434-260-040	RECOD	98-08-010	434-326-030	RECOD	98-08-010
434-120-310	AMD	98-18-034	434-260-050	RECOD	98-08-010	434-326-035	RECOD	98-08-010
434-120-315	REP-P	98-13-098	434-260-060	RECOD	98-08-010	434-326-040	RECOD	98-08-010
434-120-315	REP	98-18-034	434-260-070	RECOD	98-08-010	434-326-045	RECOD	98-08-010
434-120-317	REP-P	98-13-098	434-260-080	RECOD	98-08-010	434-326-050	RECOD	98-08-010
434-120-317	REP	98-18-034	434-260-090	RECOD	98-08-010	434-326-055	RECOD	98-08-010
434-120-320	AMD-P	98-13-098	434-260-100	RECOD	98-08-010	434-326-060	RECOD	98-08-010
434-120-320	AMD	98-18-034	434-260-110	RECOD	98-08-010	434-326-065	RECOD	98-08-010
434-120-335	REP-P	98-13-098	434-260-120	RECOD	98-08-010	434-326-900	RECOD	98-08-010
434-120-335	REP	98-18-034	434-260-130	RECOD	98-08-010	434-332-010	RECOD	98-08-010
434-120-340	REP-P	98-13-098	434-260-140	RECOD	98-08-010	434-334-055	AMD-E	98-17-029
434-120-340	REP	98-18-034	434-260-150	RECOD	98-08-010	434-334-063	NEW-E	98-17-029
434-120-350	REP-P	98-13-098	434-260-160	RECOD	98-08-010	434-334-065	AMD-E	98-17-029
434-120-350	REP	98-18-034	434-260-170	RECOD	98-08-010	434-334-070	AMD-E	98-17-029
434-180-130	AMD-P	98-13-100	434-260-180	RECOD	98-08-010	434-334-075	AMD-E	98-17-029
434-180-130	AMD	98-16-031	434-260-190	RECOD	98-08-010	434-334-080	AMD-E	98-17-029
434-180-200	AMD-P	98-13-100	434-260-200	RECOD	98-08-010	434-334-080	DECOD-E	98-17-029
434-180-200	AMD	98-16-031	434-260-210	RECOD	98-08-010	434-334-082	NEW-E	98-17-029
434-180-203	NEW-P	98-13-100	434-260-215	RECOD	98-08-010	434-334-085	AMD-E	98-17-029
434-180-203	NEW	98-16-031	434-260-220	RECOD	98-08-010	434-334-090	AMD-E	98-17-029
434-180-215	AMD-P	98-13-100	434-260-230	RECOD	98-08-010	434-334-095	AMD-E	98-17-029
434-180-215	AMD	98-16-031	434-260-240	RECOD	98-08-010	434-334-100	AMD-E	98-17-029
434-180-215	AMD-XA	98-22-112	434-260-250	RECOD	98-08-010	434-334-105	AMD-E	98-17-029
434-180-235	REP-P	98-13-100	434-260-260	RECOD	98-08-010	434-334-110	AMD-E	98-17-029
434-180-235	REP	98-16-031	434-260-270	RECOD	98-08-010	434-334-115	REP-E	98-17-029
434-180-240	AMD-P	98-13-100	434-260-280	RECOD	98-08-010	434-334-120	RECOD-E	98-17-029
434-180-240	AMD	98-16-031	434-260-290	RECOD	98-08-010	434-334-125	NEW-E	98-17-029
434-180-245	AMD-P	98-13-100	434-260-300	RECOD	98-08-010	434-334-130	NEW-E	98-17-029
434-180-245	AMD	98-16-031	434-260-310	RECOD	98-08-010	434-334-135	NEW-E	98-17-029
434-180-265	AMD-XA	98-22-113	434-260-320	RECOD	98-08-010	434-334-140	NEW-E	98-17-029
434-180-360	AMD-XA	98-22-112	434-260-330	RECOD	98-08-010	434-334-145	NEW-E	98-17-029
434-208-010	RECOD	98-08-010	434-260-340	RECOD	98-08-010	434-334-150	NEW-E	98-17-029
434-208-020	RECOD	98-08-010	434-260-350	RECOD	98-08-010	434-334-155	NEW-E	98-17-029
434-208-030	RECOD	98-08-010	434-261-005	AMD-E	98-18-041	434-334-160	NEW-E	98-17-029
434-208-040	RECOD	98-08-010	434-261-080	AMD-E	98-18-041	434-334-165	NEW-E	98-17-029
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434-208-070	RECOD	98-08-010	434-291-030	RECOD	98-08-010	434-369-005	RECOD	98-08-010
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468-38-160	AMD-P	98-14-044	468-84-230	REP-P	98-07-005	468-400-010	NEW	98-06-029
468-38-160	AMD	98-16-088	468-84-230	REP	98-11-045	468-400-020	NEW-E	98-03-009
468-38-230	PREP	98-19-007	468-84-240	REP-P	98-07-005	468-400-020	NEW-P	98-03-059
468-38-230	AMD-P	98-20-100	468-84-240	REP	98-11-045	468-400-020	NEW	98-06-029
468-38-230	AMD	98-24-024	468-84-250	REP-P	98-07-005	468-400-030	NEW-E	98-03-009
468-38-260	PREP	98-04-043	468-84-250	REP	98-11-045	468-400-030	NEW-P	98-03-059
468-38-260	AMD-E	98-04-045	468-84-260	REP-P	98-07-005	468-400-030	NEW	98-06-029
468-38-260	AMD-P	98-08-090	468-84-260	REP	98-11-045	468-400-040	NEW-E	98-03-009
468-38-260	AMD	98-12-063	468-84-300	REP-P	98-07-005	468-400-040	NEW-P	98-03-059
468-51	PREP	98-07-049	468-84-300	REP	98-11-045	468-400-040	NEW	98-06-029
468-51-010	AMD-P	98-22-061	468-84-310	REP-P	98-07-005	468-510	PREP	98-04-044
468-51-020	AMD-P	98-22-061	468-84-310	REP	98-11-045	468-510-010	NEW-P	98-08-030
468-51-030	AMD-P	98-22-061	468-84-320	REP-P	98-07-005	468-510-010	NEW	98-12-062
468-51-040	AMD-P	98-22-061	468-84-320	REP	98-11-045	468-510-020	NEW-P	98-08-030
468-51-060	AMD-P	98-22-061	468-85	PREP	98-03-031	468-510-020	NEW	98-12-062
468-51-070	AMD-P	98-22-061	468-85-010	AMD-P	98-07-006	468-550-010	NEW-E	98-15-037
468-51-080	AMD-P	98-22-061	468-85-010	AMD	98-11-046	468-550-010	NEW-P	98-16-049
468-51-090	AMD-P	98-22-061	468-85-015	AMD-P	98-07-006	468-550-010	NEW	98-19-052
468-51-100	AMD-P	98-22-061	468-85-015	AMD	98-11-046	468-550-020	NEW-E	98-15-037
468-51-105	NEW-P	98-22-061	468-85-110	AMD-P	98-07-006	468-550-020	NEW-P	98-16-049
468-51-110	AMD-P	98-22-061	468-85-110	AMD	98-11-046	468-550-020	NEW	98-19-052
468-51-120	AMD-P	98-22-061	468-85-120	AMD-P	98-07-006	468-550-030	NEW-E	98-15-037
468-51-130	AMD-P	98-22-061	468-85-120	AMD	98-11-046	468-550-030	NEW-P	98-16-049
468-51-140	AMD-P	98-22-061	468-85-130	AMD-P	98-07-006	468-550-030	NEW	98-19-052
468-51-150	AMD-P	98-22-061	468-85-130	AMD	98-11-046	468-550-040	NEW-E	98-15-037
468-52	PREP	98-07-048	468-85-210	AMD-P	98-07-006	468-550-040	NEW-P	98-16-049
468-52-020	AMD-P	98-22-060	468-85-210	AMD	98-11-046	468-550-040	NEW	98-19-052
468-52-030	AMD-P	98-22-060	468-85-220	AMD-P	98-07-006	468-550-050	NEW-E	98-15-037
468-52-040	AMD-P	98-22-060	468-85-220	AMD	98-11-046	468-550-050	NEW-P	98-16-049
468-52-050	AMD-P	98-22-060	468-85-230	AMD-P	98-07-006	468-550-050	NEW	98-19-052
468-52-060	AMD-P	98-22-060	468-85-230	AMD	98-11-046	468-550-060	NEW-E	98-15-037
468-52-070	AMD-P	98-22-060	468-85-240	AMD-P	98-07-006	468-550-060	NEW-P	98-16-049
468-54	PREP	98-05-037	468-85-240	AMD	98-11-046	468-550-060	NEW	98-19-052
468-58	PREP	98-10-089	468-85-250	AMD-P	98-07-006	468-550-070	NEW-E	98-15-037
468-72-050	PREP	98-12-095	468-85-250	AMD	98-11-046	468-550-070	NEW-P	98-16-049
468-72-050	AMD-P	98-20-075	468-85-260	REP-P	98-07-006	468-550-070	NEW	98-19-052
468-72-050	AMD	98-24-023	468-85-260	REP	98-11-046	474-10-010	NEW-P	98-14-139
468-82	PREP	98-03-032	468-85-270	REP-P	98-07-006	474-10-020	NEW-P	98-14-139
468-82-010	REP-P	98-07-004	468-85-270	REP	98-11-046	474-10-030	NEW-P	98-14-139
468-82-010	REP	98-11-044	468-85-280	REP-P	98-07-006	474-10-040	NEW-P	98-14-139
468-82-015	REP-P	98-07-004	468-85-280	REP	98-11-046	474-10-050	NEW-P	98-14-139
468-82-015	REP	98-11-044	468-85-290	AMD-P	98-07-006	474-10-060	NEW-P	98-14-139
468-82-110	REP-P	98-07-004	468-85-290	AMD	98-11-046	474-10-070	NEW-P	98-14-139
468-82-110	REP	98-11-044	468-85-310	AMD-P	98-07-006	474-10-080	NEW-P	98-14-139
468-82-120	REP-P	98-07-004	468-85-310	AMD	98-11-046	474-10-090	NEW-P	98-14-139
468-82-120	REP	98-11-044	468-300-010	AMD-P	98-03-050	474-10-100	NEW-P	98-14-139
468-82-200	REP-P	98-07-004	468-300-010	AMD	98-08-051	478-160-015	AMD-P	98-05-066
468-82-200	REP	98-11-044	468-300-010	PREP	98-24-112	478-160-015	AMD	98-10-048
468-84	PREP	98-03-030	468-300-020	AMD-P	98-03-050	478-160-095	AMD-P	98-05-066
468-84-010	REP-P	98-07-005	468-300-020	AMD	98-08-051	478-160-095	AMD	98-10-048
468-84-010	REP	98-11-045	468-300-020	PREP	98-24-112	478-160-110	AMD-P	98-05-066
468-84-015	REP-P	98-07-005	468-300-040	AMD-P	98-03-050	478-160-110	AMD	98-10-048
468-84-015	REP	98-11-045	468-300-040	AMD	98-08-051	478-160-120	REP-P	98-05-066
468-84-110	REP-P	98-07-005	468-300-040	PREP	98-24-112	478-160-120	REP	98-10-048
468-84-110	REP	98-11-045	468-300-220	AMD-P	98-03-050	478-160-142	NEW-P	98-05-066
468-84-120	REP-P	98-07-005	468-300-220	AMD	98-08-051	478-160-142	NEW	98-10-048
468-84-120	REP	98-11-045	468-300-220	PREP	98-24-112	478-160-143	NEW-P	98-05-066
468-84-130	REP-P	98-07-005	468-300-700	PREP	98-17-076	478-160-143	NEW	98-10-048
468-84-130	REP	98-11-045	468-300-700	AMD-P	98-20-092	478-160-150	AMD-P	98-05-066
468-84-135	REP-P	98-07-005	468-310	PREP	98-17-036	478-160-150	AMD	98-10-048

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WAC #	ACTION	WSR #	WAC #	ACTION	WSR #	WAC #	ACTION	WSR #
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478-160-246	AMD	98-10-048	480-09-745	AMD-P	98-19-146	480-12-355	REP-P	98-19-060
478-160-270	AMD-P	98-05-066	480-09-750	AMD-P	98-19-146	480-12-360	REP-P	98-19-060
478-160-270	AMD	98-10-048	480-09-751	AMD-P	98-19-146	480-12-365	REP-P	98-19-060
478-160-275	AMD-P	98-05-066	480-09-760	AMD-P	98-19-146	480-12-370	REP-P	98-19-060
478-160-275	AMD	98-10-048	480-09-770	AMD-P	98-19-146	480-12-375	REP-P	98-19-060
478-160-280	AMD-P	98-05-066	480-09-780	AMD-P	98-19-146	480-12-385	REP-P	98-19-060
478-160-280	AMD	98-10-048	480-09-800	AMD-P	98-19-146	480-12-395	REP-P	98-19-060
478-160-295	AMD-P	98-05-066	480-09-810	AMD-P	98-19-146	480-12-400	REP-P	98-19-060
478-160-295	AMD	98-10-048	480-09-815	AMD-P	98-19-146	480-12-405	REP-P	98-19-060
479-16-020	PREP	98-24-114	480-09-820	AMD-P	98-19-146	480-12-410	REP-P	98-19-060
479-16-040	PREP	98-24-114	480-09-830	REP-P	98-19-146	480-12-415	REP-P	98-19-060
479-16-098	PREP	98-24-114	480-12-001	REP-P	98-19-060	480-12-420	REP-P	98-19-060
479-20-007	PREP	98-24-114	480-12-003	REP-P	98-19-060	480-12-425	REP-P	98-19-060
479-20-020	PREP	98-24-114	480-12-005	REP-P	98-19-060	480-12-430	REP-P	98-19-060
479-20-025	PREP	98-24-114	480-12-010	REP-P	98-19-060	480-12-435	REP-P	98-19-060
479-20-037	PREP	98-24-114	480-12-015	REP-P	98-19-060	480-12-440	REP-P	98-19-060
479-510-410	AMD-E	98-24-049	480-12-020	REP-P	98-19-060	480-12-445	REP-P	98-19-060
479-510-420	AMD-E	98-24-049	480-12-022	REP-P	98-19-060	480-12-450	REP-P	98-19-060
479-510-450	NEW-E	98-24-049	480-12-025	REP-P	98-19-060	480-12-455	REP-P	98-19-060
479-510-460	NEW-E	98-24-049	480-12-030	REP-P	98-19-060	480-12-460	REP-P	98-19-060
480-09	PREP	98-05-056	480-12-031	REP-P	98-19-060	480-12-465	REP-P	98-19-060
480-09-005	NEW-P	98-19-146	480-12-033	REP-P	98-19-060	480-12-600	REP-P	98-19-060
480-09-010	AMD-P	98-19-146	480-12-045	REP-P	98-19-060	480-12-990	REP-P	98-19-060
480-09-012	AMD-P	98-19-146	480-12-050	REP-P	98-19-060	480-15-010	NEW-P	98-19-060
480-09-100	AMD-P	98-19-146	480-12-065	REP-P	98-19-060	480-15-020	NEW-P	98-19-060
480-09-101	NEW-P	98-19-146	480-12-070	REP-P	98-19-060	480-15-030	NEW-P	98-19-060
480-09-115	AMD-P	98-19-146	480-12-080	REP-P	98-19-060	480-15-040	NEW-P	98-19-060
480-09-120	AMD-P	98-19-146	480-12-081	REP-P	98-19-060	480-15-050	NEW-P	98-19-060
480-09-125	AMD-P	98-19-146	480-12-083	REP-P	98-19-060	480-15-060	NEW-P	98-19-060
480-09-130	AMD-P	98-19-146	480-12-084	REP-P	98-19-060	480-15-070	NEW-P	98-19-060
480-09-135	AMD-P	98-19-146	480-12-100	REP-P	98-19-060	480-15-080	NEW-P	98-19-060
480-09-140	AMD-P	98-19-146	480-12-115	REP-P	98-19-060	480-15-090	NEW-P	98-19-060
480-09-150	AMD-P	98-19-146	480-12-120	REP-P	98-19-060	480-15-100	NEW-P	98-19-060
480-09-200	AMD-P	98-19-146	480-12-121	REP-P	98-19-060	480-15-110	NEW-P	98-19-060
480-09-210	AMD-P	98-19-146	480-12-125	REP-P	98-19-060	480-15-120	NEW-P	98-19-060
480-09-220	AMD-P	98-19-146	480-12-126	REP-P	98-19-060	480-15-130	NEW-P	98-19-060
480-09-230	AMD-P	98-19-146	480-12-127	REP-P	98-19-060	480-15-140	NEW-P	98-19-060
480-09-340	AMD-P	98-19-146	480-12-130	REP-P	98-19-060	480-15-150	NEW-P	98-19-060
480-09-390	AMD-P	98-19-146	480-12-135	REP-P	98-19-060	480-15-160	NEW-P	98-19-060
480-09-400	AMD-P	98-19-146	480-12-150	REP-P	98-19-060	480-15-170	NEW-P	98-19-060
480-09-410	AMD-P	98-19-146	480-12-165	REP-P	98-19-060	480-15-180	NEW-P	98-19-060
480-09-420	AMD-P	98-19-146	480-12-170	REP-P	98-19-060	480-15-190	NEW-P	98-19-060
480-09-425	AMD-P	98-19-146	480-12-180	REP-P	98-19-060	480-15-195	NEW-P	98-19-060
480-09-426	AMD-P	98-19-146	480-12-185	REP-P	98-19-060	480-15-200	NEW-P	98-19-060
480-09-430	AMD-P	98-19-146	480-12-190	REP-P	98-19-060	480-15-210	NEW-P	98-19-060
480-09-440	AMD-P	98-19-146	480-12-200	REP-P	98-19-060	480-15-220	NEW-P	98-19-060
480-09-460	AMD-P	98-19-146	480-12-210	REP-P	98-19-060	480-15-230	NEW-P	98-19-060
480-09-465	AMD-P	98-19-146	480-12-215	REP-P	98-19-060	480-15-240	NEW-P	98-19-060
480-09-466	AMD-P	98-19-146	480-12-220	REP-P	98-19-060	480-15-250	NEW-P	98-19-060
480-09-467	AMD-P	98-19-146	480-12-235	REP-P	98-19-060	480-15-260	NEW-P	98-19-060
480-09-470	AMD-P	98-19-146	480-12-250	REP-P	98-19-060	480-15-270	NEW-P	98-19-060
480-09-475	AMD-P	98-19-146	480-12-255	REP-P	98-19-060	480-15-280	NEW-P	98-19-060
480-09-500	AMD-P	98-19-146	480-12-265	REP-P	98-19-060	480-15-285	NEW-P	98-19-060
480-09-510	AMD-P	98-19-146	480-12-270	REP-P	98-19-060	480-15-290	NEW-P	98-19-060
480-09-530	NEW-P	98-15-094	480-12-275	REP-P	98-19-060	480-15-300	NEW-P	98-19-060
480-09-530	NEW	98-21-042	480-12-280	REP-P	98-19-060	480-15-310	NEW-P	98-19-060
480-09-600	AMD-P	98-19-146	480-12-285	REP-P	98-19-060	480-15-320	NEW-P	98-19-060
480-09-610	AMD-P	98-19-146	480-12-290	REP-P	98-19-060	480-15-330	NEW-P	98-19-060
480-09-620	AMD-P	98-19-146	480-12-295	REP-P	98-19-060	480-15-340	NEW-P	98-19-060
480-09-700	AMD-P	98-19-146	480-12-300	REP-P	98-19-060	480-15-350	NEW-P	98-19-060
480-09-705	AMD-P	98-19-146	480-12-320	REP-P	98-19-060	480-15-360	NEW-P	98-19-060
480-09-710	AMD-P	98-19-146	480-12-325	REP-P	98-19-060	480-15-370	NEW-P	98-19-060
480-09-720	AMD-P	98-19-146	480-12-330	REP-P	98-19-060	480-15-380	NEW-P	98-19-060
480-09-730	AMD-P	98-19-146	480-12-335	REP-P	98-19-060	480-15-390	NEW-P	98-19-060
480-09-735	AMD-P	98-19-146	480-12-340	REP-P	98-19-060	480-15-400	NEW-P	98-19-060
480-09-736	AMD-P	98-19-146	480-12-345	REP-P	98-19-060	480-15-410	NEW-P	98-19-060

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480-15-430	NEW-P	98-19-060	480-63-070	REP	98-21-040	480-110-071	REP-P	98-24-123
480-15-440	NEW-P	98-19-060	480-63-080	REP-XR	98-14-135	480-110-076	REP-P	98-24-123
480-15-450	NEW-P	98-19-060	480-63-080	REP	98-21-040	480-110-081	REP-P	98-24-123
480-15-460	NEW-P	98-19-060	480-63-090	REP-XR	98-14-135	480-110-086	REP-P	98-24-123
480-15-470	NEW-P	98-19-060	480-63-090	REP	98-21-040	480-110-091	REP-P	98-24-123
480-15-480	NEW-P	98-19-060	480-66	PREP	98-20-105	480-110-096	REP-P	98-24-123
480-15-490	NEW-P	98-19-060	480-75-005	AMD-P	98-23-027	480-110-101	REP-P	98-24-123
480-15-500	NEW-P	98-19-060	480-75-223	NEW-P	98-23-027	480-110-111	REP-P	98-24-123
480-15-510	NEW-P	98-19-060	480-80-330	AMD	98-04-028	480-110-116	REP-P	98-24-123
480-15-520	NEW-P	98-19-060	480-92	PREP	98-06-050	480-110-121	REP-P	98-24-123
480-15-530	NEW-P	98-19-060	480-92-011	AMD-P	98-22-110	480-110-126	REP-P	98-24-123
480-15-540	NEW-P	98-19-060	480-92-016	NEW-P	98-22-110	480-110-131	REP-P	98-24-123
480-15-550	NEW-P	98-19-060	480-92-021	AMD-P	98-22-110	480-110-136	REP-P	98-24-123
480-15-560	NEW-P	98-19-060	480-92-031	AMD-P	98-22-110	480-110-141	REP-P	98-24-123
480-15-570	NEW-P	98-19-060	480-92-041	NEW-P	98-22-110	480-110-146	REP-P	98-24-123
480-15-580	NEW-P	98-19-060	480-92-050	AMD-P	98-22-110	480-110-151	REP-P	98-24-123
480-15-590	NEW-P	98-19-060	480-92-060	AMD-P	98-22-110	480-110-156	REP-P	98-24-123
480-15-600	NEW-P	98-19-060	480-92-070	AMD-P	98-22-110	480-110-161	REP-P	98-24-123
480-15-610	NEW-P	98-19-060	480-92-080	AMD-P	98-22-110	480-110-166	REP-P	98-24-123
480-15-620	NEW-P	98-19-060	480-92-090	AMD-P	98-22-110	480-110-171	REP-P	98-24-123
480-15-630	NEW-P	98-19-060	480-92-100	AMD-P	98-22-110	480-110-176	REP-P	98-24-123
480-15-640	NEW-P	98-19-060	480-92-110	AMD-P	98-22-110	480-110-500	NEW-P	98-24-123
480-15-650	NEW-P	98-19-060	480-93-010	PREP	98-16-011	480-110-510	NEW-P	98-24-123
480-15-660	NEW-P	98-19-060	480-93-010	AMD-P	98-22-111	480-110-520	NEW-P	98-24-123
480-15-670	NEW-P	98-19-060	480-95-010	REP-XR	98-14-136	480-110-530	NEW-P	98-24-123
480-15-680	NEW-P	98-19-060	480-95-010	REP	98-21-041	480-110-540	NEW-P	98-24-123
480-15-690	NEW-P	98-19-060	480-95-020	REP-XR	98-14-136	480-110-550	NEW-P	98-24-123
480-15-700	NEW-P	98-19-060	480-95-020	REP	98-21-041	480-110-560	NEW-P	98-24-123
480-15-710	NEW-P	98-19-060	480-95-030	REP-XR	98-14-136	480-110-570	NEW-P	98-24-123
480-15-720	NEW-P	98-19-060	480-95-030	REP	98-21-041	480-110-580	NEW-P	98-24-123
480-15-730	NEW-P	98-19-060	480-95-040	REP-XR	98-14-136	480-110-590	NEW-P	98-24-123
480-15-740	NEW-P	98-19-060	480-95-040	REP	98-21-041	480-110-600	NEW-P	98-24-123
480-15-750	NEW-P	98-19-060	480-95-050	REP-XR	98-14-136	480-110-610	NEW-P	98-24-123
480-15-760	NEW-P	98-19-060	480-95-050	REP	98-21-041	480-110-620	NEW-P	98-24-123
480-15-770	NEW-P	98-19-060	480-95-060	REP-XR	98-14-136	480-110-630	NEW-P	98-24-123
480-15-780	NEW-P	98-19-060	480-95-060	REP	98-21-041	480-110-640	NEW-P	98-24-123
480-15-790	NEW-P	98-19-060	480-95-070	REP-XR	98-14-136	480-110-650	NEW-P	98-24-123
480-15-795	NEW-P	98-19-060	480-95-070	REP	98-21-041	480-110-660	NEW-P	98-24-123
480-15-800	NEW-P	98-19-060	480-95-080	REP-XR	98-14-136	480-110-670	NEW-P	98-24-123
480-15-810	NEW-P	98-19-060	480-95-080	REP	98-21-041	480-110-680	NEW-P	98-24-123
480-15-820	NEW-P	98-19-060	480-95-090	REP-XR	98-14-136	480-110-690	NEW-P	98-24-123
480-15-830	NEW-P	98-19-060	480-95-090	REP	98-21-041	480-110-700	NEW-P	98-24-123
480-15-840	NEW-P	98-19-060	480-95-100	REP-XR	98-14-136	480-110-710	NEW-P	98-24-123
480-15-850	NEW-P	98-19-060	480-95-100	REP	98-21-041	480-110-720	NEW-P	98-24-123
480-15-860	NEW-P	98-19-060	480-95-110	REP-XR	98-14-136	480-110-730	NEW-P	98-24-123
480-15-870	NEW-P	98-19-060	480-95-110	REP	98-21-041	480-110-740	NEW-P	98-24-123
480-15-880	NEW-P	98-19-060	480-95-120	REP-XR	98-14-136	480-110-750	NEW-P	98-24-123
480-15-890	NEW-P	98-19-060	480-95-120	REP	98-21-041	480-110-760	NEW-P	98-24-123
480-15-900	NEW-P	98-19-060	480-95-125	REP-XR	98-14-136	480-110-770	NEW-P	98-24-123
480-15-910	NEW-P	98-19-060	480-95-125	REP	98-21-041	480-110-780	NEW-P	98-24-123
480-15-920	NEW-P	98-19-060	480-110	PREP	98-05-056	480-110-790	NEW-P	98-24-123
480-15-930	NEW-P	98-19-060	480-110-011	REP-P	98-24-123	480-120-021	AMD-P	98-17-068
480-15-940	NEW-P	98-19-060	480-110-016	REP-P	98-24-123	480-120-027	AMD	98-04-028
480-60	PREP	98-20-105	480-110-018	REP-P	98-24-123	480-120-045	NEW-P	98-03-011
480-63-010	REP-XR	98-14-135	480-110-021	REP-P	98-24-123	480-120-045	NEW-S	98-12-071
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480-63-020	REP-XR	98-14-135	480-110-026	REP-P	98-24-123	480-120-052	NEW-P	98-24-124
480-63-020	REP	98-21-040	480-110-028	REP-P	98-24-123	480-120-058	NEW-P	98-24-124
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480-63-030	REP	98-21-040	480-110-032	REP-P	98-24-123	480-120-138	AMD-P	98-17-068
480-63-040	REP-XR	98-14-135	480-110-036	REP-P	98-24-123	480-120-141	AMD-P	98-17-068
480-63-040	REP	98-21-040	480-110-041	REP-P	98-24-123	480-120-142	REP-P	98-17-068
480-63-050	REP-XR	98-14-135	480-110-046	REP-P	98-24-123	480-120-143	REP-P	98-17-068
480-63-050	REP	98-21-040	480-110-051	REP-P	98-24-123	480-120-144	NEW-P	98-18-107
480-63-060	REP-XR	98-14-135	480-110-056	REP-P	98-24-123	480-120-151	NEW-P	98-18-107
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480-120-400	REP-P	98-20-104	480-123-430	NEW-P	98-24-125	490-100-208	REP	98-22-033
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480-120-405	REP-P	98-20-104	480-123-450	NEW-P	98-24-125	490-100-210	REP	98-22-033
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480-120-410	REP-P	98-20-104	480-123-470	NEW-P	98-24-125	490-100-220	REP	98-22-033
480-120-415	REP-S	98-12-071	480-123-480	NEW-P	98-24-125	490-100-230	REP-P	98-17-052
480-120-415	REP-P	98-20-104	480-123-490	NEW-P	98-24-125	490-100-230	REP	98-22-033
480-120-420	REP-S	98-12-071	480-123-500	NEW-P	98-24-125	490-100-240	REP-P	98-17-052
480-120-420	REP-P	98-20-104	480-123-510	NEW-P	98-24-125	490-100-240	REP	98-22-033
480-120-425	REP-S	98-12-071	480-123-520	NEW-P	98-24-125	490-100-250	REP-P	98-17-052
480-120-425	REP-P	98-20-104	480-123-530	NEW-P	98-24-125	490-100-250	REP	98-22-033
480-120-430	REP-S	98-12-071	480-123-540	NEW-P	98-24-125	490-105-010	NEW-P	98-17-052
480-120-430	REP-P	98-20-104	480-123-550	NEW-P	98-24-125	490-105-010	NEW	98-22-033
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480-120-435	REP-P	98-20-104	480-123-570	NEW-P	98-24-125	490-105-020	NEW	98-22-033
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480-122-020	PREP	98-09-033	490-100-010	REP-P	98-17-052	490-105-040	NEW	98-22-033
480-122-020	AMD-P	98-12-070	490-100-010	REP	98-22-033	490-105-050	NEW-P	98-17-052
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480-122-070	AMD	98-18-106	490-100-030	REP-P	98-17-052	490-105-060	NEW	98-22-033
480-123-010	NEW	98-04-028	490-100-030	REP	98-22-033	490-105-070	NEW-P	98-17-052
480-123-015	NEW-P	98-24-125	490-100-035	REP-P	98-17-052	490-105-070	NEW	98-22-033
480-123-020	NEW-P	98-24-125	490-100-035	REP	98-22-033	490-105-080	NEW-P	98-17-052
480-123-030	NEW-P	98-24-125	490-100-040	REP-P	98-17-052	490-105-080	NEW	98-22-033
480-123-040	NEW-P	98-24-125	490-100-040	REP	98-22-033	490-105-090	NEW-P	98-17-052
480-123-050	NEW-P	98-24-125	490-100-050	REP-P	98-17-052	490-105-090	NEW	98-22-033
480-123-060	NEW-P	98-24-125	490-100-050	REP	98-22-033	490-105-100	NEW-P	98-17-052
480-123-070	NEW-P	98-24-125	490-100-060	REP-P	98-17-052	490-105-100	NEW	98-22-033
480-123-080	NEW-P	98-24-125	490-100-060	REP	98-22-033	490-105-110	NEW-P	98-17-052
480-123-085	NEW-P	98-24-125	490-100-070	REP-P	98-17-052	490-105-110	NEW	98-22-033
480-123-090	NEW-P	98-24-125	490-100-070	REP	98-22-033	490-105-120	NEW-P	98-17-052
480-123-100	NEW-P	98-24-125	490-100-080	REP-P	98-17-052	490-105-120	NEW	98-22-033
480-123-110	NEW-P	98-24-125	490-100-080	REP	98-22-033	490-105-130	NEW-P	98-17-052
480-123-120	NEW-P	98-24-125	490-100-090	REP-P	98-17-052	490-105-130	NEW	98-22-033
480-123-130	NEW-P	98-24-125	490-100-090	REP	98-22-033	490-105-140	NEW-P	98-17-052
480-123-140	NEW-P	98-24-125	490-100-100	REP-P	98-17-052	490-105-140	NEW	98-22-033
480-123-150	NEW-P	98-24-125	490-100-100	REP	98-22-033	490-105-150	NEW-P	98-17-052
480-123-160	NEW-P	98-24-125	490-100-105	REP-P	98-17-052	490-105-150	NEW	98-22-033
480-123-170	NEW-P	98-24-125	490-100-105	REP	98-22-033	490-105-160	NEW-P	98-17-052
480-123-180	NEW-P	98-24-125	490-100-110	REP-P	98-17-052	490-105-160	NEW	98-22-033
480-123-190	NEW-P	98-24-125	490-100-110	REP	98-22-033	490-105-170	NEW-P	98-17-052
480-123-200	NEW-P	98-24-125	490-100-120	REP-P	98-17-052	490-105-170	NEW	98-22-033
480-123-210	NEW-P	98-24-125	490-100-120	REP	98-22-033	490-105-180	NEW-P	98-17-052
480-123-220	NEW-P	98-24-125	490-100-130	REP-P	98-17-052	490-105-180	NEW	98-22-033
480-123-230	NEW-P	98-24-125	490-100-130	REP	98-22-033	490-105-190	NEW-P	98-17-052
480-123-240	NEW-P	98-24-125	490-100-135	REP-P	98-17-052	490-105-190	NEW	98-22-033
480-123-250	NEW-P	98-24-125	490-100-135	REP	98-22-033	490-105-200	NEW-P	98-17-052
480-123-260	NEW-P	98-24-125	490-100-140	REP-P	98-17-052	490-105-200	NEW	98-22-033
480-123-270	NEW-P	98-24-125	490-100-140	REP	98-22-033	490-105-210	NEW-P	98-17-052
480-123-280	NEW-P	98-24-125	490-100-150	REP-P	98-17-052	490-105-210	NEW	98-22-033
480-123-290	NEW-P	98-24-125	490-100-150	REP	98-22-033	490-105-220	NEW-P	98-17-052
480-123-300	NEW-P	98-24-125	490-100-160	REP-P	98-17-052	490-105-220	NEW	98-22-033
480-123-310	NEW-P	98-24-125	490-100-160	REP	98-22-033	490-105-230	NEW-P	98-17-052
480-123-320	NEW-P	98-24-125	490-100-170	REP-P	98-17-052	490-105-230	NEW	98-22-033
480-123-330	NEW-P	98-24-125	490-100-170	REP	98-22-033	495D-104-010	AMD-P	98-06-020
480-123-340	NEW-P	98-24-125	490-100-180	REP-P	98-17-052	495D-104-010	AMD	98-09-031
480-123-350	NEW-P	98-24-125	490-100-180	REP	98-22-033	495E-104-010	REP	98-02-037
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480-123-370	NEW-P	98-24-125	490-100-190	REP	98-22-033	516-13-090	AMD-E	98-21-008
480-123-380	NEW-P	98-24-125	490-100-200	REP-P	98-17-052	516-15	PREP	98-20-041
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Personnel, department of	MISC 98-04-058		
Public instruction, superintendent of	MISC 98-20-060		
Revenue, department of	MISC 98-04-012		
Skagit Valley College	MISC 98-20-007		
<b>SALARIES FOR ELECTED OFFICIALS, CITIZENS COMMISSION ON</b> Meetings	MISC 98-21-032 <b>MISC 98-24-117</b>		
<b>SCHOOL-TO-WORK TRANSITION, GOVERNOR'S TASK FORCE ON</b> Meetings	MISC 98-12-003		
<b>SEATTLE COMMUNITY COLLEGES</b> Meetings	MISC 98-10-076 MISC 98-11-008 MISC 98-11-013 MISC 98-11-052 MISC 98-12-006 MISC 98-16-057 MISC 98-18-022 MISC 98-21-061		



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federal block grant funding	MISC	<b>98-24-064</b>	rules review	PREP	98-09-092
Aliens			Economic services administration		
eligibility of assistance unit	EXAD	98-19-126	aliens, eligibility of assistance unit	EXAD	98-19-126
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license fees	PREP	98-14-085	child support payments distribution	PROP	98-01-170
	EMER	98-14-087		EMER	98-04-027
	EMER	98-17-067		PROP	98-06-067
	PROP	98-20-097		PERM	98-10-042
	PERM	<b>98-24-038</b>	eligibility	PROP	98-03-084
				PERM	98-06-056
rules transfer from department of health				PROP	98-11-084
to department of social and health				PROP	98-13-054
services	MISC	98-20-021		PROP	98-15-113
Child care				PROP	98-16-037
day care homes, licensing	PREP	98-02-057	meetings	PERM	98-16-044
	PROP	98-20-098	need standards	MISC	98-01-129
	PERM	<b>98-24-052</b>		PROP	98-01-169
	PREP	98-13-079	payment of grants	PERM	98-08-037
	EMER	98-16-026		PREP	98-07-099
	EMER	98-16-040		PROP	98-11-074
	EMER	98-16-093		PROP	98-16-038
	EMER	98-18-077		PROP	98-23-094
	EMER	98-18-078		PERM	<b>98-24-051</b>
	PREP	98-20-096		PREP	98-01-168
Child support, division of			program services review		
address disclosure	PREP	98-12-106	SSI state supplement		
administrative orders	MISC	98-22-055	standards of assistance	PROP	98-01-126
assessing support	PREP	98-03-078		PERM	98-06-057
debt adjustment notice	PREP	98-20-035		PREP	98-21-024
	EMER	98-20-036	unemployable adults	PREP	98-07-036
	PREP	98-16-090		PREP	98-07-038
employer reporting	MISC	98-22-053	U.S. repatriates program	PREP	98-07-037
	MISC	98-12-105	Food assistance program		
family violence	MISC	98-12-104	eligibility	PREP	98-22-096
financial institution data matches	MISC	98-12-104	income deductions	PREP	98-23-090
finances	PREP	98-15-102	legal immigrants	PROP	98-13-080
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resolution method	PROP	98-05-078	employment and training		
	PERM	98-17-033	programs requirements	PROP	98-06-076
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	PERM	98-17-032		EMER	98-20-043
license suspension program	PROP	98-13-081	noncitizens, eligibility	PROP	98-21-075
	PERM	98-17-031		EMER	98-21-076
"most wanted" list	PREP	98-12-107	thrifty food plan	PROP	98-04-039
	PROP	98-21-074		EMER	98-04-040
policy and procedure handbook	MISC	98-17-065		PERM	98-10-025
support establishment notices	PREP	98-19-122	utility allowances	PROP	98-21-025
temporary orders	PREP	98-19-123		EMER	98-21-026
withholding options	MISC	98-22-054	General assistance		
Children's administration			fugitive felons and probation violators	EMER	98-14-086
case transfers	MISC	98-02-076	Health and rehabilitative		
child care facilities			services administration		
licenses	PREP	98-08-084	voluntary placement	PREP	98-22-057
	PREP	98-10-104	Juvenile rehabilitation administration		
	PROP	98-20-042	criminal background checks		
child care programs	PREP	98-01-128	in licensed facilities	MISC	98-18-058
	PROP	98-14-034	parole revocation	PROP	98-22-100
	EMER	98-14-035	placement of offenders	PREP	98-10-125
	PERM	98-22-008		PROP	98-14-061
				PERM	98-18-056
hearings or court proceedings			Management services		
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interstate compact on placement of children	PERM	98-01-149	delegation of authority by secretary	PROP	98-08-076
Children's services				PERM	98-11-034
applicant rights	PROP	98-03-082	Medical assistance administration		
	PERM	98-07-041	alien children, services	PREP	98-22-095
Developmental disabilities, division of			ambulance services	PREP	98-22-058
community alternatives program	PREP	98-09-094	children, coverage	PREP	98-22-098
delivery of services	PERM	98-02-058	community options program		
eligibility	PREP	98-09-094	entry system (COPES)	PREP	98-05-051
family support opportunity				PROP	<b>98-24-127</b>
pilot program	PREP	98-10-040	dental-related services	PREP	98-08-074
	PROP	98-23-095	electronic funds transfer	MISC	98-07-034
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Surface coating application	PROP	98-07-029		PROP	98-20-075
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<b>SPOKANE, COMMUNITY COLLEGES OF</b>			Bicycle racing	EMER	98-03-009
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Admission to practice				PERM	98-08-051
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